China

IN ANCIENT AND MODERN MAPS

SOTHEBY'S PUBLICATIONS

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Authors' note

China is a country with one of the world's earliest civilizations. The ancient Chinese made the world's first maps and in mapping theory and technique, they once led the world. In order to inherit and carry forward Chinese culture, summarize China's ancient mapping techniques and spread Chinese mapping knowledge around the world, the State Bureau of Surveying and Mapping and the State Bureau for Museums and Archaeological Data organized a study of Chinese maps and mapping history. *China: in ancient and modern maps* is one of the results of this research programme.

How many ancient Chinese maps are there exactly? Where are they? Nobody seemed to know in the past. In order to get an answer, a comprehensive survey was launched, encompassing major libraries, museums, departments in charge of antiquities and archaeological data and stores of antiquated books across the country as well as private collections. The survey has thrown light on the number of maps and their whereabouts. Custodians have given whole-hearted support, offering their precious maps and mapping tools for publication. Beijing Library has contributed greatly to this book by permitting the publication of dozens of maps in its custody. Other contributors are: Beijing: the Beijing University Library and the Museum of Chinese History; Gansu: Provincial Research Institute of Antiquities and Archaeology; Guangxi: Guilin Municipal Administration of Antiquities; Hebei Provincial Institute of Antiquities and Archaeology; Henan: Dengfeng County Administration of Antiquities; Hubei Provincial Museum; Hunan Provincial Museum; Jiangsu: Nanjing Museum, Suzhou Municipal Museum of Tablet Engraving, Zhenjiang Municipal Museum and Changshu Municipal Antiquities Committee; Liaoning: the Provincial Museum and Dalian Lushun Museum; Shaanxi: the Provincial Museum of Stone Tablets; Shandong: the Administrative Office of Lingyan Monastery Antiquities, Changqing County; Shanghai: Lu Xun Memorial Hall; Shanxi Provincial Library; Sichuan: the Provincial Museum; Yunnan: Dali Municipal Museum; Zhejiang Provincial Museum and Shaoxing Municipal Administration of Antiquities; and outside China, the British Library, London. Han Beisha has photographed most of the maps except a few which have been supplied by the museums and libraries themselves. The National Centre for Surveying and Mapping Data and Information has provided details on the purchase and reproduction of maps and related data. We would like to express our thanks to them for their valuable support.

It is a meticulous and hard task to identify, decipher and reproduce ancient maps. Owing to the wear of time and poor preservation conditions, many valuable examples have suffered serious damage. Many of them bear neither title, scale, date, nor the cartographer's name. In such cases, the maps were probably not drawn to scale and have been left unattributed and untitled (on occasions the title of the atlas is used instead). To determine a map's date and write a brief account of it, researchers have often had to consult historical records and documents as well as analyse all aspects of the map in question, including its content, place names, style of drawing and characters, and base material employed (silk, paper, wood, stone or bronze, for example). The conversions of Chinese *chi* (feet) and *li* (miles) to metres and kilometres are not accurate and only serve as a reference. In comparative historical maps, two kinds of Chinese character are used to differentiate contemporary and ancient place names – the former in relief and the latter in intaglio. Contemporary map data is printed in red over a black base

map representing ancient information, following a method invented by the cartographer Jia Dan in the Tang Dynasty. Traditional Chinese cartographers always drew land on the upper part of the map and sea on the lower part regardless of the points of the compass. Contours were first used for relief treatment in 1791 in France and were widely used in making topographic maps in the latter half of the nineteenth century. The contour was introduced into China during the Guangxu era (1875–1908). Some maps are described as being 'in rows'. Each row of the map represents an area in a certain latitude range. Maps on separate rows are made into rolls when not in use. Spread out, they join to form a complete map.

China: in ancient and modern maps is compiled by the Research Institute of Surveying and Mapping. For the sake of accuracy, we have sought the advice of well-known scholars Hou Renzhi, Chen Shupeng and Ren Jincheng.

Others provided invaluable help including Li Guangyuan of the Centre for Planning and Designing Surveying and Mapping Projects and Chen Hongji of the National Centre for Surveying and Mapping Data and Information.

All the maps selected from Chinese collections are under state-protection, many of them top state-protection. As dictated by the rules governing their protection, ancient maps should not be exposed to strong light when they are being photographed. This, coupled with the poor contrast of ancient maps, has resulted in a few unsatisfactory reproductions.

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Foreword

The map is a second language of geography. Map making is not only an expression of mankind's geographical knowledge but also a necessary means of broadening geographical visions as well as for utilizing and transforming nature. We cannot but feel proud of the glorious cartographic achievements made by our ancestors.

In this sense *China: in ancient and modern maps* has great significance. The maps contained here are carefully selected from the vast repository of maps in China and accompanied by scientific analyses garnered with painstaking efforts by the authors from voluminous historical records and documents. The book presents convincing evidence about China's important position in the history of world surveying and mapping.

The collection of maps and chronology bring home the following facts: China ranks first in the world in terms of mapping history and the large number of extant ancient maps. Three coloured maps – the Topographic Map (4), the Garrison Map (6) and the City Map – discovered in recent years in a Han Dynasty tomb at Mawangdui near Changsha date back more than 2,100 years. They are the earliest extant maps in the world, and their accuracy is especially striking. Secondly, in his *Six Principles of Map Making (Zhi Tu Liu Fa)* Pei Xiu (AD 224–271) laid a theoretical foundation for map making in ancient China. His principles have influenced world mapping history. Thirdly, during the Tang Dynasty, Zhang Sui (AD 673–727) conducted a survey of the meridian in 724 in cooperation with others, using a level and a carpenter's line marker. This represented the first effort in the world at measuring the length of the meridian. Fourthly, the Map of China and Distant Tribes (see 27), completed in seventeen years by Jia Dan (AD 730–805), was historically unprecedented in area coverage and attention to detail; the Map of Water Systems ('Yu Ji Tu', 25) engraved on stone in 1136 is the earliest extant map with a grid in China. The cartographer used the mathematical method *jili huafang*, whereby squares represent area. Later, during the Yuan Dynasty, Guo Shoujing (1231–1316) put forward the concept of measuring height on the basis of the sea level. This again represented a landmark in world mapping history. Finally, meriting special notice are the repeated sailings during the early Ming period of a fleet of ships from the Chinese coast to the East African coast across the South China Sea and Indian Ocean under the command of Zheng He (1371–1434), using the compass invented in China. A navigational chart based on the voyages shows route

bearing and distance determined on the basis of the position of the compass and distance covered; drawn more than 500 years ago, the maritime navigational map is nothing less than a miracle in world mapping history.

These facts show that traditional cartography and the development of mapping theories in Chinese history have striking characteristics and have added to the canon of surveying and mapping pursuits. History illustrates the Chinese people's skill at absorbing foreign inventions in the fields of developing science and technology; this is no less true of surveying and mapping. An example is the Confidential Map of the Qing Empire ('Huangyu Quanlan Tu', see 119) a sketch completed in 1718 with the help of Western missionaries following the introduction to China in the late Ming period of Western mapping techniques by Matteo Ricci, an Italian missionary. This book gives a detailed account of the map's making and points out that, at the turn of the eighteenth century, when land surveying had not yet begun or was just beginning in Europe, triangulation was already used to draw the Confidential Map. It was not only the best map of the time in Asia but was even better than any contemporary European maps in accuracy. Mapping techniques further improved during the reigns of Yongzheng and Qianlong (1723–1795), and national maps made during the period reached unprecedented levels in attention to detail and accuracy. This book gives full accounts of all the above developments.

These points, just some of my personal impressions, can by means summarize the value of the book. The selection of maps does not include many examples, or make use of the large number of precious maps and related data now kept in Taiwan. Since the latter years of the Qing Dynasty, many Chinese historical documents and antiquities, including maps and related data, have now gone to foreign lands. I hope that continued efforts will be made to select the best from China's maps now in Taiwan and abroad and reproduce them for the public in cooperation with scholars at home and abroad. This work will not only help inspire national pride and advance national culture but also promote cultural exchange between China and the rest of the world.

Hou Renzhi

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List of Chinese dynasties

XIA
Circa twenty-first–*circa* sixteenth century BC

SHANG
Circa sixteenth–eleventh century BC

ZHOU

Western Zhou
Circa eleventh century–771 BC

Eastern Zhou
Spring and Autumn Period
771–476 BC

Warring States Period
475–221 BC

QIN
221–206 BC

HAN

Western Han
206 BC–AD 25

Eastern Han
AD 25–220

THREE KINGDOMS

Wei
AD 220–265

Shu
AD 221–263

Wu
AD 222–280

JIN

Western Jin
AD 265–316

Eastern Jin
AD 317–420

Sixteen Kingdoms
AD 304–439

SOUTHERN AND NORTHERN

Southern

Song
AD 420–479

Qi
AD 479–502

Liang
AD 502–557

Chen
AD 557–589

Northern

Northern Wei
AD 386–534

Eastern Wei
AD 534–550

Western Wei
AD 535–557

Northern Qi
AD 550–577

Northern Zhou
AD 557–581

SUI
AD 581–618

TANG
AD 618–907

FIVE DYNASTIES
[Liang, Tang, Jin, Han and Zhou Dynasties successively in Central China while Ten Kingdoms in North, South and West China]
AD 907–960

SONG

Northern Song
AD 960–1127

Southern Song
1127–1279

Some other major dynasties in North China in the Song period

Liao
AD 916–1125

Western Liao
1132–1218

Western Xia
1038–1227

Jin
1115–1234

YUAN
1279–1368

MING
1368–1644

QING
1644–1911

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Introduction

The Chinese ancient maps are an important integral part of the rich Treasure-house of cultural heritage of the Chinese peoples. The maps collected in this atlas were drawn in the years from the Warring States Period (475–221BC) to the last years of the Qing Dynasty (1644–1911), are the excellent representative of the precious heritage still existing today.

China has a long history. The dynasties involved in this atlas are from Xia, Shang, Zhou all the way to the Qing Dynasty. Some were strong and ruled over vast territories such as Qin, Western Zhou, Eastern Zhou, Western Jin, Sui, Tang, Yuan, Ming and Qing, other were weak and coexisted with one another in periods of disunity, these include the Warring States, the Three-Kingdom, the Five Dynasties and Ten Countries, and a period marked by the tangled fighting among the Song, Liao, and Jin Dynasties. Generally speaking, a national unity brought prosperity in all respects; while a divided nation was relatively declined in many aspects.

During the latter period of the Middle Ages, repeated invasions and attacks by nomads from North forced Song rulers, who had had their original seat of power in the northern city of Kaifeng, to flee south and reestablish their power base in Lin'an (Hangzhou) south of the Yangtze River. The formation of the distinct Northern and Southern Song Dynasty was the inevitable result of this geographical migration. During the Northern Song Dynasty (960—1127 AD), the Kitans in Northern China grew stronger and established their own dynasty called Liao. Then what followed are periods of fierce fighting for years running over the present-day Daqin river in central Hebei province. These turmoils of war. which lasted for almost 200 years, were appeased by long time of negotiations and friendly exchange. During the Southern Song Dynasty (1127–1279), the Wanyan branch of Nuchens, another northern Chinese tribe grew in strength and established the Jin Dynasty. They conquered the Liao at beginning and then, after long term of warfare crossed the Huai river, and drove the Song rulers to the south. In the Northern and Southern Song periods varying degrees of social, economical and cultural development in the areas ruled by the Song , Liao and Jin regimes respecting can be observed. Chinese science and technology (including cartography) were still among the most advanced in the world at that time.

Maps are a scientific, cartographic and artistic medium through which people acquire geographic knowledge. They originated from, and serve, such social activities as politics, economics and defense as well as cultural pursuits. In addition, they have often resulted from the Chinese people's enduring fascination with their country's great mountains and rivers. Dynasty rulers, without exception, paid great attention to the country's administrative division, geographic features and means to strengthen the administrative system, rent and poll collection, enlistment of soldiers, and resistance to aggression and harassment by invaders. In some dynasties, central governments required that local officials should draw and submit maps of their respective regions at regular intervals; they also polled human and material resources to draw the national maps.

Development of cartography in China before the end of Qing Dynasty (1911) can be divided into four stages. The first is the primary map stage that lasted to about the end of the Spring and Autumn periods, that is , before 476 BC. The maps were simple in content, and the elements only showed the sketchy location and environs of the geographic phenomena without exact conception of quantity and techniques of drawing. Yet it is Known from the documents

that maps were widely used in many fields such as politics, economy, military affairs and social lives. The Map of Jiuding and Map of Mountains and Rivers were typical primary maps , but were lost . The maps can be seen now are make-up ones by later generations, therefore not collected in this atlas.

The second is territory map stage which lasted from the Warring States to the Western Jin Dynasty. i. e. 475BC–265AD. Map developed from the simple sketch to the comprehensive map reflecting the all-round conditions of area, and early symbol system came into being. The map elements had their initial conception of quantity on direction, distance, and height. Map had developed into the map of territory bearing the comprehensive contents of feudal land tax, census register, vehicles and chariot, administration mountains and rivers. Those unearthed maps from the Han tombs at Mawangdui, Changsha and from the Qin tombs in the Warring States Periods at Tianshui, Gansu province provided valuable real materials for research into territory maps. The discoveries which astonished the whole world are sufficient to demonstrate quite high level of map-making at that time.

The third is the stage of mapping by girding(Jilihuafang). This extended from the Western Jin to the last years of Ming Dynasty i. e. 265–1600AD. Based on the achievements of previous generations, Pei Xiu, a cartographer of the Western Jin period , created epoch-making theory of map-making–Six Principles of Map Making(Zhi Tu Liu Ti). The map-making principle of "jilihafang"(grid representation by mileage)based on PeiXiu's " ratio map -making principles"furnished the maps directly with the sense of quantity, and provided them with a strict mathematical base. The combination square representation principles with the Chinese traditional map symbols and figuration, formed the traditional mapmaking principles of China. Both the stone-cutting Map of China based on Jiazhen's Territory Map of China(one cun representing a hundred li)and LuoHongxian's Map of Vast Territory can be seen at present as the excellent examples of the Chinese traditional map -making principles.

The fourth is the stage of measure field mapping by latitude and longitude measurements, which lasted from the last years Ming to the end of Qing Dynasty i. e. : about 1600–1911. By the end of Ming Dynasty the western latitude-longitude measuring method, map projection and map-making by latitude-longitude grid had been introduced into China, which promoted development of map-making in China and mapping theory and techniques entered overall into an category of modern cartography. The large scale field-mapping during the times of Kangxi, Yongzheng, Qianlong and after, had stepped in the advanced stage of the world cartographic products then, representing the direction of development of cartography in China. Meanwhile, the Chinese traditional mapping principles that were formed with the influence of Chinese ancient astronomical observations, mathematical principles, history and geographica changes, territory divisions and the unique Chinese painting style, were still in use. The mutual complementation and Co-existing of the two cartographic principles formed the characteristics of the development of cartography in China, which are also fully embodied in this atlas.

Warring States Period

475–221 BC

Map of the King of Zhongshan's Mausoleum (1)

Zhongshan Wangzhao Bianyu Tu

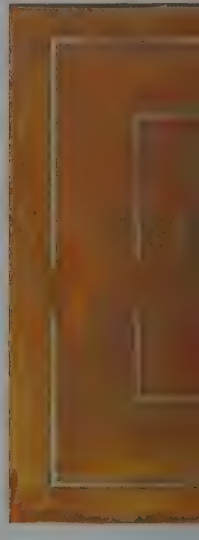
The map is a blue print for the mausoleum of the King of Zhongshan, called Xi, who reigned during the Warring States Period. Attached to it is the King's decree on the mausoleum's construction. The map contains detailed measurements of the most important parts of the mausoleum shown in the following arrangement: an oblong elevated ground (the two front corners of which are missing) with five neatly arranged sacrificial halls; in the centre are three halls with the middle one for the king and the two on each side for his consorts. The halls each cover 22.22 sq. m and are 33.33m apart. Farther to the left and right are another two halls, one of them for the king's concubine. Each covers 16.66 sq. m and is 26.66m apart from the central structure. Surrounding the elevated ground are two inner walls. Between them at the front are another four halls each covering 11.11 sq. m.

The map bears more than 400 characters all inscribed on the bronze plate, and has evenly spaced lines and clear inscriptions, reflecting the high level of cartography during the period. The lines are formed of gold and silver threads, hence this is one of the most precious ancient Chinese maps.

1 Map of the King of Zhongshan's Mausoleum

Unearthed between 1974 and 1978 from the King of Zhongshan's Mausoleum at Sanji in Pingshan county, Hebei. Bronze-plate map inlaid with gold and silver threads, circa 300 BC, 48cm by 94cm by 1cm

HEBEI PROVINCIAL RESEARCH INSTITUTE OF ANTIQUITIES AND ARCHAEOLOGY



2 Reproduction of the Map of the King of Zhongshan's Mausoleum

Qin Maps Unearthed in Tianshui (3)

Tianshui Fangmatan Qin Mu Chutu Ditu

Seven maps, painted on four pinewood boards (three of which are painted on both sides), were unearthed in March 1986 together with other burial articles. Bamboo slips indicate that the tomb dates from 299 BC. The water-saturated wooden boards gradually dehydrated in the dark, dry conditions, resulting in the fairly well preserved state of the lines and characters on the maps.

Some of the maps show the distribution of trees such as ▷

poplar and elm; sixty-one places are marked (and some distances) including villages, hills, streams, valleys and passes. Only one place – Gui Qiu – was previously recorded.

◁ King Qin Wugong first established Gui county, which was renamed Shang Gui under Long Xi prefecture, after Emperor Qin Shihuang unified China in 221 BC.

3 Qin Maps Unearthed in Tianshui

Unearthed in March 1986 from No. 1 Qin tomb at Fangmatan near Tianshui, Gansu. Group of seven maps on four wooden boards, painted before 299 BC, 15—18cm by 26cm by 1.1cm.

Illustrated here are four maps, one from each of the boards

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Western Han Dynasty

206 BC–AD 25

Topographic Map of the Southern Part of Changsha State (4)

Changsha Guo Nanbu Dixing Tu

Found in an oblong lacquer box together with some books copied on silk, this map had to be meticulously separated from the other water-saturated volumes in order for it to be restored.

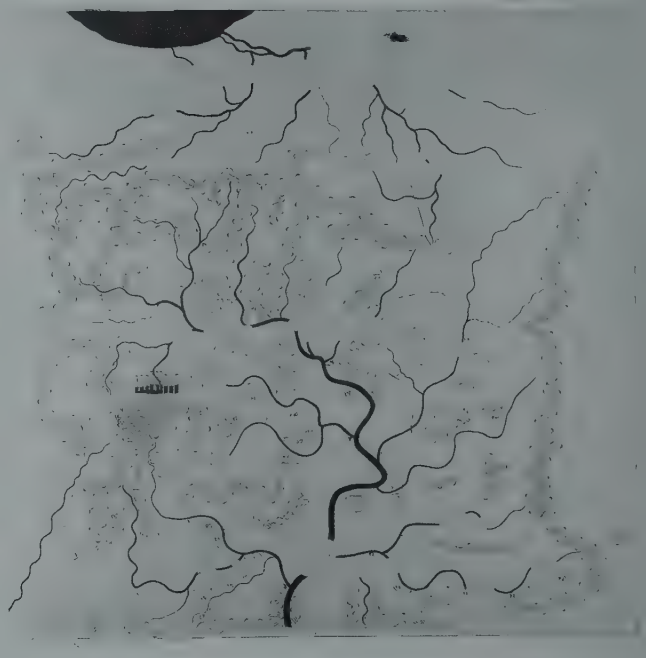
It bears no proper name, but it is known as the 'Topographic Map' since it delineates hills, streams, roads and towns. Archaeologists have determined the date of the tomb to be 168 BC according to an inscription 'second month of the 12th year' on a wooden tablet found in the same tomb.

With the upper side representing south and the lower side north, the map covers an area east of present-day Chuanzhou and Guanyang in Guangxi, west of a straight line between Hunan's Xintian and Guangdong's Lianxian, south of Xintian and Chuanzhou and north of the Pearl river. The central area represents the southern part of the ancient State of Changsha, i.e., present-day areas along the Xiaoshui river (a tributary of the Xiangjiang) and the Jiuyi mountain area.

The map was drawn to a scale of one Chinese inch to ten sq. li in the Han Dynasty (1:180,000), in three colours: blue, light brown and black. It describes, in fairly precise detail, the topography of the area. The tapering lines of the larger rivers with their names marked at the mouths and the indications of sources of deep, cold water all stand out well. Other natural features such as mountain ranges, peaks, hilltops and valleys are marked. Closed curves are used to portray the base, outline and alignment of mountain ranges. This was the world's first scientific means of portraying topographic features. It was not yet the contour line, first adopted in France in the eighteenth century (and much later in China), but it did represent height as well as abstract concepts. The cartographer used scale-shaped patterns to indicate rolling mountain ranges and nine post-shaped signs to indicate the peaks of the Jiuyi mountains. On the west side of the Jiuyi are two characters 'Emperor Shun', alluding to the legend that Emperor Shun was buried there after his death. Eight county towns and seventy-four rural communities are mapped with square and circular signs respectively, each marked with a place name inside the sign.

Detailed and scientific, the map surpasses all previous sketches in quality; its value also lies in the fact that it was used as a war map.

4 Topographic Map of the Southern Part of Changsha State (*Wendi*, 179–157 BC) ▷



5 Reproduction of the Topographic Map of the Southern Part of Changsha State

Unearthed in December 1973 from No. 3 Han tomb (for the son of the Marquis of Dai) at Mawangdui in the eastern suburbs of Changsha, Hunan. Coloured map on silk, painted before 168 BC, scale 1:180,000, 96cm by 96cm

HUNAN PROVINCIAL MUSEUM

Garrison Map for the Southern Part of Changsha State (6)

Changsha Guo Nanbu Zhujun Tu

The map was unearthed in December 1973, together with the Topographic Map (4), from No. 3 Han tomb at Mawangdui near Changsha city. With its upper side representing south, it is drawn in black, blue and red. Red marks the designations of army units, places where they are stationed, boundaries of their garrison areas and command fortresses. The three army units shown on the map are arranged in a rectangle. The triangular-shaped fortresses in the middle of the map are command centres of army units. Behind the headquarters are logistics support units.

Lines that separate the garrison areas generally go over the surrounding mountain ridges. At elevated forward positions are red triangular marks representing beacon-fire spots which are equivalent to present-day forward observation posts.

Villages in military areas are mapped in great detail, together with names, locations, the number of households and the merging of villages owing to population migrations. Roads are drawn in red with some of their lengths marked. A road near Fengli village, for example, is marked '54 *li* to Ting village' and '50 li to Paoting village'.

In 181 BC, Duke Zhao Tuo rebelled against the Western Han central government by attacking Changsha State on the pretext of a ban on the sales of iron articles in Southern China imposed by Empress Lu (187–180 BC). The central government sent in troops to suppress the rebellion. After Empress Lu died, her successor, Emperor Wendi (179–157 BC) forced Zhao Tuo into submission with a combination of military threat and persuasion. Wendi later sent garrison troops to Southern China to guard against Zhao. The map reflects details of the garrison.

Unearthed weapons and military books in addition to the map show that the garrison commander was the son of the tomb's owner, Li Cang.

This is the earliest coloured map as well as the earliest military map found so far in the world.

6 Garrison Map for the Southern Part of Changsha State (Wendi, 179–157 BC) ▷

7 Reproduction of the Garrison Map for the Southern Part of Changsha State

Unearthed in December 1973 from No. 3 Han tomb at Mawangdui in the eastern suburbs of Changsha at the same time as the Topographic Map (4). Coloured map on silk, painted before 168 BC, scale 1:80,000 to 1:100,000, 98cm by 78cm

HUNAN PROVINCIAL MUSEUM

8 Excavation site of No. 3 Han Tomb at Mawangdui

9 Inner and Outer Coffins in No. 3 Han Tomb at Mawangdui, Changsha

Celestial Woodcut Map (10)

Muke Xingxiang Tu

Two maps, carved on wooden boards placed on a coffin cover, were unearthed in 1974 from a Western Han tomb in Xuyi county, Jiangsu . On the narrower of the boards are two winged dragons and three triangular-shaped stars. The top-left corner of the other board features a person running and shouting; on the left of the same board is a flying phoenix with the sun on its body; in the middle, three fish symbolizing the Milky Way; and on the right, the moon. Between the three fish and the moon is a star, which is probably Sirius; right of the moon are seven stars and below is a comet with an upside-down human figure at its head.

The great value of the Xuyi Celestial Woodcut Map lies not only in the fact that it lists numerous stars and celestial phenomena but also in the visual depiction of the movements of various heavenly bodies in relation to each other. Its portrayal of the lunar eclipse and comet movement, in particular, is better than all other ancient celestial maps.

Portrayal of a comet provides a good basis for determining the age of the map: according to historical records, a comet appeared in 44 BC, it is thought that the map was carved soon after, more than 100 years earlier than the comparable Jerusalem Comet Map (AD 66). By portraying the lower side of the moon eclipsing part of the comet's tail, the map shows that the comet is farther away from us than the moon. This knowledge predated similar European understanding by more than 1,600 years.

10 *Celestial Woodcut Map*

11 **Reproduction of the Celestial Woodcut Map**

Unearthed in 1974 from No. 1 Han tomb in Dongyang township in Xuyi county, Jiangsu. Two maps on wooden boards, carved in first century BC, boards 45.3cm by 188cm by 3.5cm and 28.2cm by 188cm by 2cm. Illustrated here is the wider map painted with a phoenix, the sun, the moon, a comet and stars

NANJING MUSEUM

Eastern Han Dynasty

AD 25–220

Marketplace Map (12)

Shijing Tu

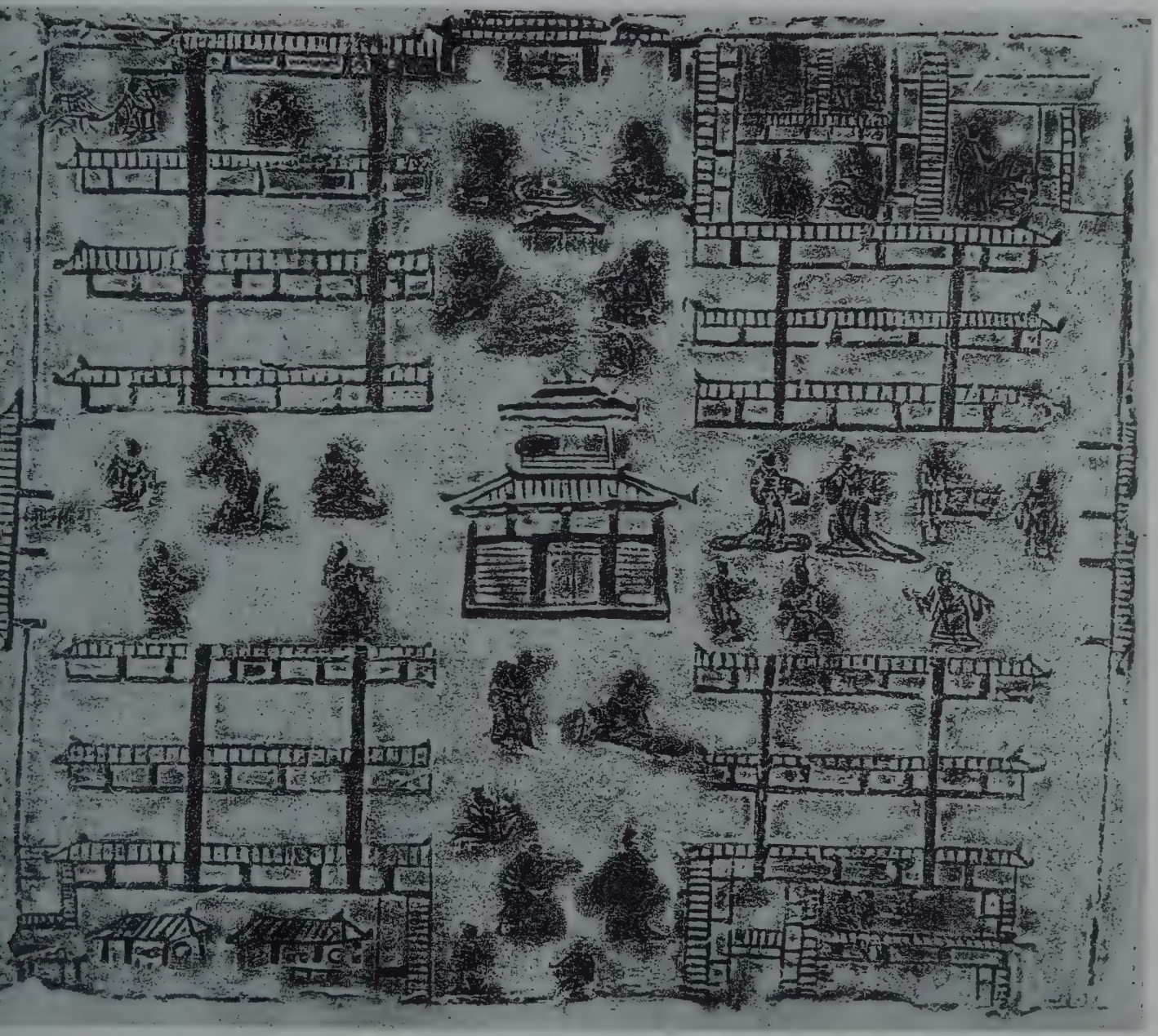
Eastern Han brick pictures have been unearthed in Chengdu, Xinfan, Guanghan and Pengxian but only those from Chengdu and Xinfan depict maps.

The earliest city map found so far in China, this example depicts the general appearance of the commercial districts of prefectures and counties in the Eastern Han Dynasty. It indicates such landmarks as the north and south gates of a marketplace, several streets, buildings arranged symmetrically with a tall building at the central intersection, stores along streets and warehouses around the marketplace. The depictions of human figures give the map a very vivid appearance.

12 Marketplace Map

Unearthed from Eastern Han tombs in Chengdu city or Xinfan county, Sichuan. Map portraying marketplaces, carved in brick
circa AD 25 – 220, 39 *cm by* 47 *cm*

SICHUAN PROVINCIAL MUSEUM



Ningcheng City Map (13)

Ningcheng Tu

Fanyang City Map (14)

Fanyang Cheng Tu

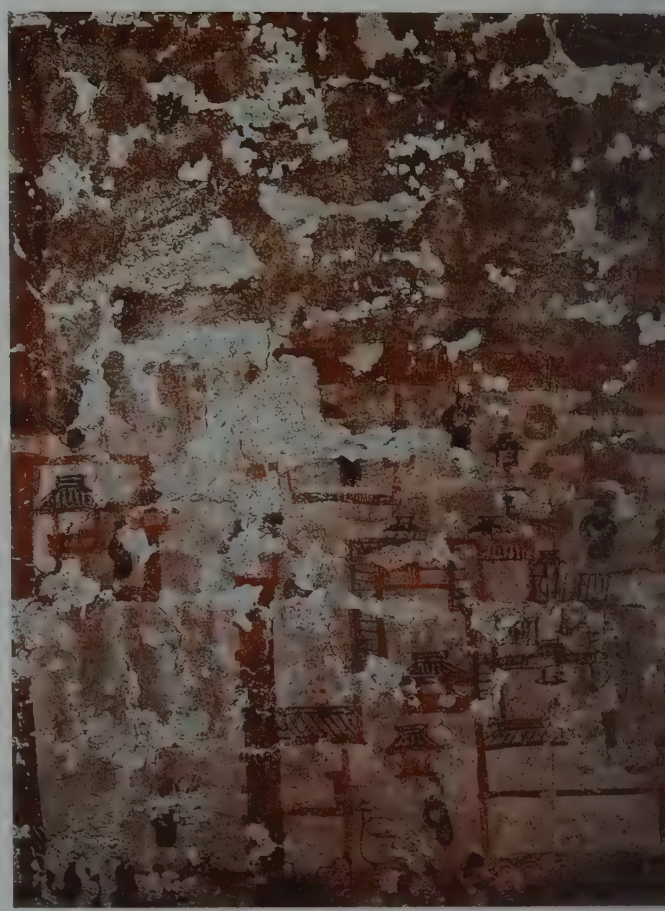
In the autumn of 1971, a large tomb (whose name has not been determined) of the late Eastern Han Dynasty was discovered at Xindianzi in Horinger county, Inner Mongolia. A total number of fifty-seven colour murals were found on all walls of the tomb, including five maps. The murals are arranged in forty-six groups and cover a total area of more than 100 sq. m. They bear over 250 inscriptions totalling some 700 characters, which mainly describe the identity, career and properties of the tomb's owner. Some murals have as topics auspicious subjects, historical figures, celestial beings and legendary animals.

Nincheng city, in present-day Wanquan county, Hebei, was under the administration of the tomb's owner when he was a troop commander. On the map, the city is divided into three parts: an area outside the south gate, Ningcheng proper and the command headquarters. On the ground outside the south gate are soldiers standing guard. The city consists of walls, gates, streets and lanes, government buildings and marketplaces. The command headquarters, a city within a city, is divided into three parts: halls and courtyards, barracks and kitchens. Drawn with a combination of ground and bird's-eye views, the map has a three-dimensional effect.

Fanyang was present-day Chuwang town, which lies 14km northwest of Huangxian county, Henan. Fanyang is depicted since the tomb's owner served as a county magistrate there. This is indicated by a strip of characters running lengthwise along the upper part of the map, which reads, 'Official Residence of Fanyang County Magistrate'.

Drawn on the map are gate towers and a walled building complex within the city enclosure called the 'Subsidiary City'. The gate towers are situated on the east, west and south walls, and each one has its battlements. The 'Subsidiary City', located on the lower-right area of the map, covers almost half the town's total area. Consisting of government offices and streets, it is the core of the county town. The picture also includes a warehouse, a temple and about a dozen figures – probably officials and guards. Compared with the Ningcheng City Map, the picture of Fanyang is crude and lacks the former's three-dimensional effect.

13 Reproduction of the Ningcheng City Map



14 Fanyang City Map

Discovered in autumn 1971 on the east wall of a passage leading to the central burial room of a late Eastern Han tomb at Xindianzi in Horinger county, Inner Mongolia. Two coloured mural maps, in situ in the tomb where they were discovered

INNER MONGOLIA AUTONOMOUS
REGIONAL MUSEUM

Northern Wei Dynasty

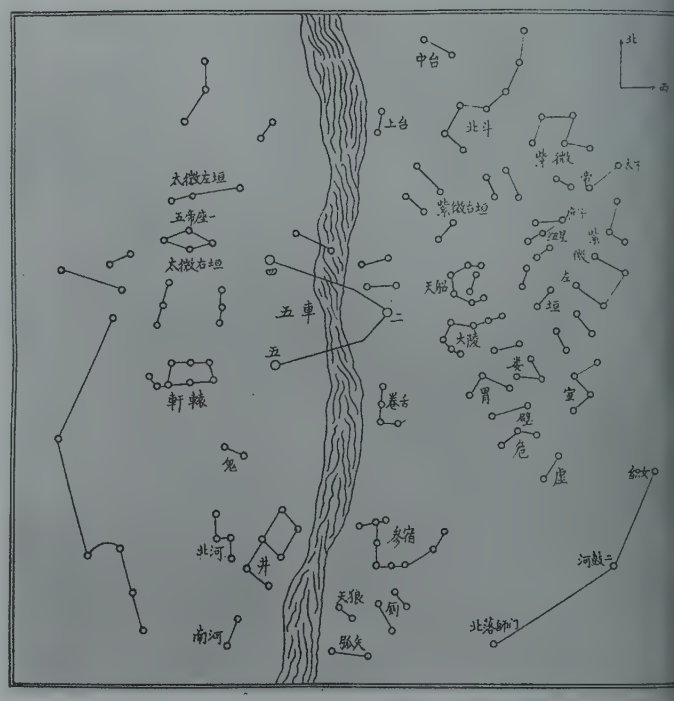
AD 386–534

Luoyang Celestial Map (15)

Luoyang Yuanyi Mu Xingxiang Tu

The Milky Way and over 300 stars are painted in red, and different signs are used to indicate their size. Lines connect the constellations and bright stars commonly observed in the northern celestial sphere such as the Big Dipper, Purple Forbidden Enclosure, Great Forbidden Enclosure, Xuan Yuan, Northern River and Southern River, all easily identifiable on the map even though no names are marked.

Ancient Chinese celestial maps were used symbolically, often in the decoration of tombs. They reflect the level of people's understanding of star clusters in ancient times. The Luoyang map, drawn at least 1,400 years ago, is one of the earliest celestial maps found so far in China.



16 Reproduction of the Luoyang Celestial Map

Discovered in early 1974 on the ceiling of a Northern Wei tomb in Luoyang's Mengjing county, Henan

MUSEUM OF CHINESE HISTORY, BEIJING

Tang Dynasty

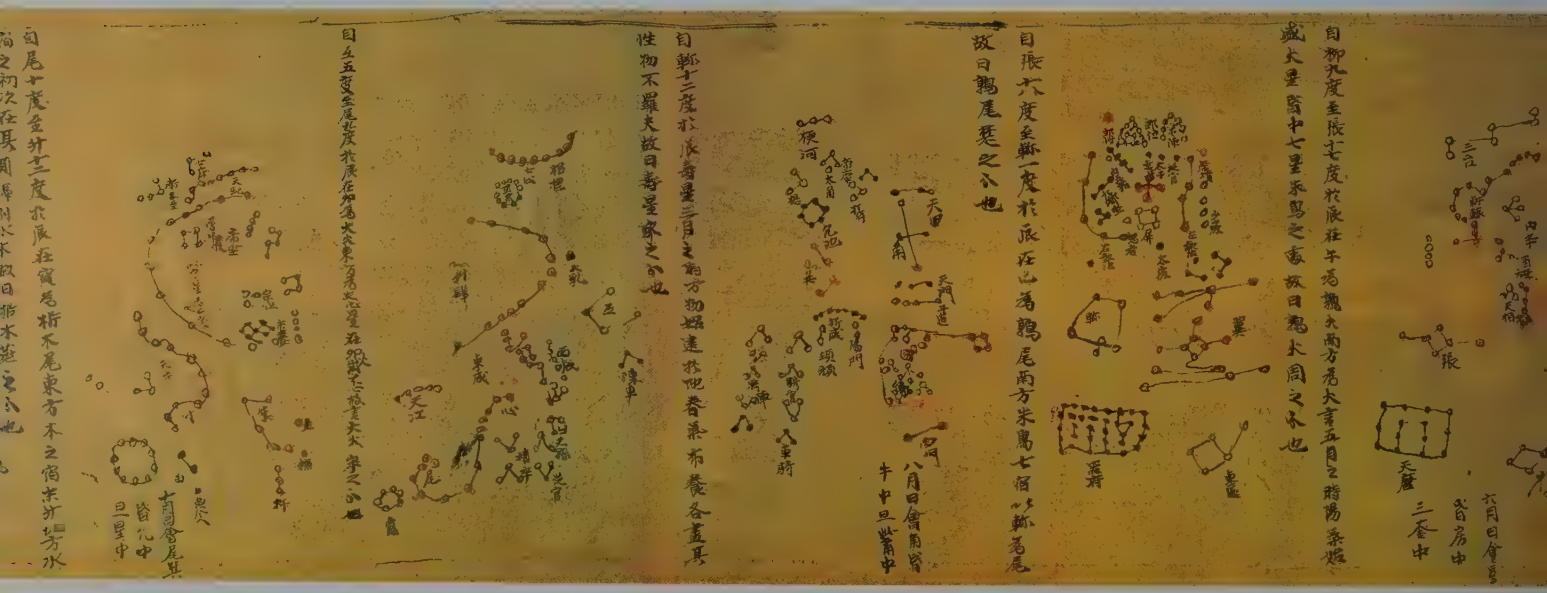
AD 618–907

Dunhuang Celestial Map (17)

Dunhuang Xing Tu

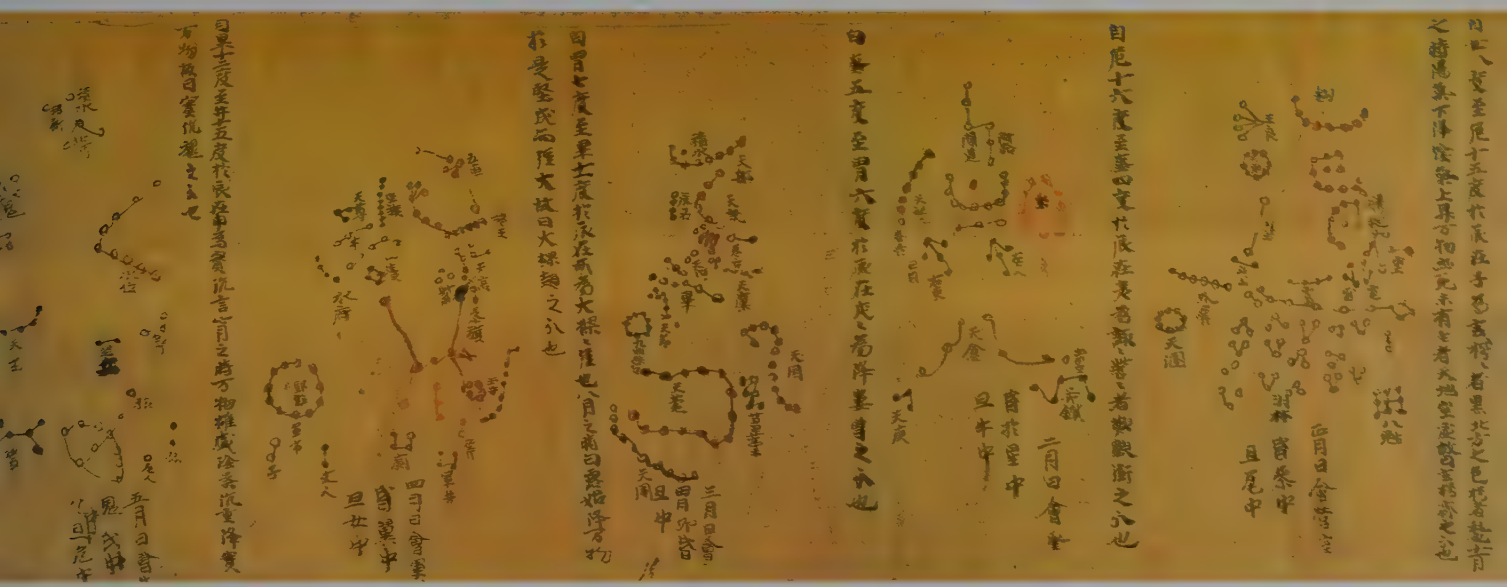
The map, originally kept in a Dunhuang grotto, was taken to Britain by Sir Aurel Stein in 1907. In 1959, Joseph Needham, a British scholar, mentioned it in his *Science and Civilization in China* (1954–present). The map was painted by hand on a scroll, during the early eighth century, earlier than *circa* 940 determined by Dr Needham. It is the world's earliest extant scientifically drawn celestial map.

The earliest Chinese celestial maps, called 'round maps', focus on the North Pole with the stars cast on a circular plane; the 'gai map' of the Han Dynasty is an example of this type. Such maps suffer from serious errors in the positions of stars near the celestial equator. By the Sui Dynasty (581–618), stars of the entire celestial sphere began to be drawn on long scrolls with the right-angle coordinate. Maps of this kind, called 'horizontal maps', suffer, on the other hand, from serious errors in the position of stars near the North



Pole. The Dunhuang cartographer combined the merits of the two and marked a breakthrough in mapping celestial spheres in China.

The Dunhuang map, painted in red and black, contains more than 1,350 stars. Stars marked with circles belong to the Shi Shen and Wu Xian star catalogues, and those marked with dots, to the Gan De star catalogue. The scroll starts from December; stars near the celestial equator are divided into twelve sections in accordance with the position of the sun each month and are drawn on 'horizontal maps'. The scroll ends with a 'round map' painted with the North Pole and stars in the Purple Forbidden Enclosure. Explanatory remarks on the map are taken from 'A Book on Stars' ('Fen Ye Lueli') contained in volume 64 of *A Collection of Astronomical Literature up to the Tang Dynasty* (Kaiyuan Zhan Jing, 729). Remarks below the map are identical with *Yue Ling*, the Book of Rites (an edition of the Book of Rites written during the Jiajing era, Ming Dynasty).



17 Detail of the Dunhuang Celestial Map

Originally kept in a Dunhuang grotto in Gansu; removed in 1907. Coloured map in scroll form, drawn on paper in early eighth century AD, 25.5cm by 185.8cm

BRITISH LIBRARY

Erhai Sea Map (18)

Erhai Tu

Drawn according to mythological tales about the Erhai Sea and as a tribute to the god of rivers, the map depicts the Erhai Sea, two curved snakes, a fish and a snail. This corresponds to a paragraph in volume 12 of the *Annals of Yunnan* (*Yunnan Zhi*, 1691), which reads, 'Two branches of the Diancang mountain range extend farthest into the Erhai Sea. The god of the southern branch is shaped like a gold fish, and the god of the northern branch, like a jade snail. Good luck comes to whoever sees them.' Inscriptions on the upper side of the map read, 'Gold fish and jade snail are river gods of the Erhai Sea, and venomous snakes encircle them.'

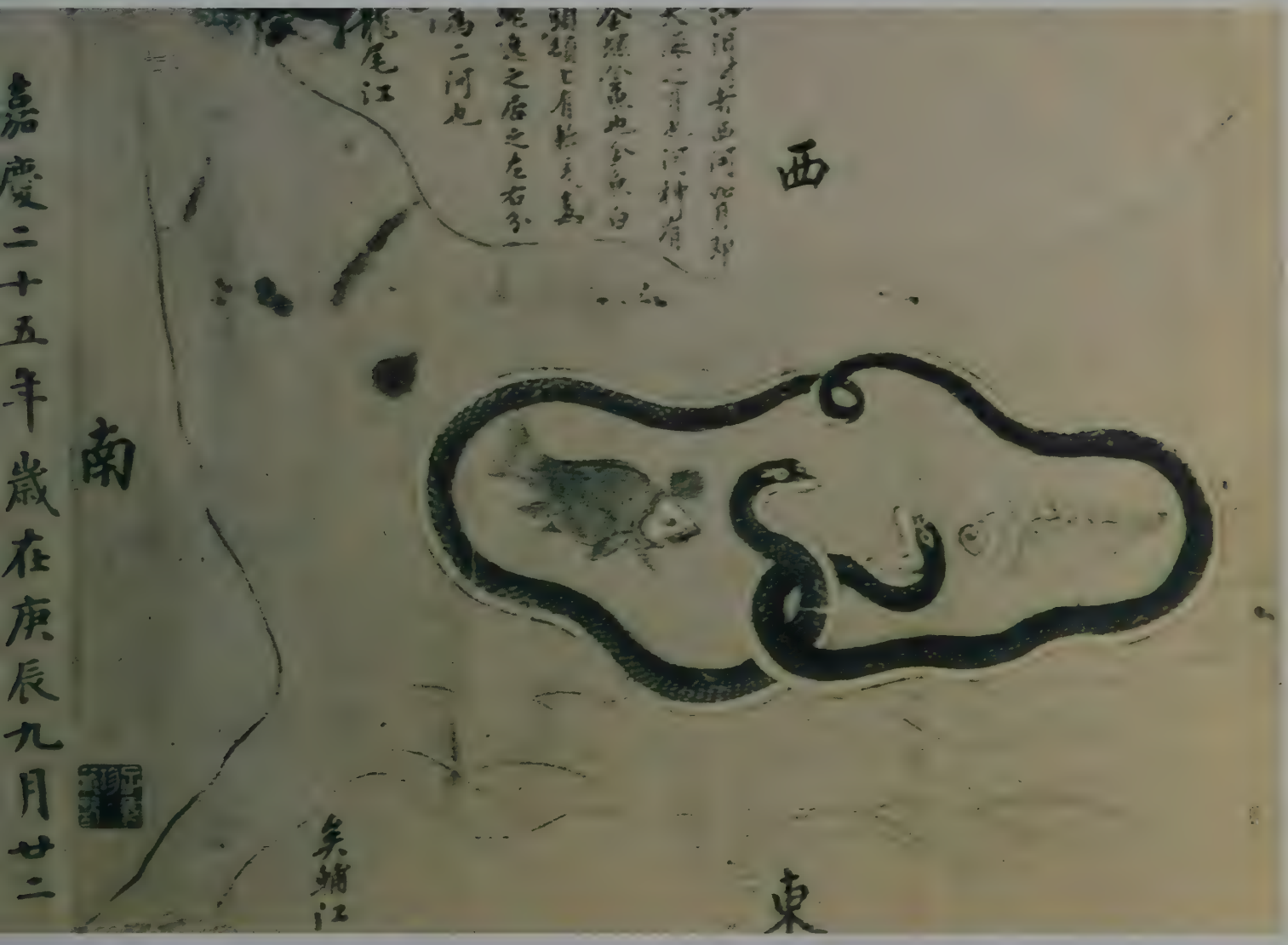
The four points of the compass are marked around the sea, and all the rivers bear names. It is a regional map despite the fact that it does not feature much topography.

19 The Erhai Sea today

18 Erhai Sea Map

Found on a Buddhist picture scroll of the State of Nan Zhao, a vassal state of the Tang Empire. Coloured map, painted in 899

DALI MUNICIPAL MUSEUM



Five Dynasties

AD 907–960

Mount Wutai Map (20)

Wutai Shan Tu

One of China's four Buddhist mountains, Mount Wutai is located in Wutai county, Shanxi, North China. It has five peaks and a flat top, hence the name ('Wutai' in Chinese means 'five terraces').

The coloured map, exquisitely painted, portrays a panoramic view of Mount Wutai as a Buddhist shrine. At the top of the map is the 'central terrace', which is flanked by four other terraces. On the lower part of the map are drawn two roads leading to Mount Wutai from Taiyuan and Zhenzhou.

Rivers are drawn with double lines, and peaks, temples, towns, villages and trees are sketched using a method that creates a three-dimensional effect. Pilgrims and travellers depicted on the map add to the religious atmosphere of the Buddhist shrine. More than 100 inscriptions scattered over the picture cast light on the names of the buildings and places. An early map of a Buddhist shrine, the picture is of great value in studying Tang Dynasty architecture, social life and art.

20 Detail of Mount Wutai Map

21 Detail of the reproduction of Mount Wutai Map

Painted on the west wall of the 61st cave of Mugao Grottoes at Dunhuang, Gansu. Coloured mural map, painted in the late Five Dynasties period, 460cm by 1,300cm. Illustrated here is a section covering the area between Buddha Light Temple and Fahua Temple


天佛光之寺
河北道山門東

Northern Song Dynasty

AD 960–1127

Xingqing Palace Map (22)

Xingqing Gong Tu

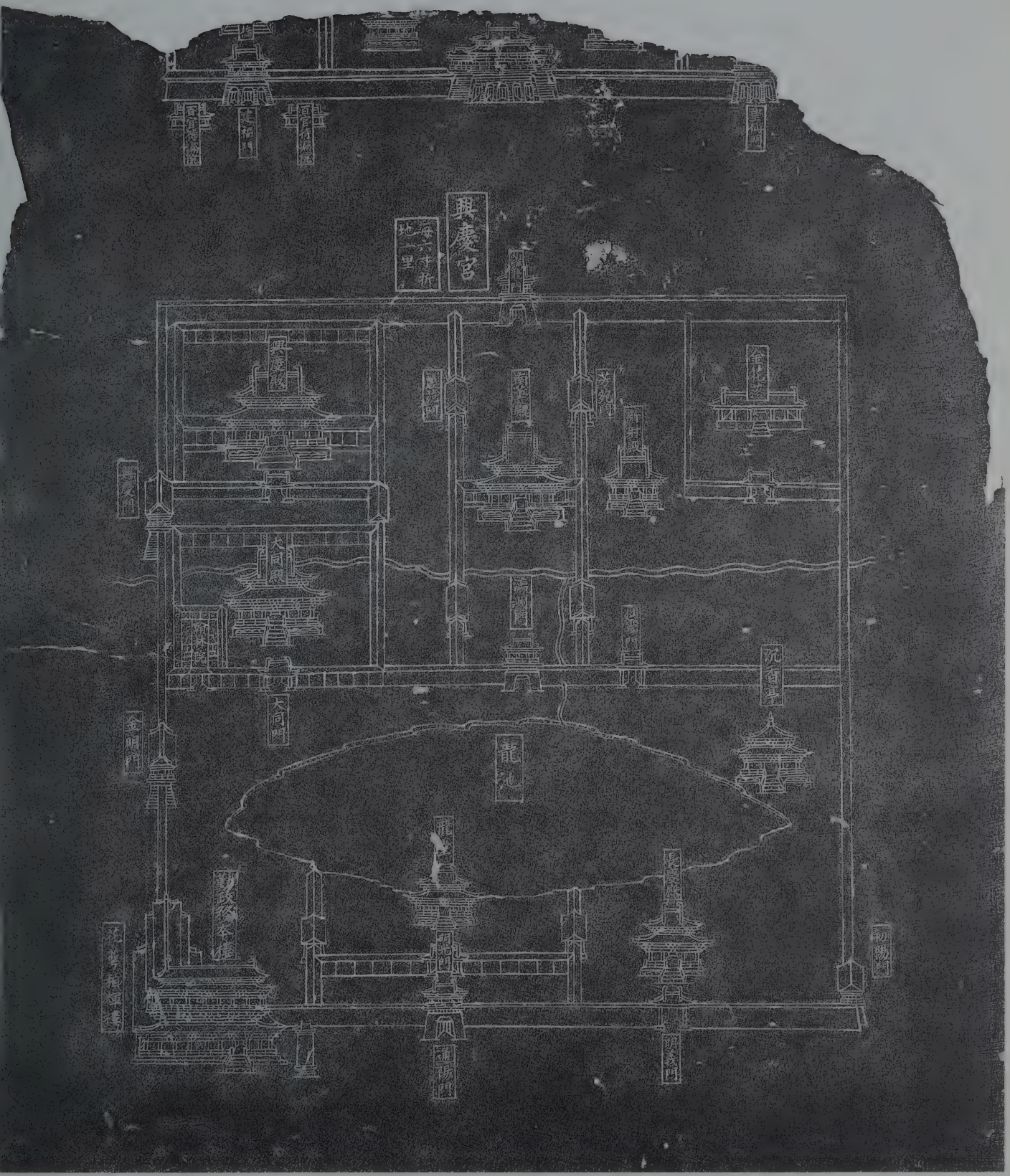
The map, engraved on a stone tablet, is a plan of Xingqing Palace, a non-official residence of Emperor Xuanzong (712–756) who completed the palace in 714. Twelve years later, he enclosed surrounding houses and temples. The palace complex, encircled by a wall with six gates, is divided into two courtyards: in the centre of the front yard lies a pond called 'Dragon Pond', which is surrounded on two sides by a pavilion and four halls. In the back courtyard are two main buildings – the Xingqing Hall and the Datong Hall – where the emperor handled state affairs and received foreign envoys; separating the two yards is another wall with three gates. The palace suffered damage during the last years of the Tang Dynasty and was repaired in the Song Dynasty.

The palace-garden map has a three-dimensional effect, as reflected in the vividly drawn main buildings. Projection was used to draw the gates and towers on the east and west walls, resulting in a clear portrayal of their shape and height. The map was drawn to scale, as is shown by a note on it, which reads 'Every *cun* represents one sq. *li*'. This is a scale of approximately 1:2,800. It is the only Song Dynasty architectural map marked with a scale.

22 Rubbing of the Xingqing Palace Map (Yuanfeng, 1078–1085)

Taken from a stone tablet bearing a map of Xingqing Palace, engraved in 1080, scale approximately 1:2,800, 64cm by 38cm

SHAANXI PROVINCIAL MUSEUM OF STONE TABLETS


興慶宮
龍池

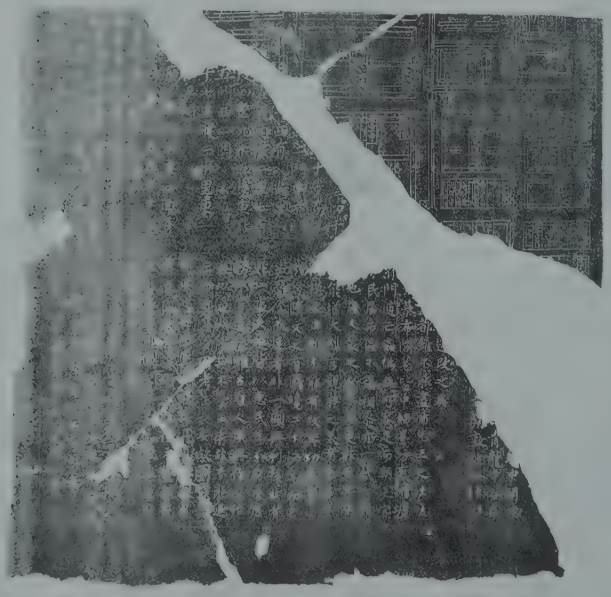
Chang'an City Map (23)

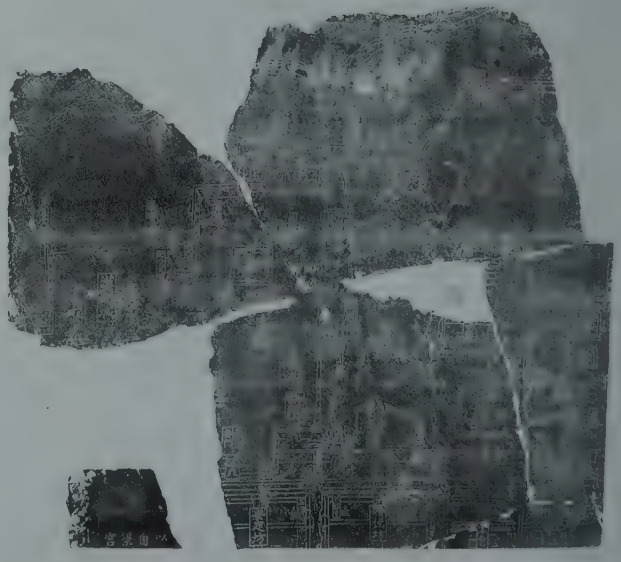
Tang Nan Neiji Chang'an Tu

A Song Dynasty map, Chang'an City Map was drawn by Zhang You in 1080 for the official archives under the direction of Lu Dafang, Zhang You also wrote commemorative inscriptions on the map.

The map's upper part orients north. An inscription indicates that the inner city is drawn to a scale of two Chinese inches to one li, whereas areas outside the city are not drawn to scale. The remains of the map show detailed almost three-dimensional drawings of ponds, ditches and streams; main roads dividing the city into districts, and architectural features including walls, palaces, temples, residential houses as well as stone sculptures.

The remnants of the stone tablet, not found until the Qing Dynasty (1644–1911), provide clues for the complete map, which is one of the most interesting Song Dynasty stone-engraved urban maps.

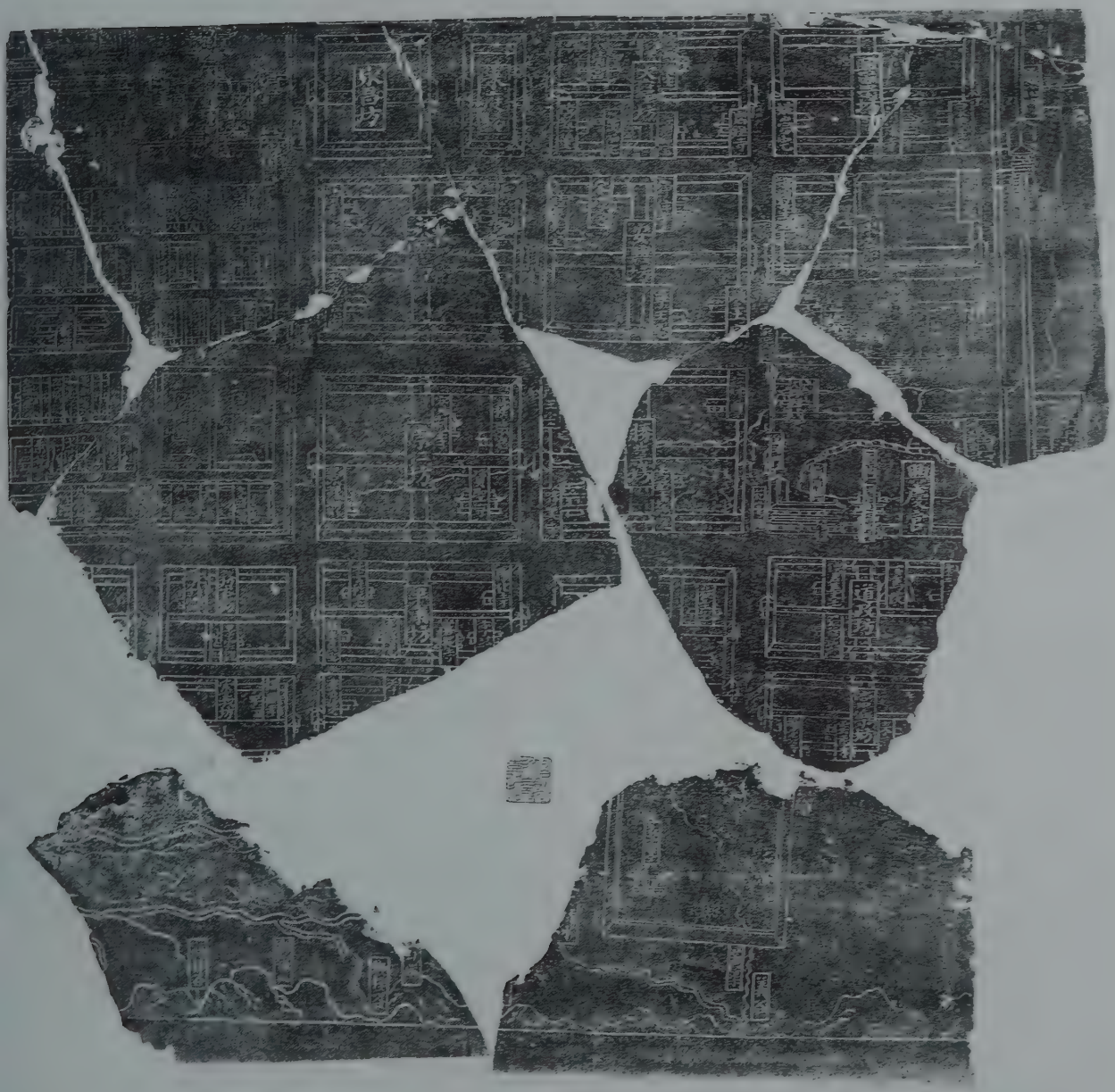




23 Rubbing of the Chang'an City Map (Yuanfeng, 1078–1085)

Taken from the remains of a stone tablet bearing the layout of Chang'an city in 732, drawn by Zhang You in 1080 with later commemorative inscriptions by Lu Dafang, 200cm by 150cm

SHAANXI PROVINCIAL MUSEUM OF STONE TABLETS



Nine-Region Administrative Map (24)

Jiuyu Shouling Tu

Discovered in the 1960s in Rongxian county, Sichuan this anonymous stone-engraved map has been named by experts the 'Nine-Region Administrative Map'.

Although there are no indications of orientation on the map, all places are positioned fairly correctly, and the shape of Hainan Island, for example, is correctly drawn.

Taking its upper part to represent north, the map includes Baoding's Shun'an and Guangxing in the north, the sea in the east, Hainan Island in the south, and Chengdu in the west.

The southeast part of the map is missing, and inscriptions on its lower part are illegible.

Drawn on the map are mountain ranges, lakes, rivers, counties, prefectures and coastal lines. The trend of the Yellow and Yangtze rivers and their tributaries is basically correct, and they are drawn with tapering lines, with names marked in squares at their sources. The location and shape of Dongting, Taihu and Boyang lakes are not much different from those on today's maps. More than 1,400 places in the Song Dynasty are marked – almost all prefectures and counties under the administration of the Northern Song Dynasty central government. Communities are indicated with names but without symbols.

According to the *Annals of Jiading Prefecture* (*Jiading Fu Zhi*, 1864) and *A History of Sichuan* (*Sichuan Tong Zhi*, 1816), the stone tablet bearing the map was reconstructed in 1121 by Song Cangzong, a Song Dynasty official administering Rongzhou prefecture in Sichuan, and erected in the Temple of Confucius on Mount Lianyu in Rongxian county.

'Nine Regions', or 'Nine Prefectures', was a geographical area concept in prehistoric China. Before the Western Han Dynasty (206 BC–AD 24), it was generally held that the country was divided into Nine Regions after the reign of Yu (*circa* twenty-first century BC). More recently scholars have maintained that the division of Nine Regions took place during the Spring and Autumn (1771–476 BC) and Warring States (475–221 BC) Periods and that they were not administrative regions. It is not until AD 106 during the reign of Emperor Wudi (140–86 BC) of the Han Dynasty that the whole country was divided into thirteen administrative regions, called 'prefectures'.

24 Rubbing of the Nine-Region Administrative Map (Xuanhe, 1119–1125)

Taken from a stone tablet discovered in the 1960s in Rongxian county, Sichuan and engraved in 1121, scale 1:1.8 million, tablet 175 cm by 112 cm, map 128 cm by 101 cm

SICHUAN PROVINCIAL MUSEUM

Southern Song Dynasty

1127–1279

Map of Water Systems (25)

Yu Ji Tu

In Chinese, this Southern Song Dynasty map is named 'Yu Ji Tu', which means literally 'footsteps of Yu' (Yu was an ancient tribal leader who is said to have organized massive water-control projects around the twenty-first century BC). Hence, 'Yu Ji' in ancient China came to refer to the national water systems.

A note on the map's lower edge reads, 'each square equals 100 sq. li of land', corresponding to a scale of approximately 1:5 million. Squares measuring 1.1cm are drawn on the map. Judging from the inscriptions on a map now kept by the Zhenjiang Municipal Museum, this is a replica of the original engraved in Chang'an in 1100. Engraved in reverse, it was probably intended for use as a printing block.

The map is devoted to outlining river systems, including the Yellow river and the Yangtze together with their tributaries, coast lines, and Taihu, Dongting and Boyang lakes. It is more accurate than the Map of China and Distant Tribes (engraved on the reverse, see 27) with regard to its topography. The map retains Tang Dynasty place names.

With a total of 5,110 squares, it is one of the earliest extant maps with a grid found so far (see also 29). In ancient China, the method of drawing squares to scale distance was based on the *Six Principles of Mapping* (*Zhi Tu Liu Fa*) proposed by Pei Xiu of the Western Jin Dynasty (AD 265–316). This advanced mathematical method was in use in China until the Qing Dynasty and spread to Arabian and European countries in the early fourteenth century.

25 Rubbing of the Map of Water Systems (Shaoxing, 1131–1162)

Taken from a stone tablet, engraved in 1136, whose other side bears the Map of China and Distant Tribes (27), scale 1:5 million

SHAANXI PROVINCIAL MUSEUM OF STONE TABLETS

26 Shaanxi Provincial Museum of Stone Tablets

Map of China and Distant Tribes (27)

Hua Yi Tu

This Southern Song Dynasty national map was engraved on a stone tablet in 1136 (for the other side see 25; also 48, 51).

Along the top edge of the map is inscribed the title 'Hua Yi Tu' in characters. With four directions indicated on its peripheries, the map covers the sea and the Korean Peninsula in the east, areas north of the Great Wall in the north, Heilongjiang in the northeast, the Pamirs in the west, and Hainan Island in the south. Drawn in great detail are the mountains, rivers and administrative regions. The map's topographical content includes the Yellow river, the Yangtze, the Pearl river, the Liaohe river, the Red river as well as major lakes including the Taihu, Dongting, Boyang, Chaohu, Qinghai and Juyan. More than 400 towns are indicated. Two sections of the Great Wall are drawn (with a pictographic symbol used today), one extending from Minzhou to the Korean Peninsula and the other from Yumen to Juyan. Mountain peaks and ranges are marked with a symbol resembling an inverted 'V'. The map is rich in content but not quite accurate. On its peripheries, it bears remarks about the history of distant tribes. An inscription on the map's lower right corner reads, 'Recorded here are the more prominent of hundreds of states on the outskirts inhabited by alien tribes as indicated in a map drawn by Jia Dan of the Tang Dynasty; as are their histories in the light of earlier chronicles.' Many Tang Dynasty place names indicate that this map, although smaller, is based on a map of the same name by Jia Dan. The Map of China and Distant Tribes surpasses all other stone-engraved maps of the period in area coverage.

27 Rubbing of the Map of China and Distant Tribes (Shaoxing, 1131–1162)

Down-sized edition of a map of the same name by Jia Dan (AD 801), both maps show vast territories under Tang rule. Taken from a stone tablet, engraved by Shuo Qixue in 1136 (for the reverse, see 25), 114cm by 114cm

SHAANXI PROVINCIAL MUSEUM OF STONE TABLETS

28 Stone Tablets in the Shaanxi Provincial Museum of Stone Tablets

Map of Water Systems (29)

Yu Ji Tu

In Chinese, this map is named 'Yu Ji Tu', which means literally 'footsteps of Yu' (see 25).

The map engraved in 1142 on a stone tablet, can well be called a sister map to 'Yu Ji Tu', (25). An inscription on the top left corner reads, 'Each square equals an area of 10 000 sq. li; copied from a Chang'an edition in the third year of the reign of Yuan Fu.' A postscript on its bottom left edge reads, 'Erected 11th month, 12th year of the reign of Shaoxing by Yu Chi, Educator of Zhenjiang Prefecture, and engraved by Feng Sui.' Elsewhere on the map is a later inscription: 'These eight treasures were dug out in the spring of the sixth year of the reign of Tianqi – by Wang Haocha.' These remarks provide important clues to the map's origin. The original Map of Water Systems, or 'Yu Ji Tu', must have been completed before 1100.

The tablet bearing the map stood in a room of the Zhenjiang Prefectural School before the reign of Zhi Shun (1330–1333). The school was burnt down in the war during the reign of Xianfeng of the Qing Dynasty, and the tablet lay buried in the rubble until 1626, when it was unearthed.

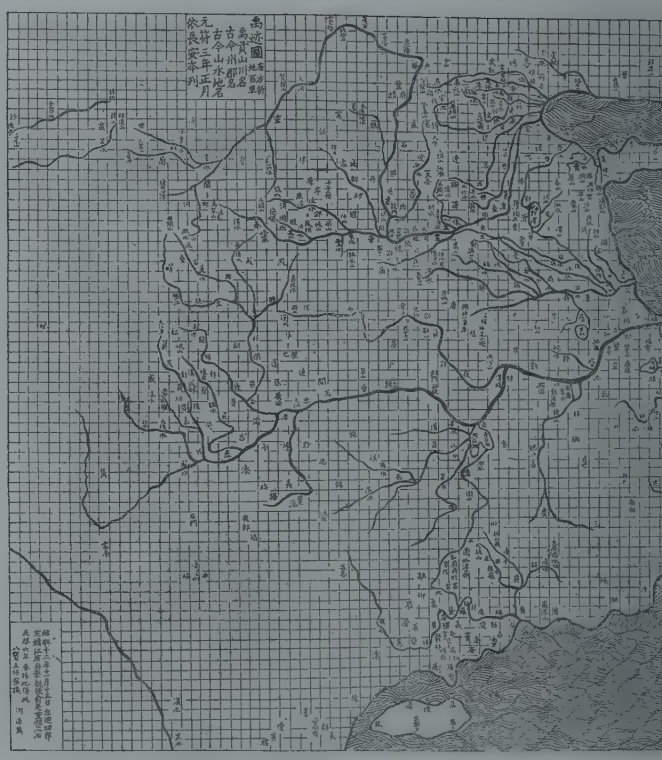
Major geographical features correspond almost exactly to those on the sister map in Shaanxi Provincial Museum (25) since both are copied from the original 1100 map. The only difference is that the seas on this map are indicated with wavy lines, whereas the Shaanxi map is without such lines.

Both are the earliest squared maps in the world.

29 Rubbing of the Map of Water Systems (Shaoxing, 1131–1162)

This is a sister map of the sketch of the same name in Shaanxi Provincial Museum of Stone Tablets (25). Rubbing taken from a stone tablet, engraved in 1142 by Feng Sui and erected by Yu Chi, scale 1:5 million, tablet 95.4cm by 89.4cm by 11cm, map 83.6cm by 79cm

ZHENJIANG MUNICIPAL MUSEUM



30 Reproduction of the Map of Water Systems

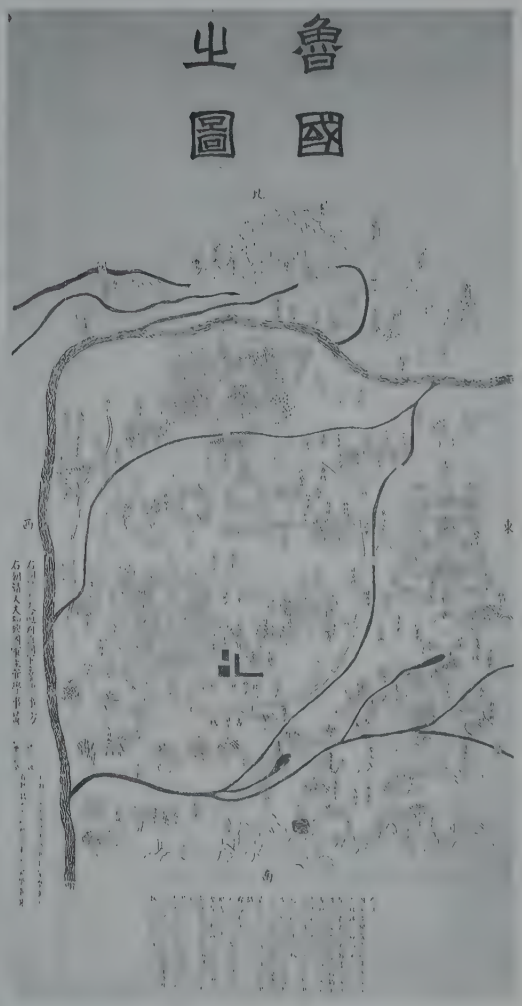
Map of Lu State (31)

Lu Guo zhi Tu

On the map's upper part is engraved the title 'Map of Lu State' (located in present-day Shandong). The central area represents a ground plan of the ancient city of Lu (present-day Qufu), the birthplace of Confucius, plus surrounding mountains, rivers, cities and places of historical interest. Prominence is given to the wall and gate towers of the city of Lu, the Confucian Temple, the Apricot Terrace where Confucius used to teach, the residence (Queli) and family cemetery of Confucius and his descendents and the Si and Yi rivers inside and outside the city. On the map's lower part is engraved a postscript by Yu Shunkai of the Song Dynasty, which is hardly legible. According to the *Records of Inscriptions on Ancient Bronzes and Stone Tablets in Hubei* (*Hubei Jin Shi Zhi*), a Qing Dynasty book devoted to archaeological studies, this postscript states that the purpose of erecting the stone tablet was to provide scholars with a reminder of Confucius's place of birth and activities so that they would better inherit this ancient sage's thinking. The postscript also indicates that the original Map of Lu State was made before 1124 and that Yu Shunkai had it copied on a stone tablet thirty years after he had obtained the original.

Compared with the Map of Pingjiang (45, 46) and the Map of Jingjiang City (55, 56), both drawn in the Song Dynasty, the Map of Lu State is not purely a city map: it has many characteristics of a historical map as well as being a contemporary document.

31 Rubbing of the Map of Lu State
(Shaoxing, 1131–1162)



32 Reproduction of the Map of Lu State

Taken from a stone tablet, engraved in 1154,
tablet 217cm by 112cm

NO. 1 MIDDLE SCHOOL, YANGXIN COUNTY, HUBEI
(SITE OF XINGGUO PREFECTURAL SCHOOL IN THE
SOUTHERN SONG DYNASTY)

Map of Nine-Region Mountains and Rivers (33)

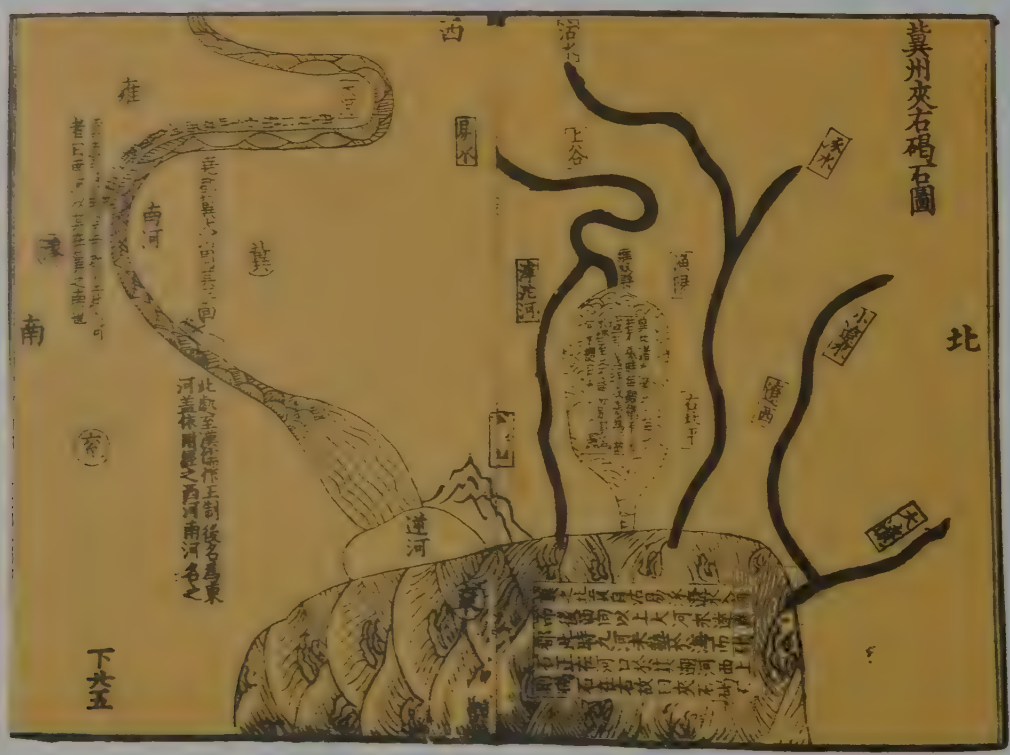
Jiuzhou Shanchuan Shizheng Zong Tu

Map of Jizhou's Jieshi Hill (34)

Jizhou Jiayou Jieshi Tu

Both maps are from *Maps of Mountains and Rivers as Described in the 'Book of Yu Gong'* (Yu Gong Shanchuan Tu), a famous geographic work compiled, and completed in 1177, by Cheng Dacang. The original work was in five volumes with thirty-one coloured maps, but it was later edited into two volumes containing the only remaining twenty-eight maps. Meticulously engraved printing blocks and black ink produced very clear pictures in the new edition which contains the earliest extant printed paper maps in China. The maps give visual expression to geographical descriptions contained in the *Book of Yu Gong*, believed to have been written during the Warring States Period (475–221 BC), including rivers, lakes, seas and the nine regions of Ji, Yan, Qing, Xu, Yu, Yang, Jing, Yong and Liang. Traditional pictographic methods are employed and a variety of symbols and characters are used to indicate the different historical periods, for example, the nine regions mentioned in the *Book of Yu Gong* are marked with characters in intaglio, whereas Song Dynasty administrative regions, are shown with characters in relief. The names of mountains and rivers are placed in squares, and changes in river course noted with additional inscriptions (see also 39, 40). The maps' upper parts represent west and their lower parts east.

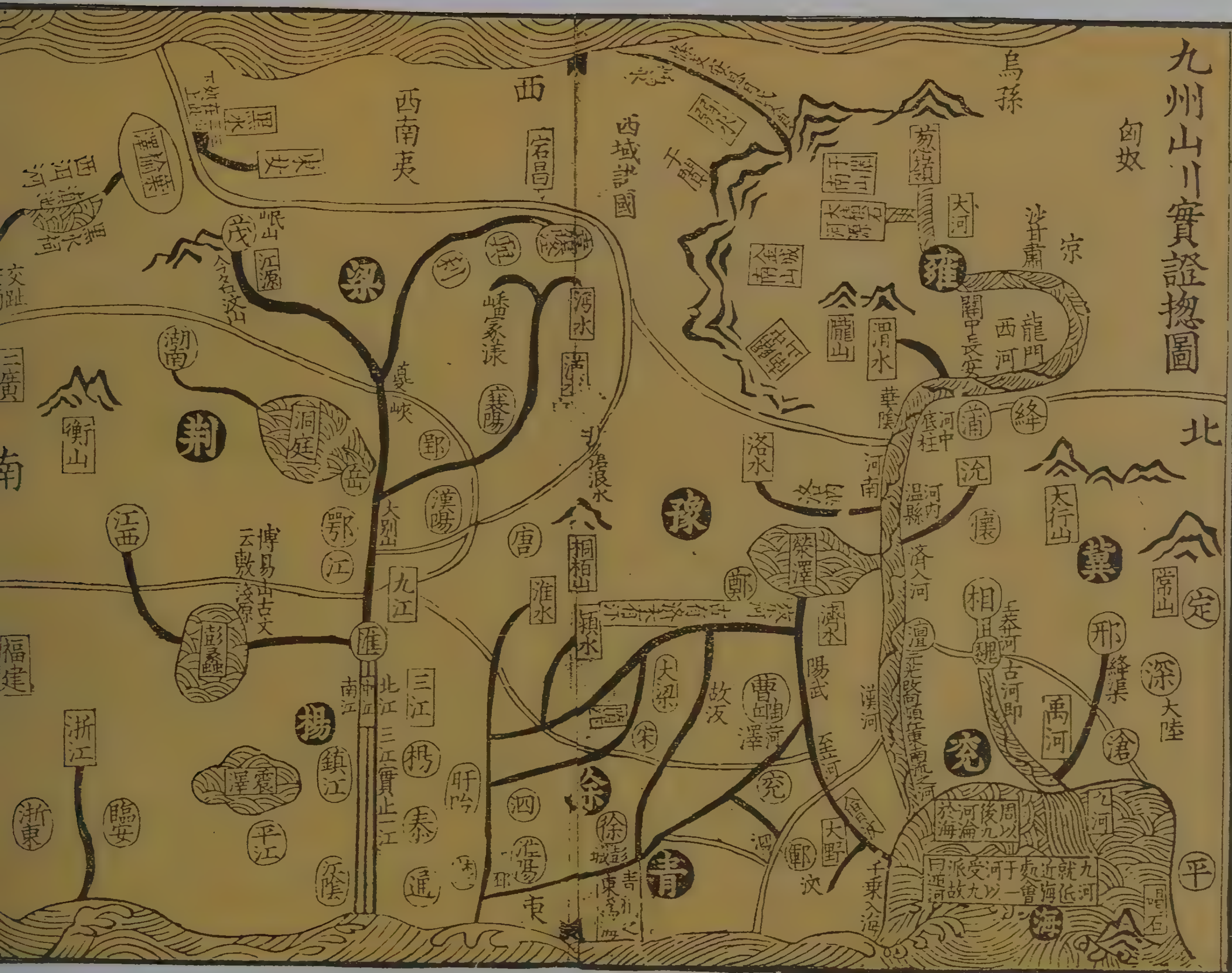
33 Map of Nine-Region Mountains and Rivers (Chunxi, 1174–1189)



34 Map of Jizhou's Jieshi Hill (Chunxi, 1174–1189)

Two maps from a collection of thirty-one Maps of Mountains and Rivers as Described in the 'Book of Yu Gong' (Yu Gong Shanchuan Tu), compiled by Cheng Dachang in 1177. Only twenty-eight maps have survived. The Book of Yu Gong is a geographical classic believed to have been written in the Warring States Period (475–221 BC). The two maps illustrated here are from a 1181 Quanzhou edition. Printed in black ink from copper plates, book 23.3cm by 16cm

BEIJING LIBRARY


九州山川實證摠圖
北
西
西南夷
西域諸國
烏孫
匈奴
宗
雍
豫
荊
梁
揚
青
兗
冀
徐
洛水
渭水
龍門
西河
淮水
九江
衡山
洞庭
彭蠡
大行山
常山
禹河
漢陽
襄陽
大別山
桐柏山
三江
鎮江
平江
臨安
浙江
浙東
福建
定
深
平
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邢
相
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大陸
碣石

Comprehensive Map of the Ancient and Present Administrative Regions of China and Distant Tribes (35)

Gujin Hua Yi Quyu Zongyao Tu

Map of the Nine Regions of the Shang Dynasty (36)

Shang Jiuyou Tu

Both maps are from *A Map Guide to the Geography of Past Dynasties* (*Lidai Dili Zhizhang Tu*), possibly compiled by Shui Anli of the Northern Song Dynasty (960–1127) but according to recent research more probably a work from the Southern Song Dynasty. The guide, which covers the period from Ku – a prehistoric legendary king – to the Song Dynasty, contains forty-four maps, a foreword and a treatise at the end. Despite being crudely drawn, they are the earliest historical maps found in China (see also 51).

35 ***Comprehensive Map of the Ancient and Present Administrative Regions of China and Distant Tribes***

The Comprehensive Map of Ancient and Present Administrative Regions of China and Distant Tribes outlines the distribution of all twenty-seven administrative regions of the Song Dynasty as well as prefectures of former days. It is similar to the Map of China and Distant Tribes (27) in the shape of its coastlines, rivers and the Great Wall as well as in technique.

The Map of the Nine Regions of the Shang Dynasty (sixteenth–eleventh century BC) indicates the distribution of the regions – Ji, Yan, Xu, Yang, Yu, Jing, Yong, Ying, and You on a map of Song Dynasty China.

Two of a set of forty-four maps from A Map Guide to the Geography of Past Dynasties (Lidai Dili Zhizhang Tu). The guide covers the period from Ku – a prehistoric legendary king – to the Song Dynasty (960–1279). The original Song edition is now kept at the Oriental Library, Japan; the two maps illustrated here are from a Ming edition, ink block prints, book 23.7cm by 30cm

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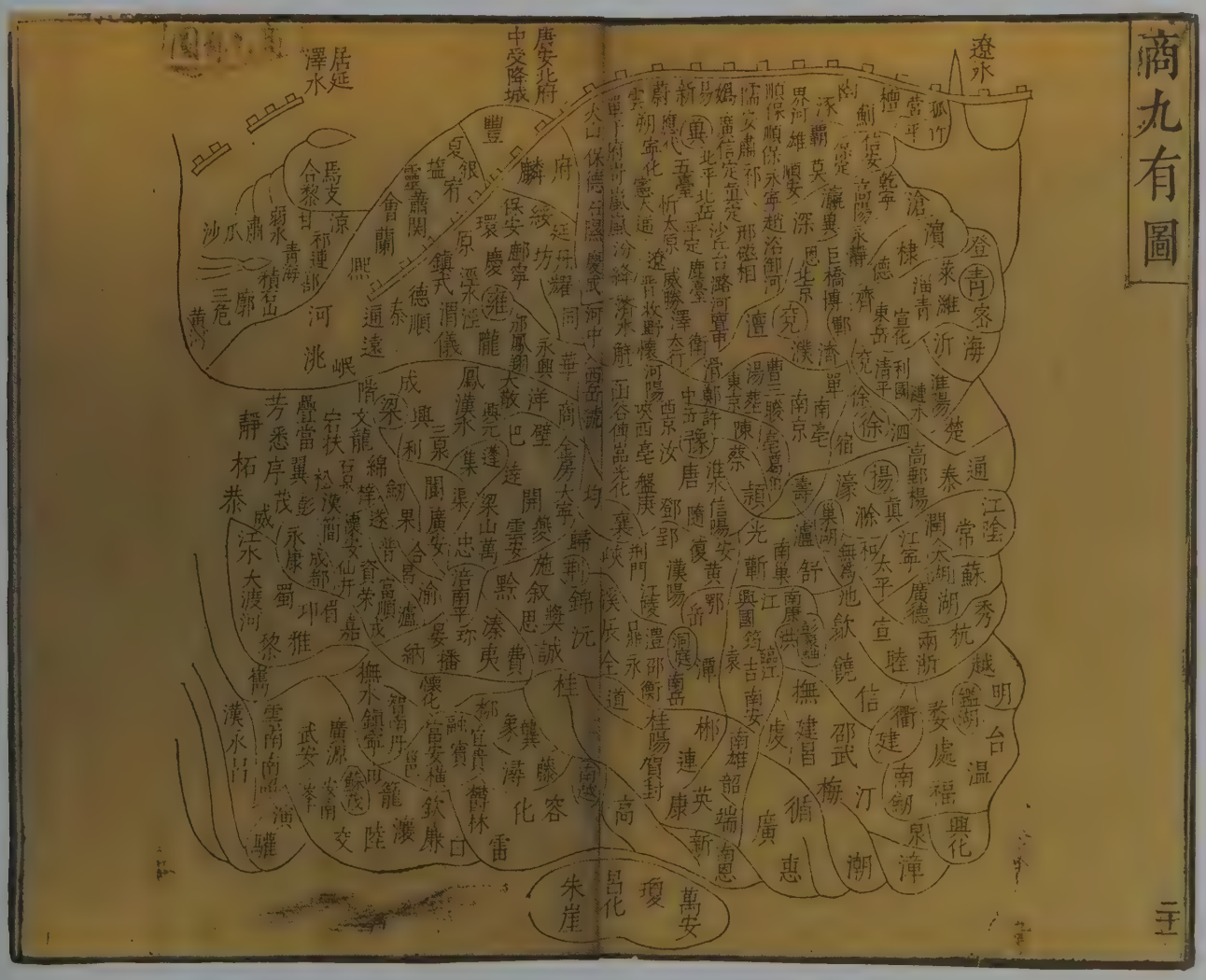
36 Map of the Nine Regions of the Shang Dynasty



Jin Dynasty

1115–1234

A coexistent dynasty in Northern China

Map of Lingyan Monastery Boundaries (37)

Lingyan Si Tianyuan Jiezhi Tu

The Lingyan Monastery is located at the northwestern foot of Mount Taishan, near Ji'nan city, in present-day Changqing county, Shandong. Established in the Northern Wei Dynasty (AD 386–534) and enjoying prosperity in both the Tang and Song Dynasties, the monastery had forty halls, 500 meditation rooms and more than 500 monks in its heyday. Tucked in the recesses of the mountain, the monastery is imposing and spacious in layout and has many areas of historical interest within its enclosure. Most well-known are forty coloured Arhat monks in the Thousand-Buddha Hall, sculptured in the Song Dynasty. A saying in the Qing Dynasty went, 'He who failed to visit Lingyan Monastery has not seen the Real Mount Taishan'.

The map delineates land owned by the Lingyan Monastery, delimited by the Jin government. Aside from a plan of the monastery, the map outlines such local topographical features as mountain peaks, rivers, villages, roads and forests. The map, traditionally engraved, is clear with evenly-drawn thick and thin lines. It bears more than 40 inscriptions, including 301 characters below it recording the boundaries of the monastery's land. The map is essential in studying the history of Lingyan Monastery and the economy of ancient monasteries in China.

37 Rubbing of the Map of Lingyan Monastery Boundaries (Mingcang, 1190–1196)

Taken from a stone tablet engraved and erected in 1195 by Guang Chen, an elder of Lingyan Buddhist Monastery, map 95 cm by 91.5 cm

ADMINISTRATIVE OFFICE OF LINGYAN MONASTERY ANTIQUITIES, CHANGQING COUNTY, SHANDONG

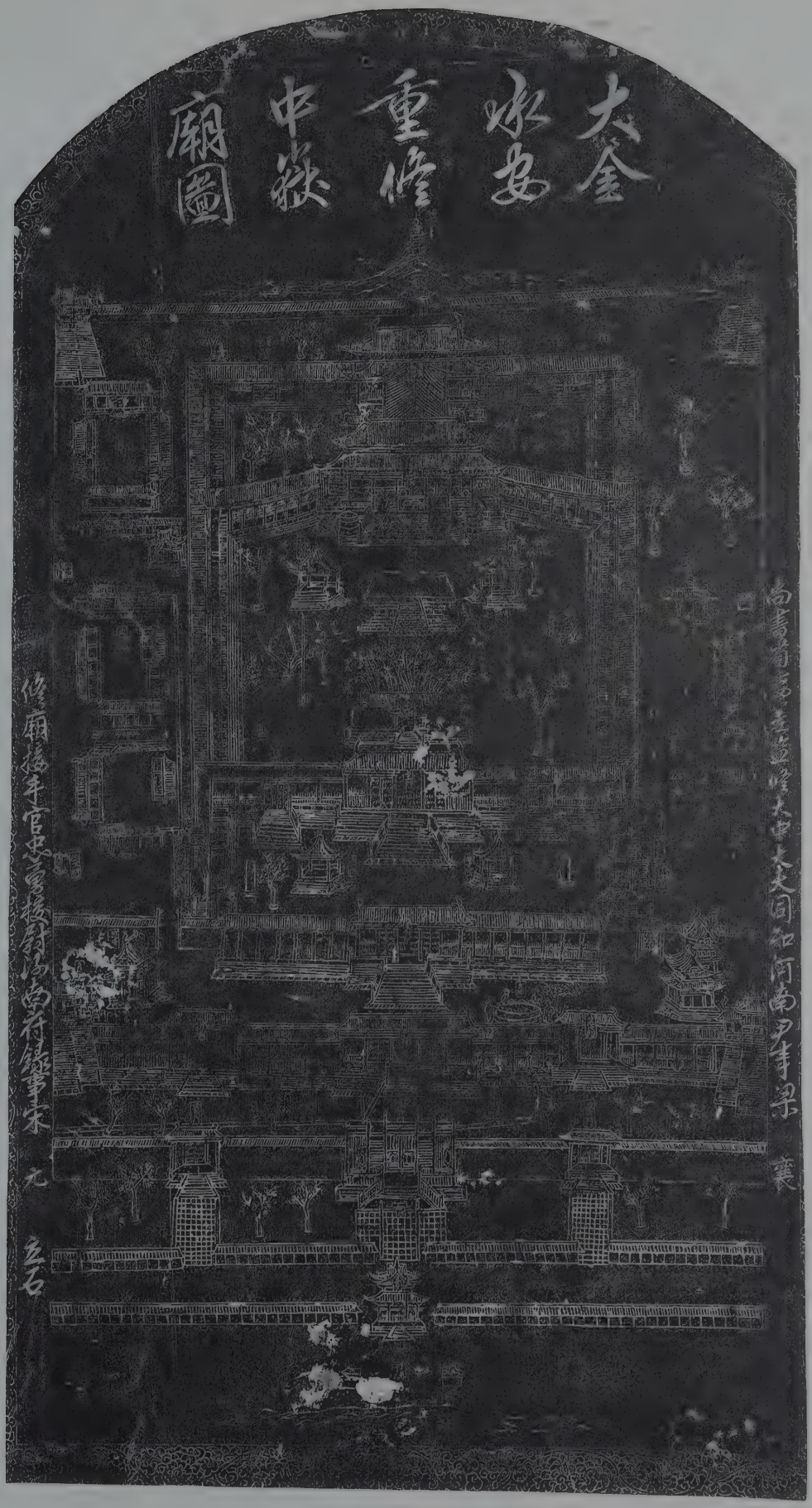

濟南府長清縣靈巖寺明昌五年上奏斷之田園記碑陰界至圖本

Map of Zhongyue Temple (38)

Da Jin Chang'an Chongxiu Zhongyue Miao Tu

Zhongyue Temple, located on Mount Songshan in the central province of Henan, was first built in the Qin Dynasty (221–207 BC), then expanded during the reign of Emperor Wudi (140–86 BC) when he visited the mountain, and reconstructed in the Jin Dynasty. The temple underwent several changes of site until the middle of the Tang Dynasty, when the present site was selected. Its greatest period was during the Tang and Song Dynasties. As the map reveals, the temple existing today has retained the architectural features of the Jin Dynasty reconstruction. It has a row of seven halls flanked by subsidiary rooms. In front of the entrance hall is a 'Fire Pond', which is surrounded by four 3m high, finely shaped and exquisitely wrought iron statues made in 1064 by Song Dynasty army craftsmen headed by Dong Zhan. In the Qing Dynasty, the statues were moved to the temple's 'Divinity Corner'. Traditionally used as a counter to evil, they are the largest extant iron statues in China.

Portraying properties owned by the Zhongyue Temple, the map was cut on a stone tablet in 1200 at the time of the temple's reconstruction. The tablet was erected by Song Yuan, an official of Henan prefecture. The map uses a three-dimensional perspective and the buildings are sketched according to accurate plans. Aside from a comprehensive and detailed portrayal of all the temple buildings, the map shows decorated archways, ancient trees, stone tablets and towers. Reflecting the architectural style and grandeur of Zhongyue Temple, it is one of the best temple maps.



3 Rubbing of the Map of Zhongyue Temple (Cheng'an, 1196–1200)

ken from a stone tablet, engraved in 1200 and erected by Song Yuan, 124.5cm by 65.3cm

ZHONGYUE TEMPLE, HENAN

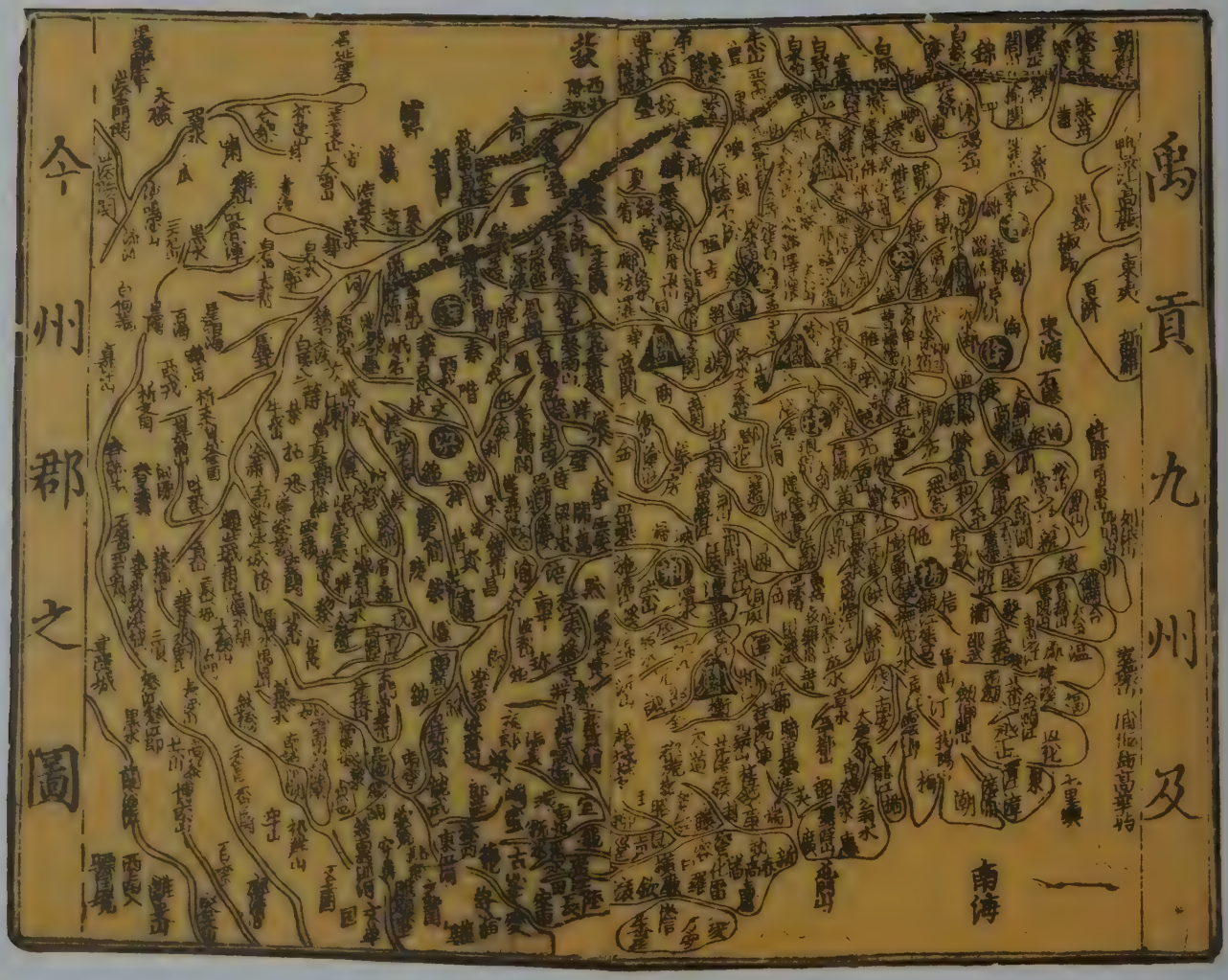
Southern Song Dynasty
(continued)

Map of the Book of Yu Gong Nine Regions and Those of Today (39)

Yu Gong Jiuzhou ji jin Zhoujun zhi Tu

Map of Mountains and Rivers Contained in the Book of Yu Gong (40)

Yu Gong suo zai Suishan Junchuan zhi Tu



39 Map of the Book of Yu Gong Nine Regions and Those of Today (Jiading, 1208–1224)

These two are from the six volume *Annotations for Records of Past Dynasties* (*Shu Ji Zhuan*) completed by Cai Shen in 1209. A book annotating classics by ancient masters, it was regarded as a standard work for those sitting imperial examinations during the Ming and Qing Dynasties.

The Map of the *Book of Yu Gong* Nine Regions and Those of Today sketches the original distribution of the nine regions (called 'Zhou') according to the *Book of Yu Gong*: Ji, Yan, Qing, Xu, Yu, Yang, Jing, Yong and Liang (see 58, 166a). It is an ink-printed historical map comparing the administrative division of China in ancient and contemporary times. It covers the Kunlun mountains in the west, the sea in the east, Hainan Island and the northern parts of Vietnam and Laos in the south, and the wilderness in the north. It contains mountains, rivers, lakes, islands, seas, the Great Wall, frontier tribes and neighbouring countries of the ancient nine regions and administrative areas of the Song Dynasty. Mountains, rivers and the Great Wall are drawn graphically, and additional features are described in inscriptions.

The Map of Mountains and Rivers Contained in the *Book of Yu Gong* is a historical map showing mountains and rivers described by the ancient *Book of Yu Gong*. Printed with black ink, it is identical with the above-mentioned map in both method and area coverage (see also 33, 34).

40 Map of Mountains and Rivers contained in the Book of Yu Gong (Jiading, 1208–1224)

Two maps illustrated in Annotations for Records of Past Dynasties (Shu Ji Zhuan), *a six volume book annotating classics by ancient masters, completed by Cai Shen in 1209.*

Ink prints

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Map of Ninghai County (41)

Ninghai Xian Jing Tu

Map of Linhai County (42)

Linhai Xian Jing Tu

Chicheng actually refers to Taizhou, a prefecture in Zhejiang province at the time; the *Annals of Chicheng* (*Chicheng Zhi*) is the earliest extant gazetteer of Taizhou.

On these two county maps, drawn in great detail in the graphic tradition, are marked the counties' terrain, roads, posts, communities, monasteries, saltworks, neighbouring counties and islands, all with names. The Map of Ninghai County has 270 name-related inscriptions; and the Map of Linhai County 340, of which, 130 concern mountains, thirty rivers, bridges and ferries, eighty communities, and seventy monasteries and temples, this is quite rare among county maps.

41 Map of Ninghai County (Jiading, 1208–1224)

Two maps selected from the Annals of Chicheng (Chicheng Zhi) completed in 1223 by Huang Yun, Qi Shuoxiu and Chen Sheqing. The Annals (original now lost) record the affairs of the five counties under Chicheng: Linhai, Huangyan, Tiantai, Xianju and Ninghai. Ink prints, from the Ming edition published by Xie Duo in 1497

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42 Map of Linhai County (Jiading, 1208–1224)

Map of Dinghai County (43)

Dinghai Xian Jing Tu *Dinghai Xian Zhi Tu*

Siming, which became Ningbo Prefecture in the Ming and Qing Dynasties, is the present-day city of Ningbo in Zhejiang. The *Baoqing Annals of Siming* (*Baoqing Siming Zhi*) has numerous illustrations, most of which are general area and city maps.

One of these, the Map of Dinghai County, is a black ink-block print showing the seat of the county government and major geographical and social features: townships, mountains, rivers, lakes, the sea, islands, bridges, sluice gates, ports, ferries, docks, monasteries, army barracks, schools, taxation offices, markets, villages and places of historical interest. Drawn in the graphic tradition, the map boasts even lines and clear annotations placed in square black frames.

The second map is an enlarged version of the first with its coverage limited to the seat of the county government; it can, therefore, be regarded as a city map. Added to the map are roads, streets, lanes, gates, government offices and memorial archways. The names of the gates and government offices reflect that Dinghai was a major post in coastal defence.

Maps contained in the *Baoqing Annals of Siming* represent the technical level of map sketching and printing for local chronicles in Song Dynasty China. They also testify to the prevalence of both general and specialized maps.

43 Map of Dinghai County (Shaoding, 1228–1233)

44 Detail of the Map of Dinghai County

Both maps are from the twenty-one volume Baoqing Annals of Siming (Baoqing Siming Zhi), compiled by Fang Wanli and Luo Xuan during the reign of Baoqing and completed in 1226 *to* 1228. Ink prints, from an enlarged edition printed during the reign of Xianchun (1265–1274)

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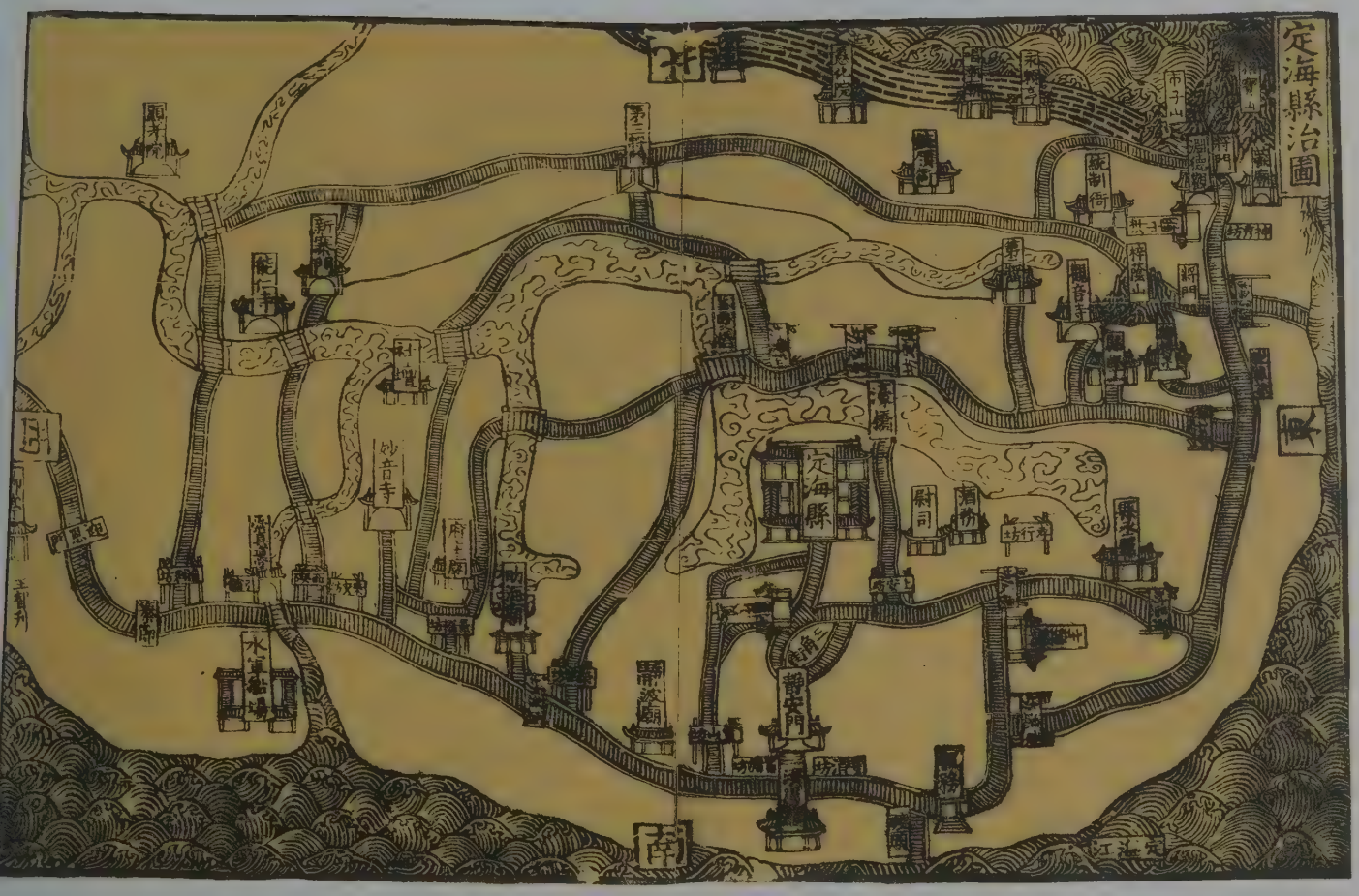


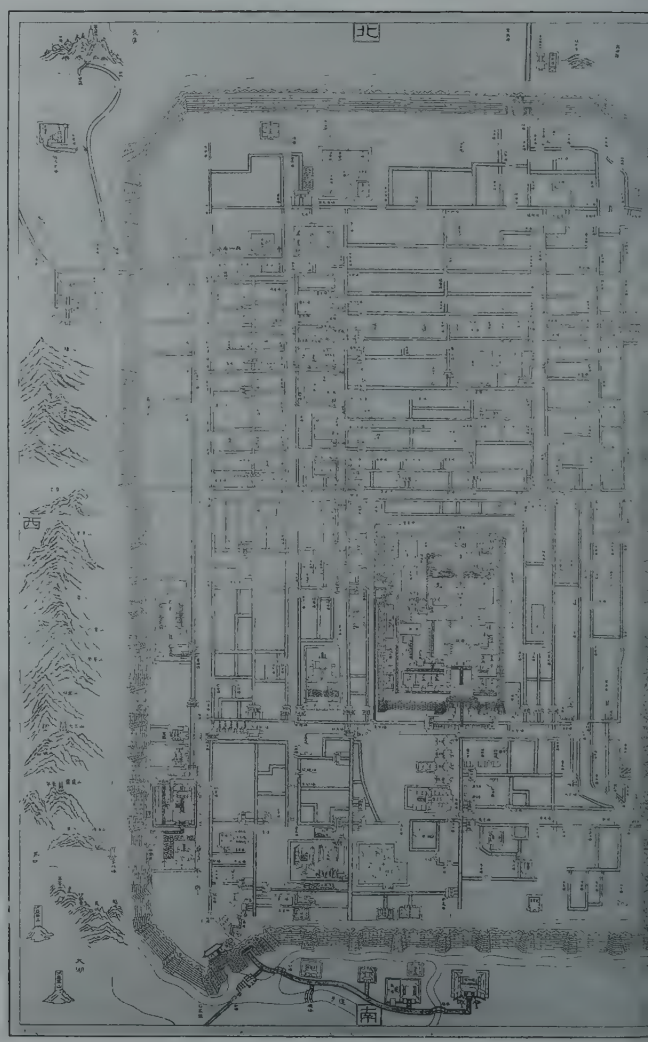
Map of Pingjiang (45)

Pingjiang Tu

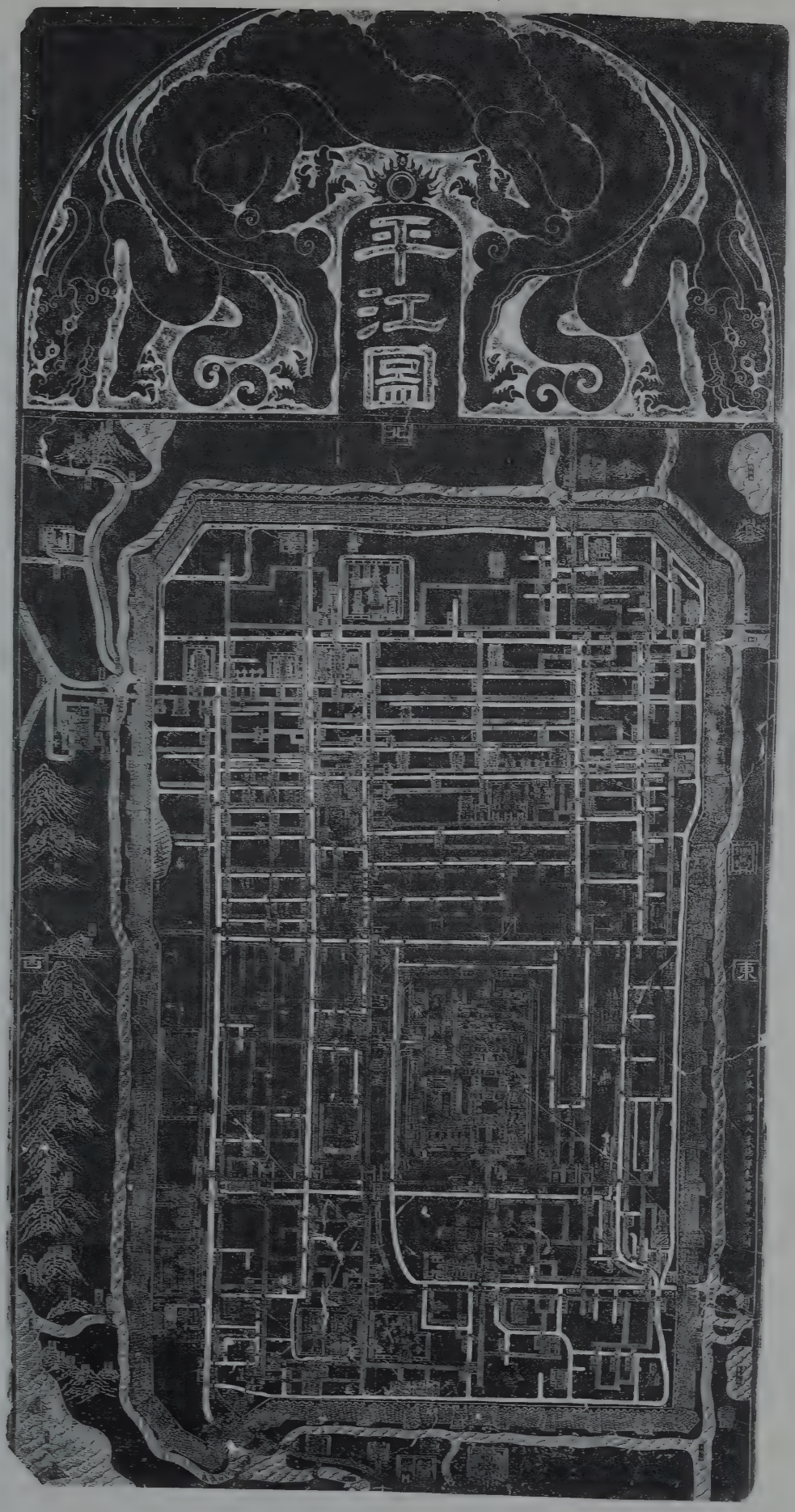
Engraved under the direction of Li Shoupeng, the prefectural administrator, the map portrays in great detail the city walls, the inner city, civilian and military offices of the Pingjiang prefectural and Wuxian county governments, as well as the local river system, streets, 305 bridges and 250 clusters of buildings. Also, five city gates and the position of each – land or water – is indicated. Monuments portrayed on the map that survive to this day include the Bao'en Temple Pagoda, Tianqing Taoist Temple, Dinghui Pagoda, Kaiyuan Temple, Ruiguang Pagoda and Pan Gate. Different symbols are used to indicate Pingjiang city, the inner city and the Palace city. Also indicated on the outskirts are resorts such as the Huqiu Hill, Tianping Hill and Gusu Terrace.

A combination of accurate plans and three-dimensional drawing methods add to the map's evocative nature; it vividly records ancient Suzhou as an oriental Venice.

The Map of Pingjiang is the largest extant stone-engraved map in China (see also 31).



46 Reproduction of the Map of Pingjiang



45 Rubbing of the Map of Pingjiang (Shaoding, 1228–1233)

Taken from a stone tablet bearing a map of Pingjiang (present-day Suzhou), engraved in 1229 under the direction of Li Shoupeng, scale north-south 1:2,500; east-west 1:3,000, 277cm by 142cm

SUZHOU MUNICIPAL MUSEUM OF TABLET ENGRAVING, CONFUCIAN TEMPLE

Comprehensive Map of the Book of Yu Gong Rivers and Mountains (47)

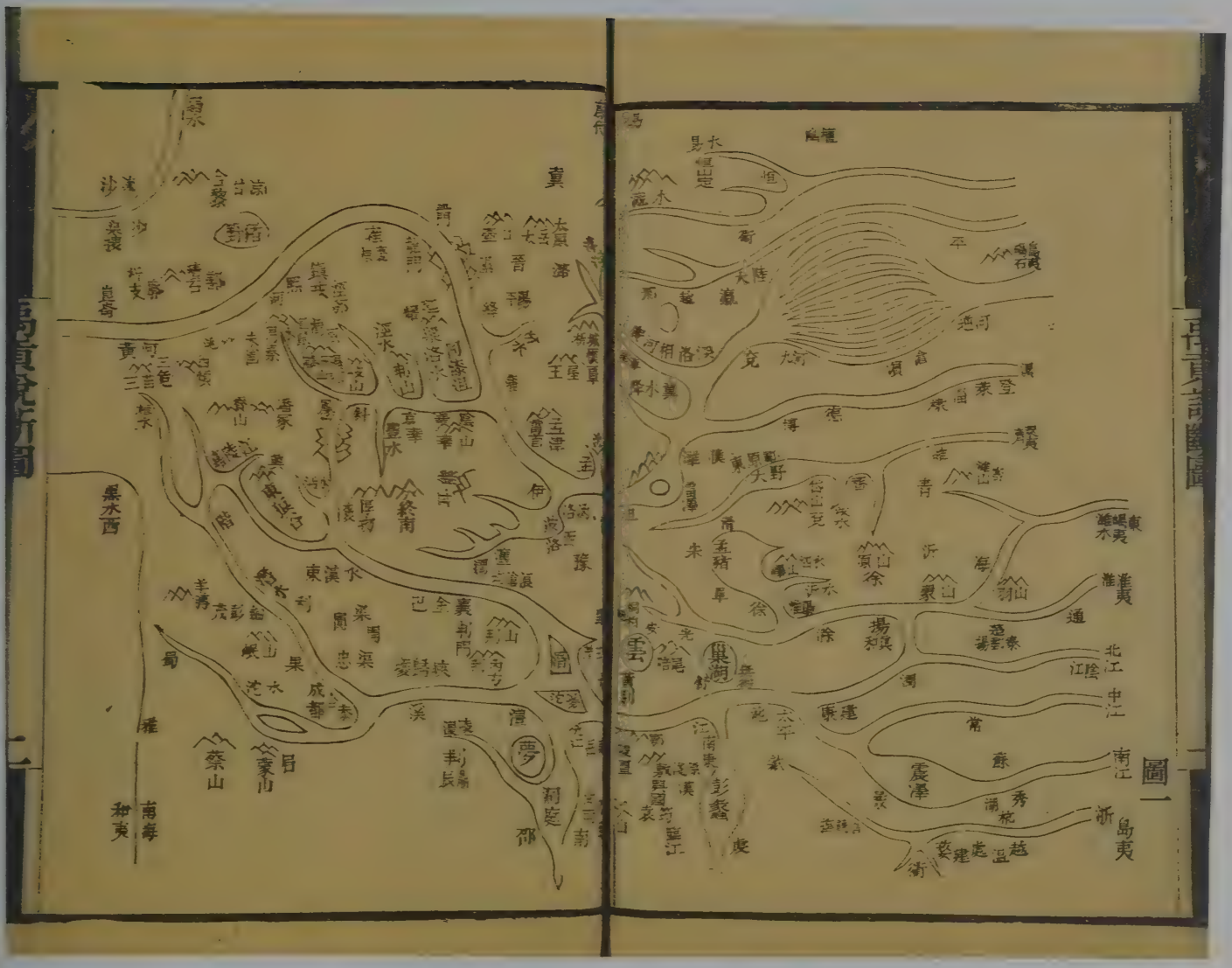
Yu Gong Shanchuan Zonghui zhi Tu

It is one of the maps illustrated in a book entitled *Comments on the Book of Yu Gong* (*Yu Gong Shuo Duan*) written by Fu Yin; see also 33, 34, 39, 40.

Comments on the Book of Yu Gong is included in the authoritative *Yongle Canon* (*Yongle Da Dian*) compiled during the reign of Yongle (1403–1409). The map illustrated here is in fact taken from the *Yongle Canon*, but as it is a work by Fu Yin himself it can be regarded as belonging to the Song Dynasty.

The Comprehensive Map is the result of a thorough study by the cartographer of the *Book of Yu Gong*. Devoted to the portrayal of all the geographical elements described by the ancient book, the map covers present-day Beijing and northern Shanxi in the north, the central parts of Zhejiang, Jiangxi and Hunan in the south, Xinjiang, Qinghai, Sichuan, Guizhou and Yunnan in the west, and coasts in the east. Included in the map are such natural features as mountains (drawn geographically), rivers (drawn with double lines; the nine branches of the lower Yellow river are particularly eye-catching), oval-shaped lakes and moving sand dunes, as well as the nine regions of Ji, Yan, Qing, Xu, Yang, Yu, Jing, Yong and Liang, and other important places and tribes, all indicated by name. Many features are indicated with inscriptions only, arranged flexibly in accordance with space availability. The original map is a black ink-block print with clear lines and inscriptions.

47 Comprehensive Map of the Book of Yu Gong Rivers and Mountains (Chunyou, 1241–1252)



Selected from Comments on the Book of Yu Gong (Yu Gong Shuo Duan), written by Fu Yin before 1241. Original map is now lost; this version was made during the reign of Jiajing (1522–1566)

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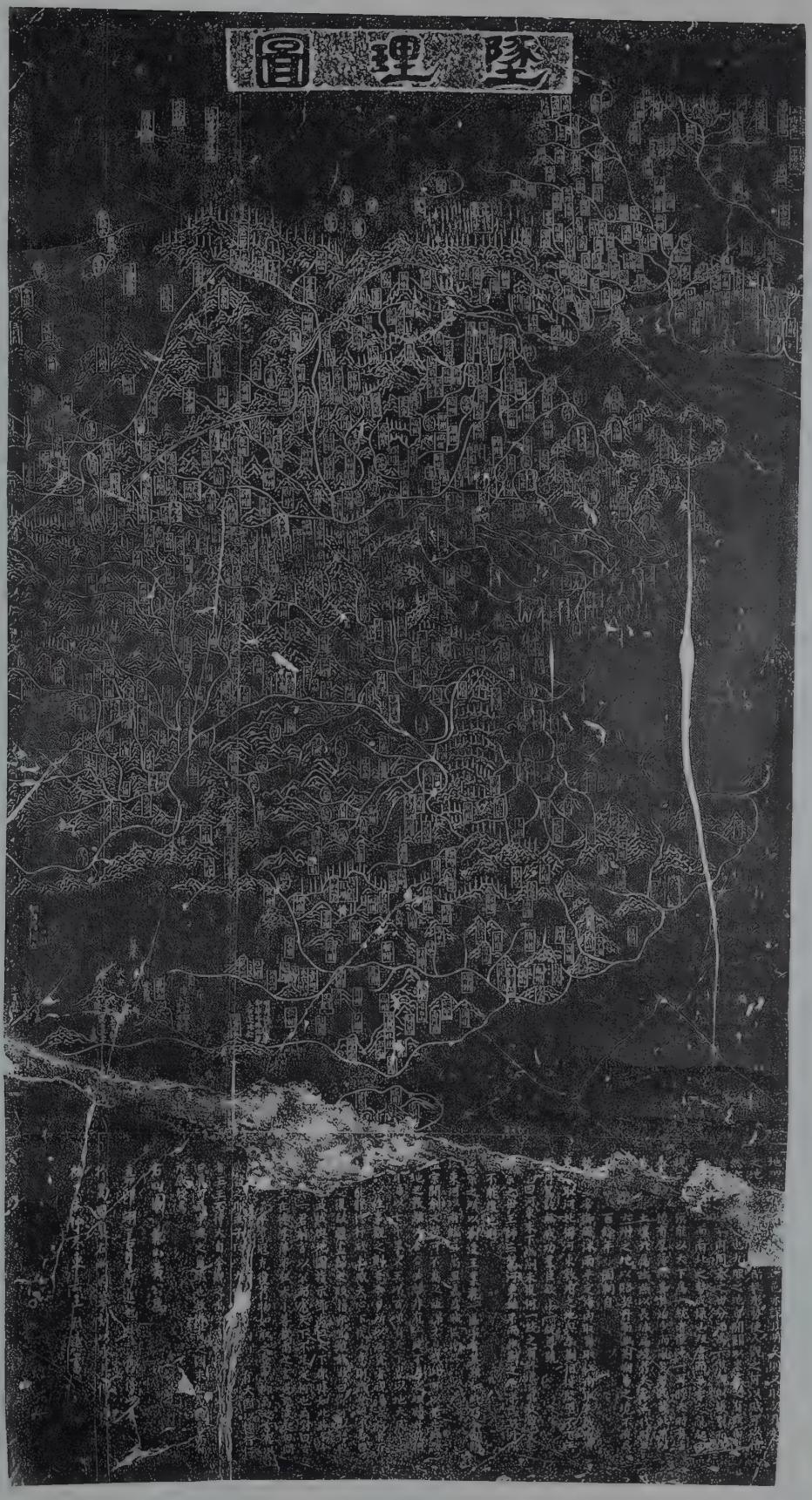
Geographic Map (48)

Dili Tu

This is a national land map of the Southern Song Dynasty drawn in 1190. It is one of eight maps given by Huang Shang to Prince Zhao Kuo as a tribute. Wang Zhiyuan later obtained the map, brought it back to Suzhou and had it copied on a stone tablet in 1247 'for permanent preservation'.

The Geographic Map is drawn using a similar method to the Map of China and Distant Tribes (27): no grid is drawn for guidance. It covers the Heilongjiang and Changbai mountains in the north, the Yumen Pass in the west, Hainan Island in the south and the sea in the east. Drawn on the map are the administrative regions of the Song Dynasty: lu, fu, jun and zhou (corresponding approximately to province, prefecture, sub-prefecture and county). All lu place names are in relief, whereas those of fu and zhou are in intaglio and placed in square boxes. The names of regions in Southwest China, inhabited by ethnic minorities, do not have squares. Mountains are drawn graphically with their names placed in squares. Woods are also indicated; one inscription reads, 'Pine forests extend thousands of li on the plain'. The names of all rivers are placed at their sources, within oval frames. The map also bears a postscript by Wang Zhiyuan.



48 Rubbing of the *Geographic Map* (Chunyou, 1241–1252)

Taken from a stone tablet bearing the Geographic map, drawn by Huang Shang in 1190 and engraved on stone by Wang Zhiyuan in 1247, 202.3cm by 105–108cm

SUZHOU MUNICIPAL MUSEUM OF TABLET ENGRAVING, CONFUCIAN TEMPLE

Celestial Map (49)

Tianwen Tu

The tablet bears a round celestial map on its upper part with inscriptions below. The celestial map contains the inner sphere, the outer sphere, the zodiac, the celestial equator and the Milky Way. The outer sphere has a diameter of 85cm. Altogether, the map contains 1,434 fairly accurately positioned stars. The arrangement of the twenty-eight constellations is based on statistics obtained from observations made between 1078 and 1085.

The inscriptions reflect people's understanding of the universe at the time and most of them conform to accepted rules that guide the movement of celestial bodies. They explain in detail phenomena concerning the earth, the North Pole, the South Pole, the equator, the sun, the moon, the zodiac and the moon's path. Explanations for such astronomical phenomena relating to the zodiac, the equator, solar eclipse and lunar eclipse, are all correct. An excerpt reads, 'The zodiac crosses the equator, with half of it inside and the other half outside the latter. On the Winter Solstice, the zodiac is 24 degrees outside the equator and lies farthest from the North Pole; the sun rises during the period of Chen (7–9 AM) and sets during that of Shen (3–5 PM); and that is why it is cold then and the day is short and the night long. On the Summer Solstice, the zodiac is 24 degrees inside the equator and lies nearest the North Pole; the sun rises during the period of Yin (3–5 AM) and sets during that of Xu (7–9 PM); and that is why it is warm then and the day is long and the night short. On the Spring Equinox and the Autumn Equinox, the zodiac crosses with the equator and lies midway between the two poles; the sun rises during the period of Mao (5–7 AM) and sets during that of You (5–7 PM); and that is why it is mild and day and night have the same duration.'

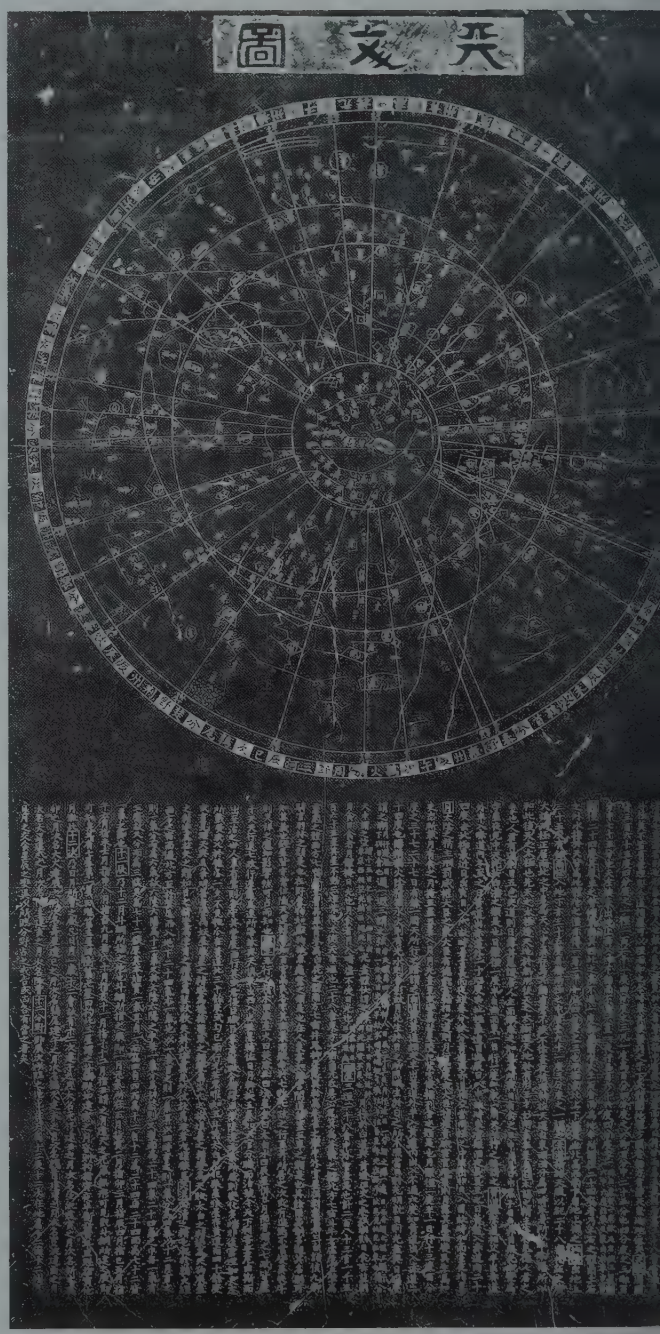
The Celestial Map is the earliest extant stone-engraved example found so far. Providing the positions of constellations as understood by the ancient Chinese, it is a very valuable part of the history of astronomy in China.

49 Rubbing of the Celestial Map (Chunyou, 1241–1252)

Taken from a stone tablet bearing the Celestial Map drawn by Huang Shang in 1190 and engraved by Wang Zhiyuan in 1247, 181.3cm by 95.8cm

SUZHOU MUNICIPAL MUSEUM OF TABLET ENGRAVING, CONFUCIAN TEMPLE

50 Detail of the rubbing of the Celestial Map



Map of East Cinisthana (51)

Dong Zhendan Dili Tu

Map of States in the Han Dynasty Western Regions (52)

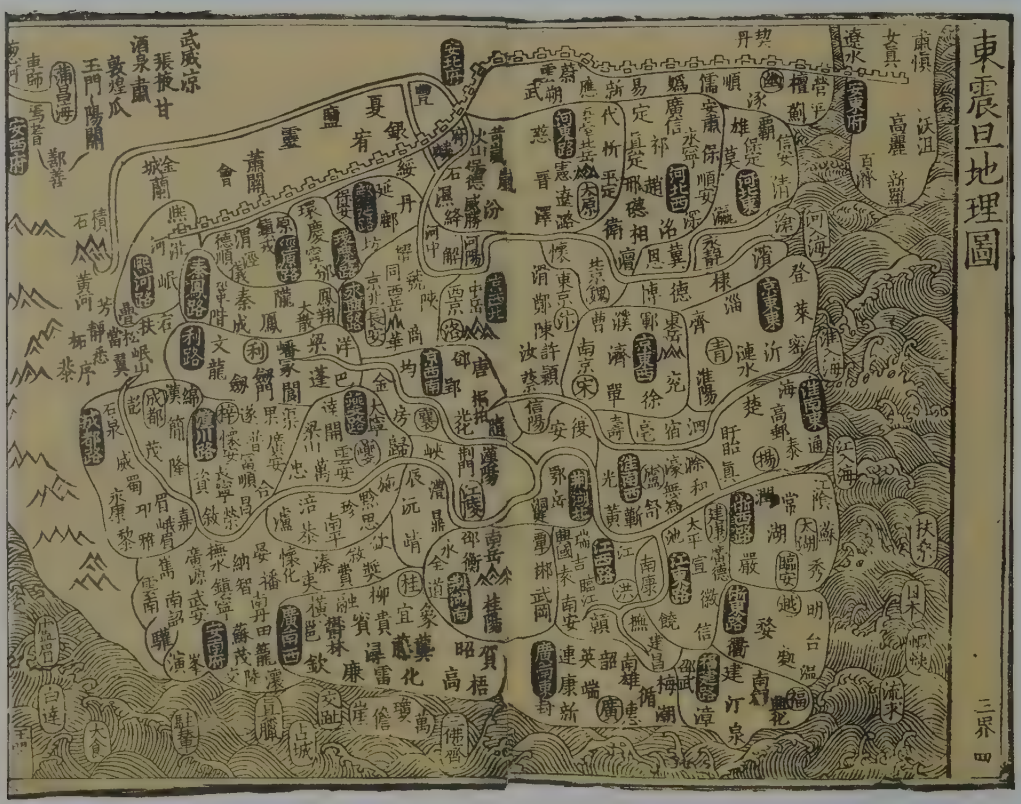
Han Xiyu Zhuguo Tu

Cinisthana (translated as *Zhendan* in Buddhist scriptures) is the name that ancient Indians gave to China. The map, which dates from before the compilation of the book, covers Korea and Japan in the east, Qinghai and Xinjiang in the west, the South China Sea in the south and the Great Wall in the north. Marked on the map are the administrative regions of the country at the time, including twenty-eight provinces, and prefectures and counties under them. Characters in intaglio are used for the names of provinces (called *lu* in ancient China); the seats of local governments are placed within oval or circular frames; curves delineate various provinces; double lines indicate rivers; simple graphic symbols mark ranges; wavy lines represent seas; and traditional wall symbols mark the Great Wall. All are vividly drawn.

In the portrayal of rivers, the Great Wall and coastlines, the map is similar to the Map of China and Distant Tribes (27) and two others contained in *A Map Guide to the Geography of Past Dynasties* (see 35 and 36), drawn in the same period. All of them fail to delineate the Shandong and Liaoning peninsulas.

The map's division of China into twenty-eight provinces is unique and therefore provides precious data for the study of the evolution of China's historical geography and administrative system.

The Map of States in the Han Dynasty Western Regions by Zhi Pan himself reflects the distribution of states in the so-called Western Regions and communication lines during the Han Dynasty. The map covers an area that extends from Lanzhou in the east to Iran in the west; from the Mongolian wilderness in the north to Shishan mountain in the south.



51 Map of East Cinisthana (Xianchun, 1265–1274)

52 Map of States in the Han Dynasty Western Regions

Both maps are from A History of Buddhism (Fozu Tongji), a fifty-four volume book on Buddhism-related histories compiled between 1260–64 by Zhi Pan. The Map of East Cinisthana is an earlier administrative map of Northern Song China; the Map of States is by Zhi Pan himself. Ink prints

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Drawn graphically on the map are the mountain ranges of Tianshan, Congling, Nanshan, Beishan, Shishan and Jishishan (in present-day southeastern Qinghai). Double lines are used to indicate the Conghe river and the upper Yellow river. Also drawn clearly are two travel routes, from Wuwei to Dunhuang via Zhangye and Jiuquan. They fork at Dunhuang: the southern route extends all the way westward to Iran via Yanqi, Kuqa, Khotan, Shache and western Kashmir. The northern route extends to an area north of the Caspian Sea via Hami, the Congling mountains and a series of states all bearing ancient names. The map indicates more than seventy place names.

Despite being crudely drawn, the map is among the earliest to delineate states in the Western Regions and has reference value for the study of Central Asian history.

Map of West Lake (53)

Xi Hu Tu

Map of the Capital City (54)

Jingcheng Tu

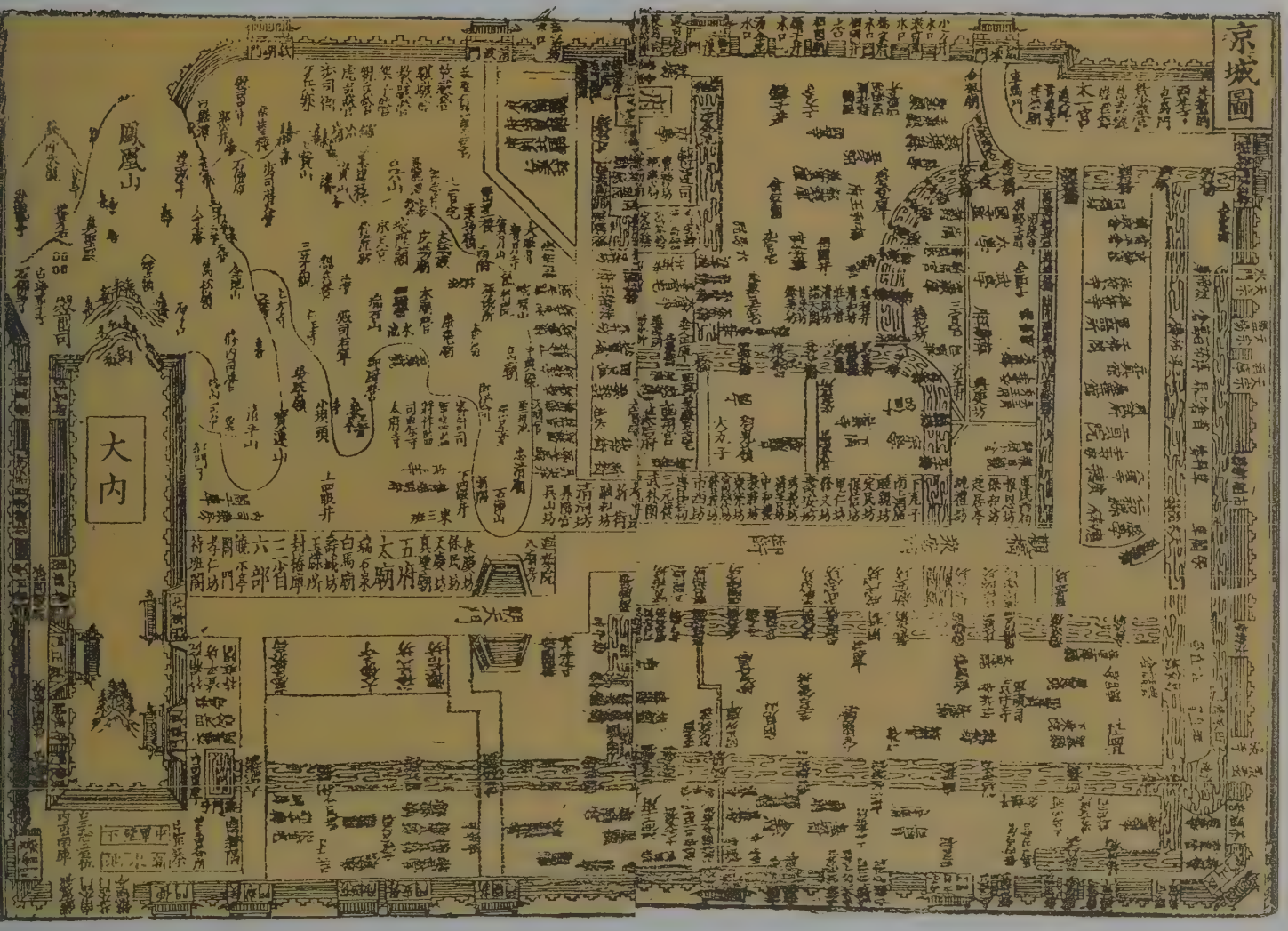
The Map of West Lake is the earliest extant map of the lake in Lin'an (in present-day Hangzhou). The West Lake is positioned in the centre of the map. The upper part represents the west, and to the east of the lake is the city of Lin'an. Famous scenic spots are all positioned to scale. Traditional Chinese painting methods are used to portray the rolling hills southwest of the lake as well as the Six-Harmony Pagoda, Broken Bridge, Temple of Yuefei, Leifeng Pagoda, Su Dyke, Bai Dyke, North Peak and South Peak. Presenting a bird's-eye view of both scenery and man-made structures, the map is easy to read and has artistic appeal. It is one of the earliest extant garden maps in China.

The Map of the Capital City, of which the upper side also represents the west, is a sketch of Lin'an (capital of the Southern Song Dynasty, now part of Hangzhou). Located beside the West Lake, Lin'an is one of the most famous ancient cities in China. At first the capital city of the State of Wu (AD 222–280), it later became the political, cultural and economic centre of the Southern Song Dynasty. A rectangular wall enclosure lies within the city and the royal city sits in the southern part; simple wall symbols delineate the outer city and the royal city. Royal Street (present-day Zhongshan Road) flanked by stores and workshops runs right through the city; numerous other streets and rivers

53 Map of West Lake (Xianchun, 1265–1274)

spanned by bridges, divide Lin'an into blocks.

The locations of pavilions, workshops, studios, schools and bridges are all indicated by name, a method often found in ancient city maps, particularly in local chronicles. Despite its over-reliance on inscriptions, the map is detailed in content and provides useful data for the study of Hangzhou's history.



54 Map of the Capital City

Two of thirteen maps from the Annals of Lin'an (Xianchun Lin'an Zhi), a 100 volume book compiled by Qian Shuoyou and completed in 1268. Ink prints

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Map of Jingjiang City (55)

Jingjiang Fu Chengchi Tu

This map is engraved on a cliff near the Three-Sided Pavilion at the southern foot of Parrot Hill outside Jingjiang (present-day Guilin). The anonymous original map bears neither title nor any indication of when it was engraved. It is called the Map of Jingjiang City on the basis of inscriptions on a neighbouring cliff entitled 'Notes on the Construction of Jingjiang City', these also determine that the map was made in 1272 under the direction of Hu Ying, a Song Dynasty official, at the time of the city's construction.

The history of the city dates back to AD 507. While Northern China was devastated by incessant wars during the Song Dynasty, Southern China, where Guilin is located, was free from social upheaval and the city prospered. In 1133, Guilin, until then called Guizhou, was promoted as a prefectural seat and renamed Jingjiang. Henceforth, the city underwent expansion on five different occasions. The map shows Jingjiang city right after its final period of expansion; it was clearly used for military purposes. This is China's second most precious city map after the Map of Pingjiang (45, 46).

In order to encompass the long, narrow city in the square map a scale of 1:1,000 from north to south and 1:750 from east to west was used.

The map has two main technical features: its large scale and its use of simple, one-dimensional symbols to indicate geographical objects. Altogether, thirty-five symbols are used for mountains, rivers, the city wall, troop barracks, ferries, bridges, official buildings, street blocks and places of historical interest. For bridges alone, six symbols are used for differentiating structure. Most of the symbols are close to those used today. On the top of the map are engraved detailed inscriptions about repeated expansions of the city, the length of various sections of the city wall, and labour input and material consumption involved in the city's construction.

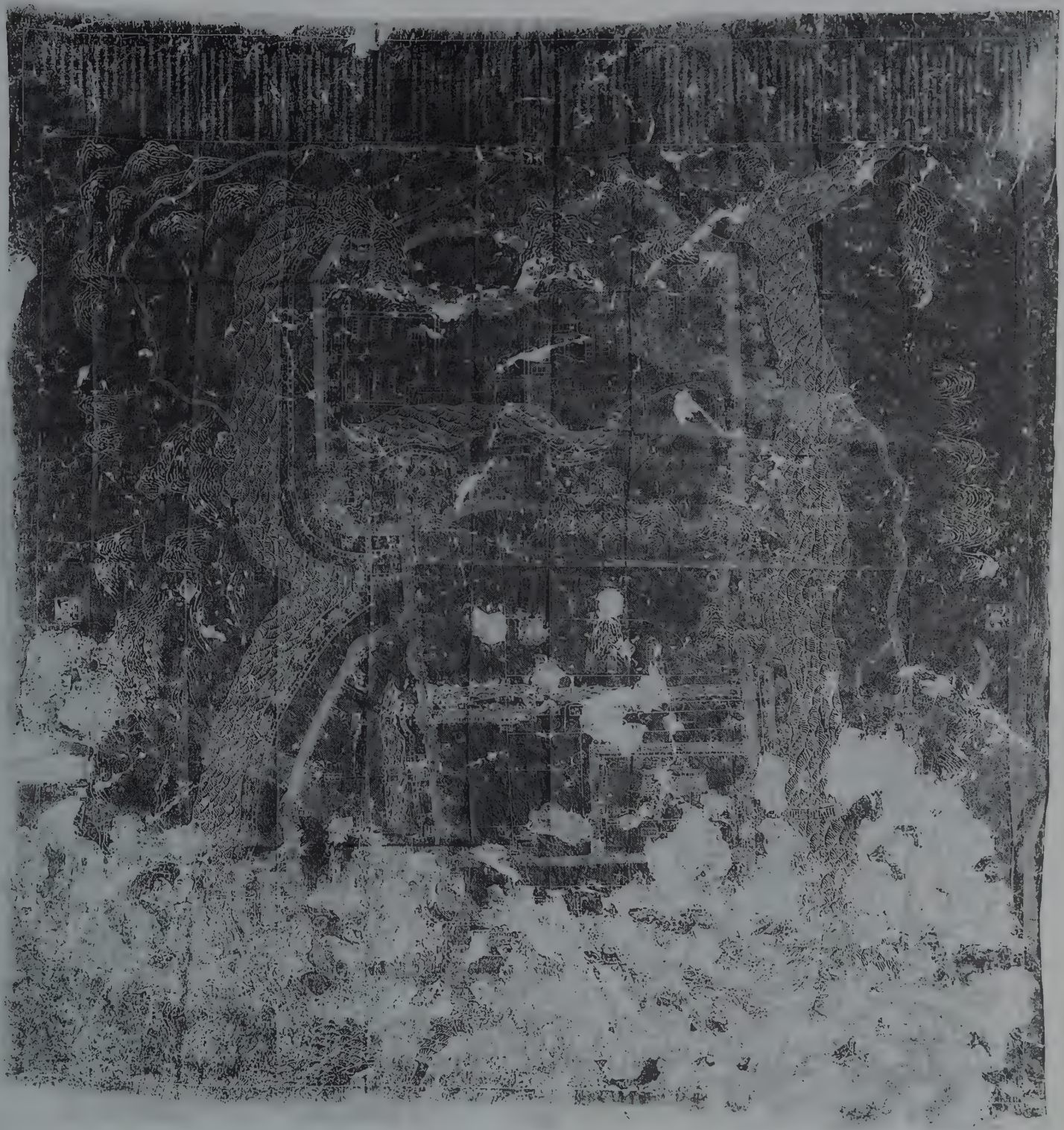
This is the largest map engraved on a cliff in China. A rare map of commendable quality, it provides important data for the study of social development, city construction and city defence in the Song Dynasty.

55 Rubbing of the Map of Jingjiang City (Xianchun, 1265–1274)

Engraved on a cliff at the southern foot of Parrot Hill near Guilin, Guangxi, in 1272 under the direction of Hu Ying at the time of Jingjiang's construction, scale north-south 1:1,000; east-west 1:750, map 321cm by 298cm

56 Reproduction of the Map of Jingjiang City

57 The map engraved on the cliff at Parrot Hill near Guilin



Map of the Book of Yu Gong Nine Regions (58)

Yu Gong Jiuzhou Shanchuan zhi Tu

Map of the Matched Earth and Heaven (59)

Tang Yixing Shanhe Fenye Tu

The Map of the Book of Yu Gong Nine Regions portrays the distribution and geography of the nine regions as described in the ancient book Yu Gong (see also 33, 34, 39, 40, 166a). In addition it indicates areas inhabited by frontier tribes. Various geographical elements are drawn graphically: dotted lines reflect the topography and act as natural boundaries with an important role to play in the history of geographical thinking in China. The map is the result of thorough studies of the Book of Yu Gong, and is important in the study of geographical thinking in China from the Han to the Tang Dynasty.

Before the Han Dynasty a concept, called 'fenye', emerged whereby a certain area would be matched with a particular star. 'Fenye' developed further as a branch of learning during the Tang and Song Dynasties.

58 Map of the Book of Yu Gong Nine Regions

The Map of Matched Earth and Heaven is a sketch of the boundaries of counties and vassal states under China's central government from the Han to the Tang Dynasty. Drawn by Song Dynasty scholars, it is based on observations by Zhang Sui, a Tang monk. Drawn on the map are the imperial capital, counties, rivers and mountains, as well as stars and constellations that correspond to them. It is a special map combining astronomy and geography; much space is devoted to explanatory notes.

59 Map of the Matched Earth and Heaven

Both maps are from the Atlas of the Rule of Past Kings and Emperors (Diwang Jingshi Tupu), a book in sixteen volumes, written by Tang Zhongyou. Ink prints

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Yuan Dynasty

1279–1368

Map of Prefectures and Counties in Fengyuan Province (60)

Fengyuan Zhouxian zhi Tu

Map of Xianyang Historic Sites (61)

Xianyang Guji Tu

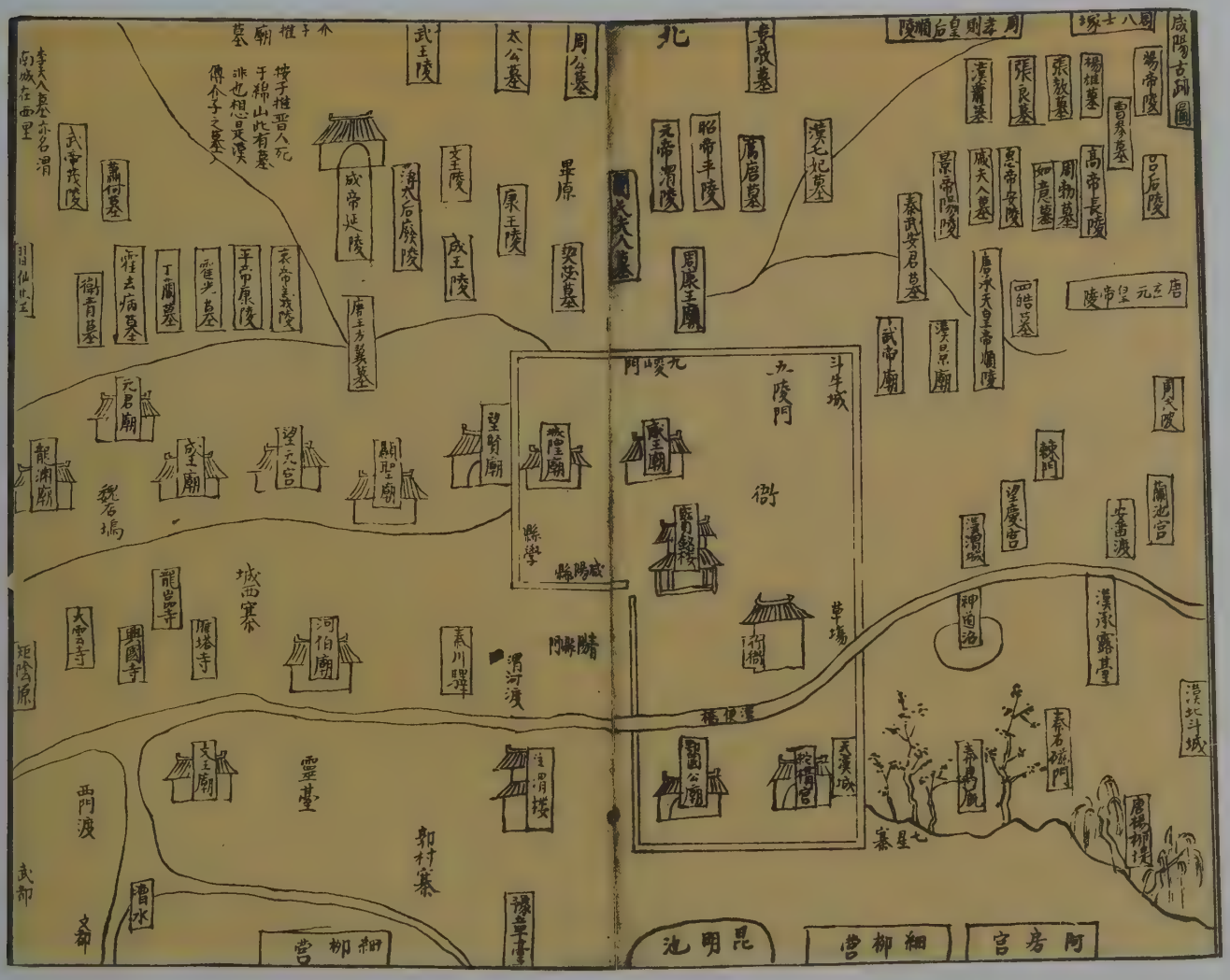
The *Illustrated Annals of Chang'an* (*Chang'an Tu Zhi*) contains maps of prefectures and counties in present-day central Shaanxi province as well as palaces and canals built from the Han to the Tang Dynasty.

The first map shows all the prefectures and counties in Yuan Dynasty's Fengyuan province (then called lu), whose centre is present-day Xi'an city. The map's upper side

60 Map of Prefectures and Counties in Fengyuan Province

represents south. The names of provinces, prefectures and counties are placed in square, double-lined frames. Also indicated on the map are mountains, rivers, valleys, graves, temples, palaces, gardens and ancient cities. Similar to the second map, the Map of Xianyang Historic Sites, this map has reference value for the study of the geographical evolution of central Shaanxi.

The Map of Xianyang Historic Sites is a crudely drawn sketch of the city of Chang'an. Rich in content it depicts government offices, temples, city gates, a fodder barn and buildings. Double lines indicate the city wall; on the outskirts mausoleums of past emperors, shrines to gods, the graves of important officials, major temples and imperial gardens are all shown with notes placed in rectangular frames. Ponds, roads, rivers and a few temples are indicated with lines or pictograms.



61 Map of Xianyang Historic Sites

These two maps are selected from twenty-two in the Illustrated Annals of Chang'an (Chang'an Tu Zhi) *in three volumes, compiled by Li Haowen in the middle Yuan period*

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Map of the Land of Qidan (Khitan) (62)

Qidan Dili zhi Tu

Some scholars maintain that the *Annals of the State of Qidan* (Qidan Guo Zhi) was written in the middle of the Yuan Dynasty, after Ye Longli. The earliest extant edition of the book was made from Yuan Dynasty printing blocks.

The Qidan were a nomadic nationality that appeared in the Liaohe river valley from the fourth century AD. It grew stronger in the following years until the early tenth century when its leader, Abaoji unified various tribes and established a state called Qidan, later renamed Liao. From AD 936, the State of Liao (916–1125) further expanded to cover vast areas north of the Great Wall .

The *Annals* records the history while the map describes the area, topography, towns and cities of Liao as well as passes along the Great Wall and neighbouring tribes. An ink-block print, drawn with the traditional graphic method, the original map had the style of typical Song Dynasty maps, as was evident in the shapes of its mountains, rivers, the Great Wall and explanatory notes.

62 Map of the Land of Qidan (Khitan)

Selected from the Annals of the State of Qidan (Qidan Guo Zhi), a book in twenty-seven volumes, completed circa 1180 by Ye Longli. Original book is now lost, the maps illustrated here are from the Yuan edition published in the State of Liao (916–1125)

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Map of Jiankang (Nanjing) Prefecture (63)

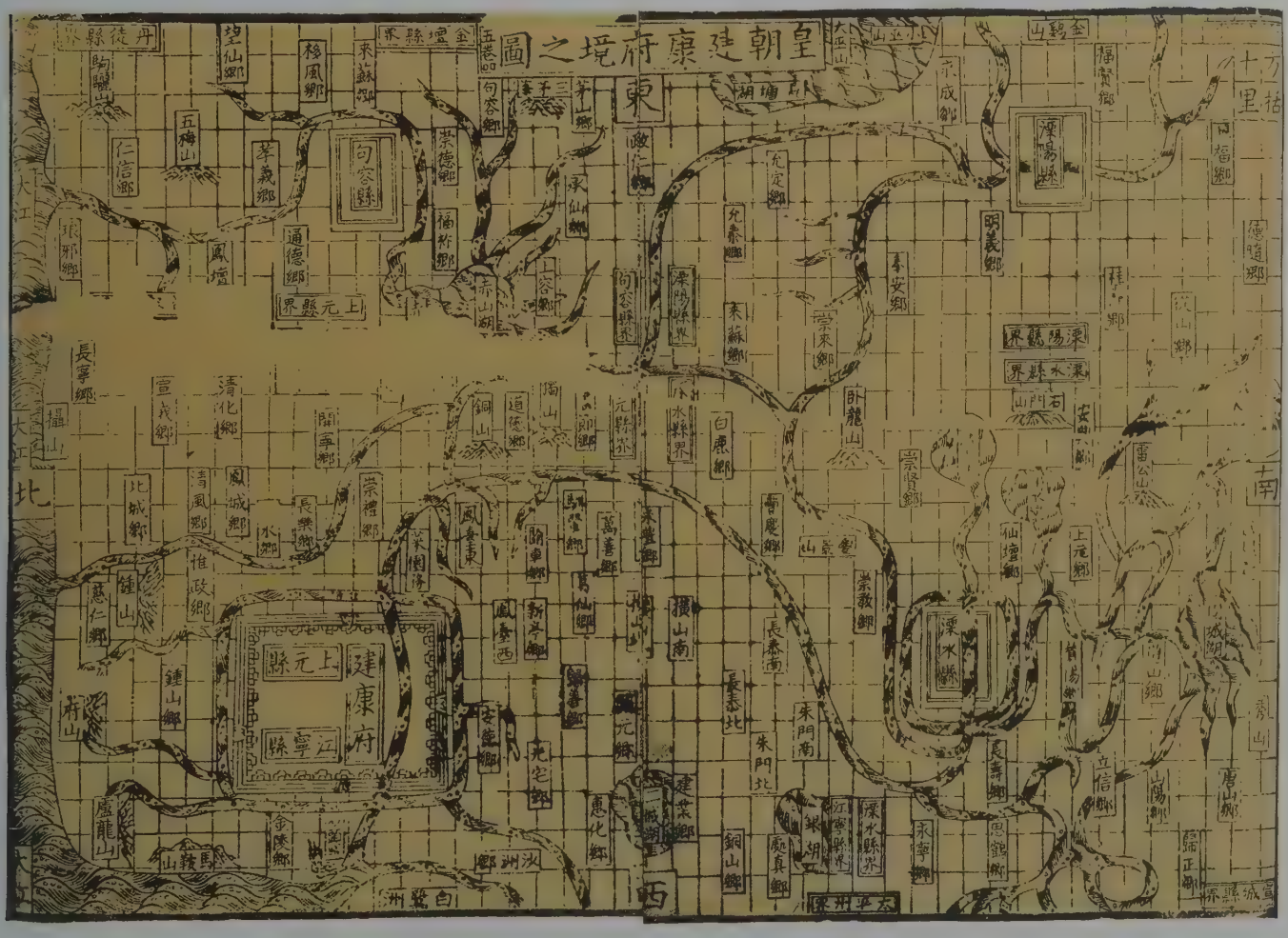
Huangchao Jiankang Fu Jing zhi Tu

Both Jiankang and Jinling are old names for present-day Nanjing.

Although it was printed in the Yuan Dynasty, the map reflects the administrative structure of Jiankang during the reign of Jingding (1260–1264). By the Yuan Dynasty Jiankang prefecture had become Jiqing province.

Drawn on the map are mountains, rivers, lakes, the seat of the prefectural government, counties and communities. More than 120 places are indicated by name, and written words are used to show county boundaries. The map's small grid squares called '*jili huafang*', provide a scale, as is shown by a note on the top right corner which reads, 'Each square represents 10 sq. li.' Although its grid is a little deformed, the map accurately positions major geographical elements.

Very few Yuan Dynasty maps have survived the ages. Being an illustration for a local gazetteer the map, although rich in content, does not represent mapping techniques in the Yuan Dynasty.



63 Map of Jiankang (Nanjing) Prefecture (Zhizheng, 1341–1368)

Selected from the New Annals of Jinling (Nanjing) (Jinling Xin Zhi), compiled by Zhang Xuan and first printed in 1344. The map was drawn in the Yuan period, but it reflects Jiankang (Nanjing) in 1260–64

NATIONAL LIBRARY, TAIWAN

Ming Dynasty
1368–1644

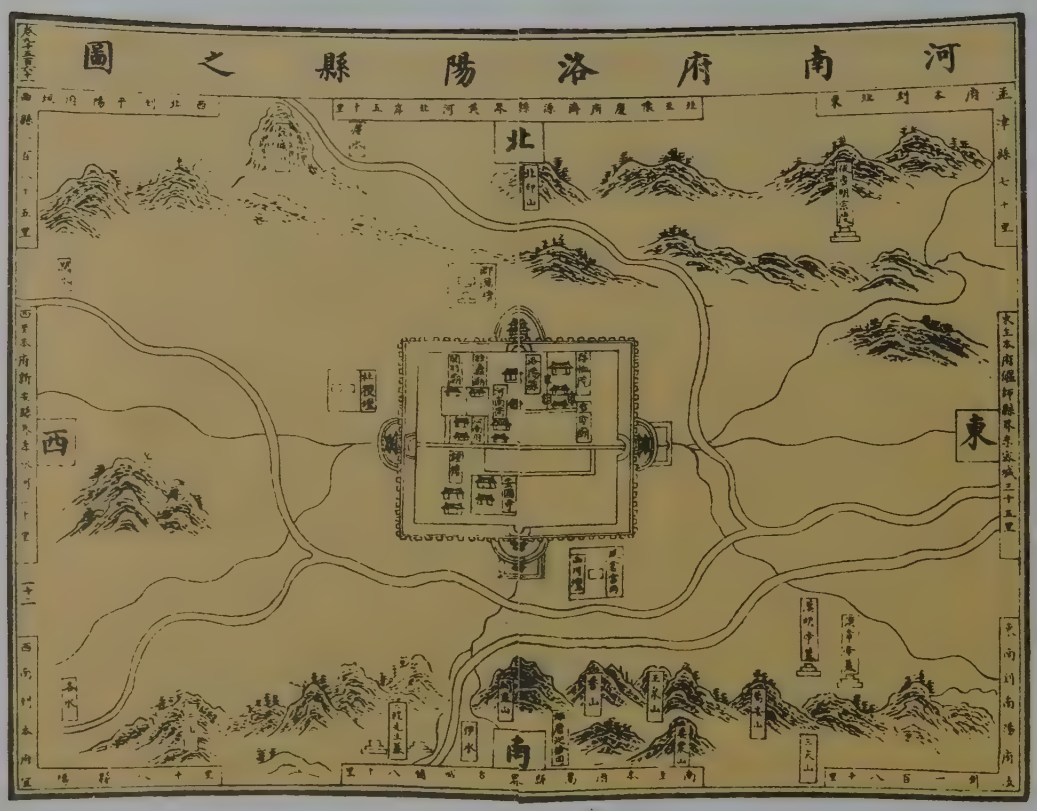
Map of Luoyang County (64)

Henan Fu Luoyang Xian zhi Tu

Map of Nanning Prefecture (65)

Nanning Fu Tu

The *Yongle Canon* (*Yongle Da Dian*), is a well-known multi-disciplinary reference work compiled under the direction of Xie Jin and Yao Guangxiao by request of Emperor Yongle (1403–1424). The book's 22,937 volumes included 22,877 volumes of text and sixty of notes on the book's use and contents. Two copies were made under the reign of Ming Emperors Jiajing and Longqing (1522–1572). With the demise of the Ming Dynasty, the original and one of the copies were destroyed. The remaining copy suffered losses in the mid nineteenth century and again met with catastrophe in 1860 when the Anglo-French allied troops



64 Map of Luoyang County (Yongle, 1403–1409)

65 Map of Nanning Prefecture

Two maps selected from the Yongle Canon (Yongle Da Dian), *compiled in 1403–1407 by Xie Jin and Yao Guangxiao et al. Copies were made under Emperors Jiajing and Longqing (1522–1572). The original book, now lost, comprised 22,937 volumes; only about eighty have survived in a later edition with more than 150 maps*

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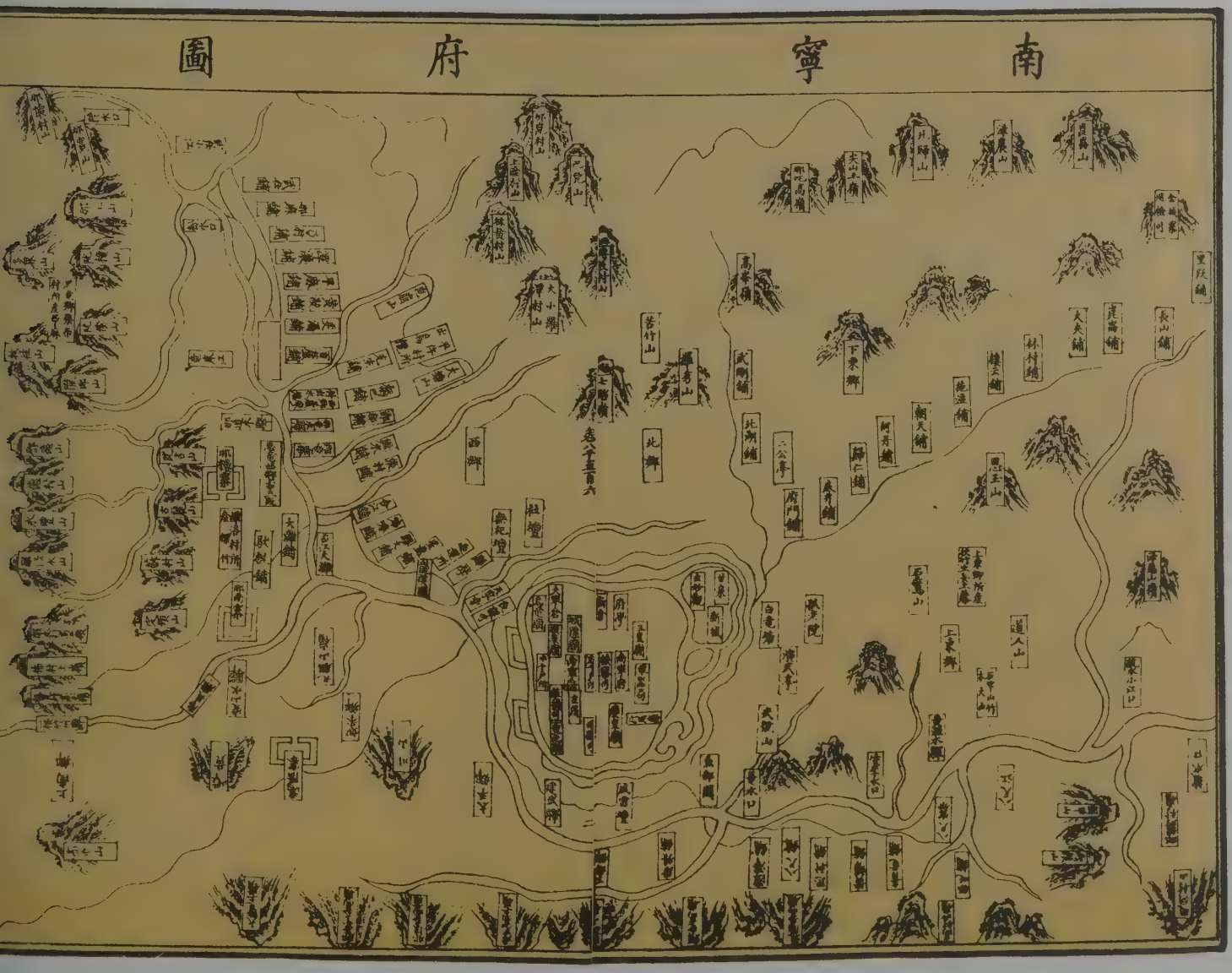
invaded Beijing. Now, only a few more than eighty volumes remain in China; they were reprinted in 1960 by the Zhong Hua Book Company. The new edition contains more than 150 ancient Chinese maps, which are book illustrations and records of previous generations with attached maps for local chronicles of the Song, Yuan and early Ming Dynasties.

The Map of Luoyang County, is one of thirty-three maps of Henan included in the *Yongle Canon*. In the centre of the map is the seat of the county government with eye-catching walls, government offices, temples, city gates and mausoleums, all marked with symbols; notes indicate communication lines. Traditional graphic symbols are used for topographic features, double lines for rivers, and single curves for roads; place names are put in rectangular boxes. The style of drawing can still be found on maps attached to local chronicles of the middle and late Ming periods.

The Map of Nanning Prefecture is included in the *Yongle Canon* as part of the *Annals of Nanning Prefecture* (*Nanning Fu Zhi*) compiled during the reign of Hongwu (1368–1398). The map adopts the traditional graphic method of drawing with simple lines, frame places names and notes, typical of Song Dynasty maps.



Map of Shaoxing Prefecture Water System (66)

Shaoxing Fu Shuixi Shuili Tu

The map bears explanatory remarks by Dai Hu, administrator of Shaoxing Prefecture (present-day Shaoxing City, Zhejiang). On the other side of the tablet is inscribed a commemorative essay entitled 'Notes on Rehabilitating Water Projects' by some twenty people headed by Zhong Tao, Dai Hu's predecessor.

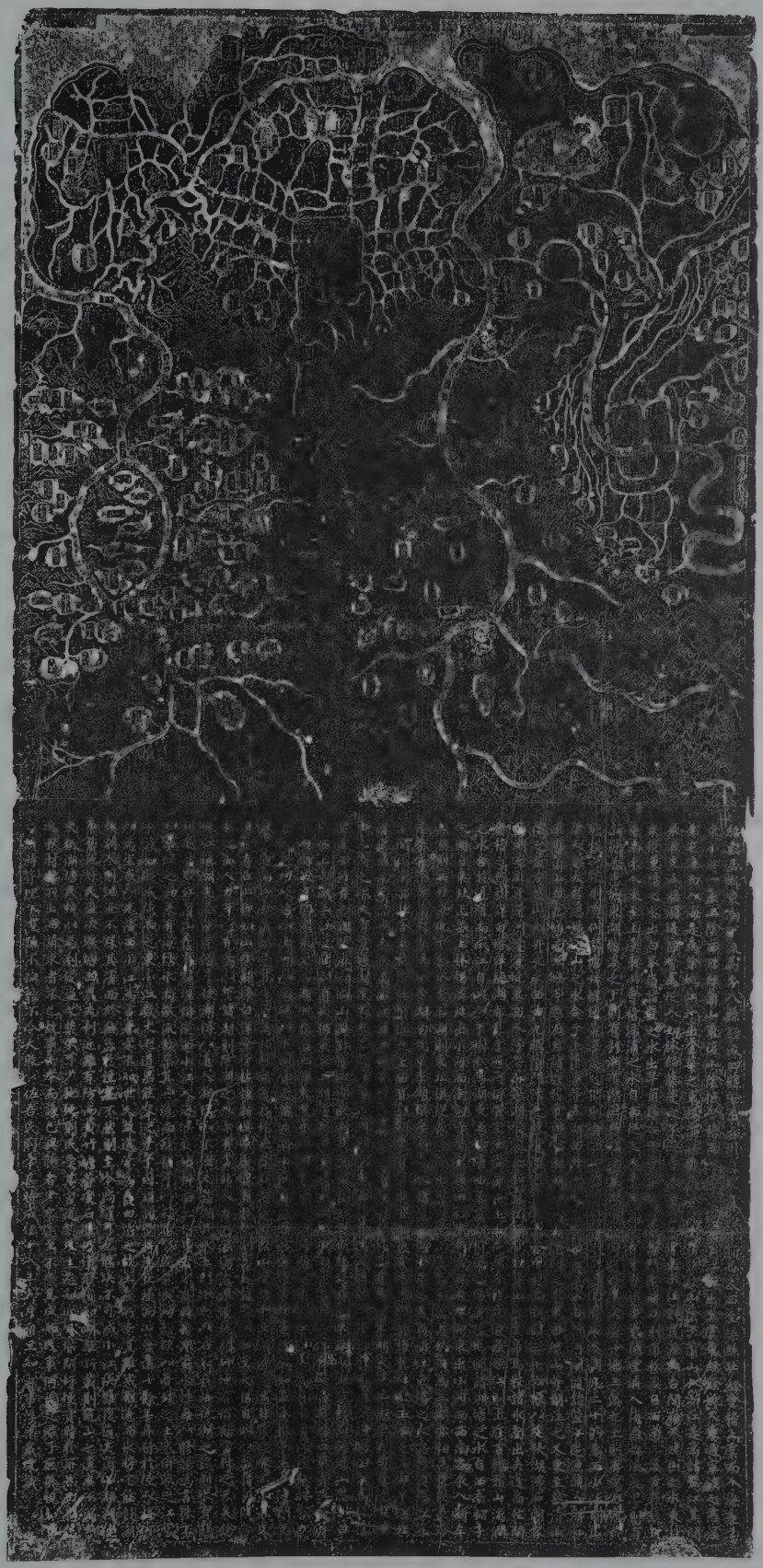
The map is a sketch of the system of rivers and lakes as well as water conservancy projects in Shaoxing prefecture. The main waterway – the Cao'e river – runs across the map. Spread all over are intersecting tributaries and ditches and numerous lakes and ponds. Also engraved are cities, hills and roads, but some symbols and notes have become illegible owing to the wear of time. Except rivers, ditches and more than 130 lakes and ponds, water projects mentioned in the 'Notes on Rehabilitating Water Projects' such as tide bulwarks, weirs, floodgates and dykes can no longer be identified on the map. It is fortunate that the notes remain legible.

Most extant Ming Dynasty stone-engraved maps concern monastery properties; maps devoted to water systems and water projects are rare, and even rarer are those covering large areas drawn to scale. This map also offers a regional example for the study of water-control efforts as well as providing reference data for the study of past maps of water conservancy projects.

66 Rubbing of the Map of Shaoxing Prefecture Water System (Chenghua, 1465–1487)

Taken from a stone tablet bearing a map of Shaoxing prefecture, engraved in 1479–82, scale 1:100,000 to 1:140,000, 164cm by 78cm

YULING MAUSOLEUM, SHAOXING CITY, ZHEJIANG

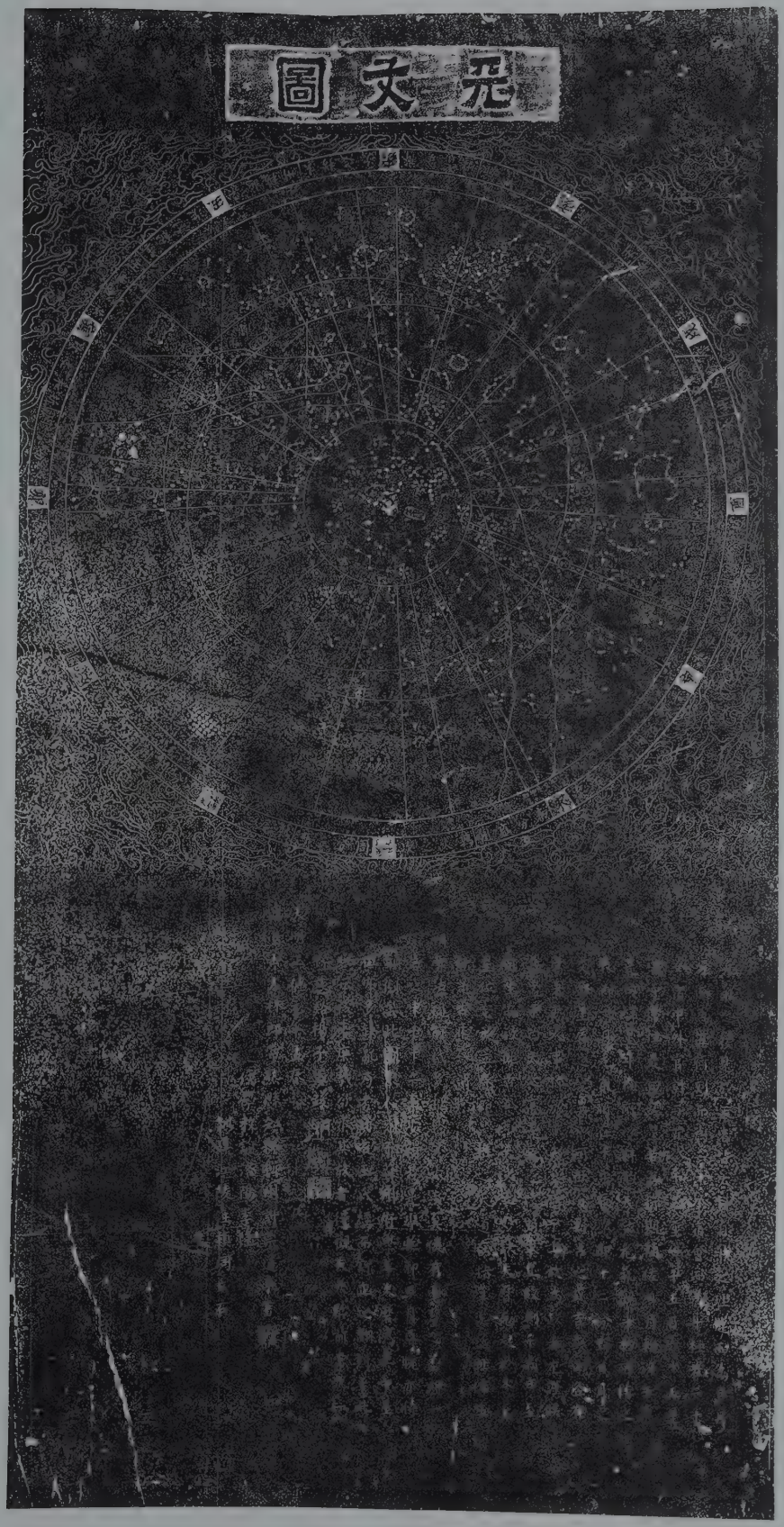


Celestial Map (67)

Tianwen Tu

This map, engraved by Ji Zongdao, the Changshu county magistrate, is copied from one drawn by Yang Ziqi, the former Changshu county magistrate (see 68). The stone tablet was discovered in 1973 in Xueqian Street of Changshu county, Jiangsu. The map is similar to the Celestial Map of Suzhou in content, style, form and size. The upper part of the tablet is devoted to a map of the stars, centering on the northern celestial pole; its lower part, to a postscript consisting of 381 characters in twenty-three lines. The postscript narrates the origin of celestial bodies, the number of star groups and stars, and reasons for engraving the map. At its end is a list of people involved in the map's making.

Despite largely being a copy of the Celestial Map of Suzhou, the Changshu map has made some improvements: more than twenty name changes and twenty-six additions – twenty-two for nameless stars, and four for non-existent stars that have only names on the Suzhou map. Altogether, the Changshu map contains 284 constellations and 1,466 stars, respectively four and thirty-three more than the Suzhou map; but it also has its drawbacks: the absence of the precession of the equinoxes and the less accurate shape and direction of star clusters, connecting lines, and position of constellations.



67 Rubbing of the Celestial Map (Zhengde, 1506–1521)

Taken from a stone tablet discovered in 1973 in Xueqian Street, Changshu, engraved in 1506 by Ji Zongdao, 200.1cm by 100.1cm

CHANGSHU MUNICIPAL ANTIQUITIES COMMITTEE, JIANGSU

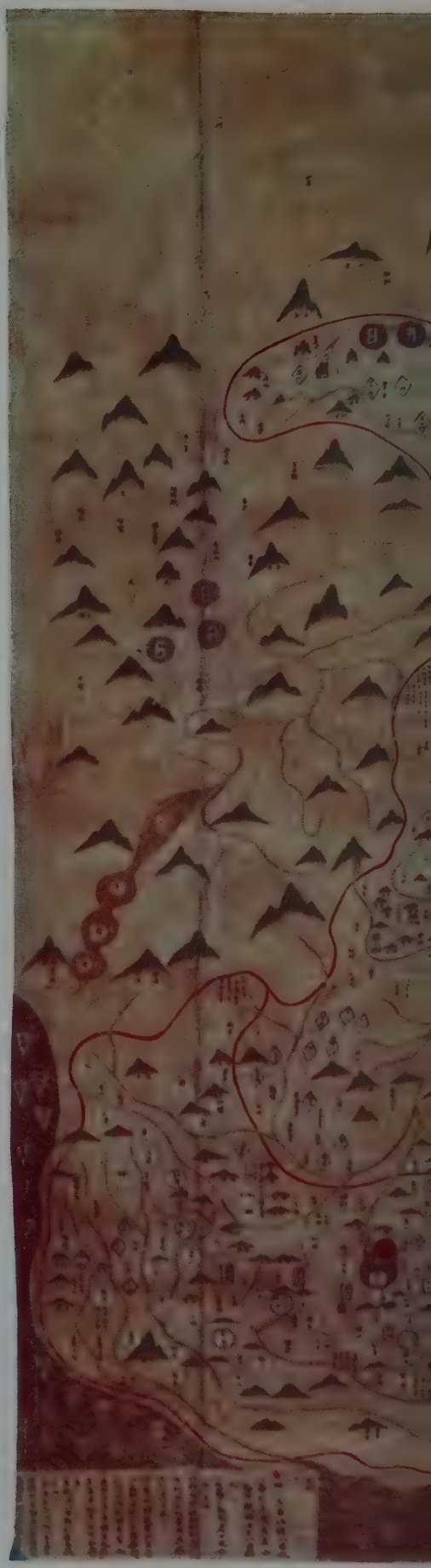
Map with Postscript by Yang Ziqi (68)

Yang Ziqi Ba 'Yudi Tu'

The map, whose upper part represents north, encompasses entire areas under Ming rule. Drawn in detail are the Ming Dynasty administrative regions with red lines delimiting various provinces. Despite the absence of both grid and scale, the map is quite accurate in its portrayal of coastlines, the shapes of rivers and lakes, the area of administrative regions and the positions of provincial capitals, evidence that it is drawn with precision and in accordance with an overall plan. The traditional drawing method is employed: pictures are used for geographical objects and landforms, and standardized graphic symbols for communities. There are more than 2,000 notes on the map, all are names of communites except 500 which are of mountains.

To make up for the deficiency in area coverage a postscript by Yang Ziqi, on the lower part of the map, records in detail the number and names of all administrative regions, including the southern and northern capitals, the thirteen provinces (with the prefectures, counties and townships under their control), reference data for the map as well as the purpose of the map's making. Meriting particular attention is the 'Guide to the Use of the Map' listing in words all the symbols that are used to indicate communities; this could be regarded as an embryonic legend.

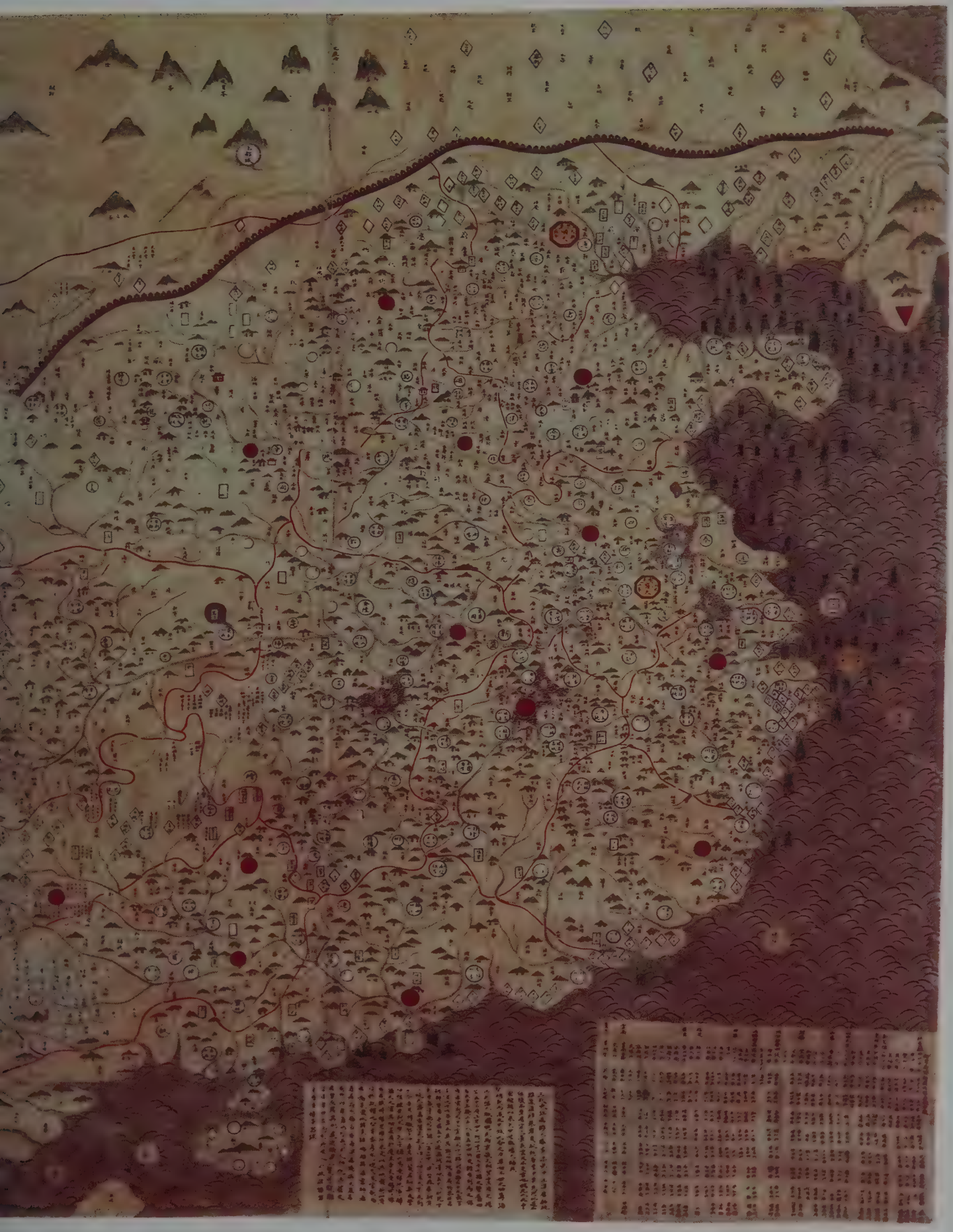
The Map with Postscript by Yang Ziqi is a precious work, representative of the heyday of traditional map making in China. It exerted a strong influence over many later maps in terms of drawing method, content, structure and style.



68 Map with Postscript by Yang Ziqi (Jiajing, 1522–1566)

Original coloured map on silk, drawn 1512–13 (now lost). Illustrated here is the reproduction made in 1526 with a postscript by Yang Ziqi, 165cm by 180cm

LUSHUN MUSEUM, LIAONING



Map of the Yellow River (69)

Huanghe Tu Shuo

This Ming Dynasty map was engraved on a stone tablet in 1536 under the sponsorship of Liu Tianhe, a high-ranking official in charge of river management.

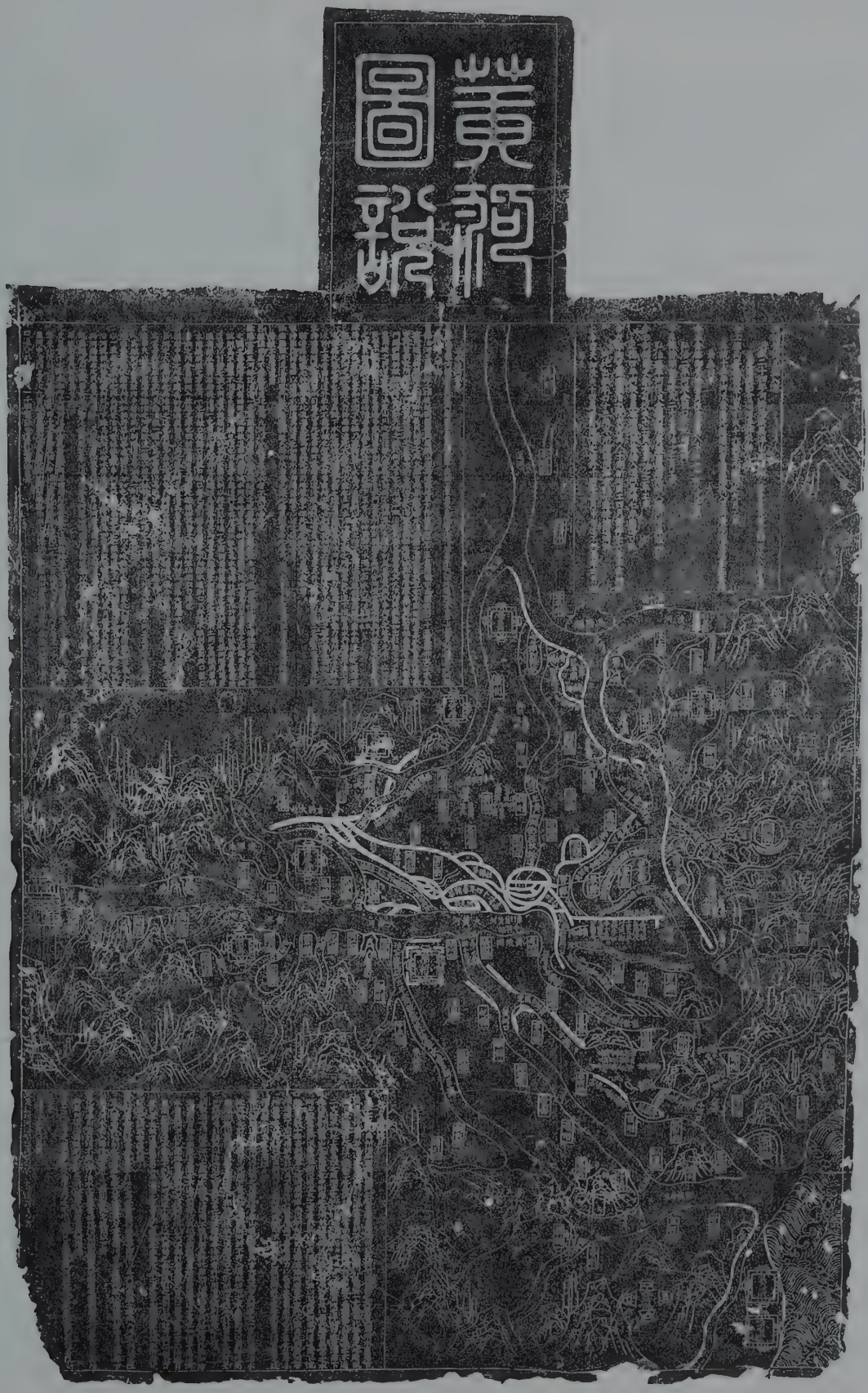
With its upper side representing north, the map covers an area that extends to Dezhou (Shandong province) in the north, to Fengyang (Anhui province) in the south, to Tongguan (Shaanxi province) in the west, and to where the Yellow river empties into the sea in the east. It shows the general trend of the Yellow river and the Grand Canal, devoting special attention to the Yellow river as it takes over the Huai river in its unruly multi-course rush to the sea in 1535. Notes tell of the construction year of dykes, their length and the dredging of river sections. Inscriptions on three parts of the map record the Yellow river's five entries into the Grand Canal as well as details about their control since the beginning of the Ming period.

The traditional drawing method is adopted for the map: different symbols are used for prefectures, sub-prefectures and counties, doubles lines for rivers, bold lines for dykes and dams, and diagrammatic symbols for mountain ranges and temples. Place names exceed 100 in number. In its portrayal of the trend of mountain ranges and rivers as well as geographical locations of major features, the Map of the Yellow River approaches the sophistication of maps of today.

69 Rubbing of the Map of the Yellow River (Jiajing, 1522–1566)

Taken from a stone tablet bearing the map of the Yellow river, engraved in 1536, under the direction of Liu Tianhe, map 119.2cm by 93.3cm

SHAANXI PROVINCIAL MUSEUM OF STONE TABLETS


黃河圖說

Map of China, Past and Present (70)

Gujin Xingsheng zhi Tu

The original map bears no cartographer's name but is believed to have been drawn by Yu Shi. A print was made in 1555 by the Jinsha Studio in Fujian province.

Notes on both sides record the map's area coverage and the number of administrative regions at five levels. There are also close to 1,000 places names, with those of the two capitals and provincial centres placed in double-lined square frames and those of prefectures and important places put in single-lined oblong frames. Contemporary names are indicated with characters in relief and ancient names in intaglio. Boundaries of the two capitals and thirteen provinces are outlined, while mountain ranges are drawn graphically. The portayal of water systems is not quite accurate, and the coastline is fairly crude. The map's strong point is that it is densely covered with notes about the history and geography of peripheral regions.

70 Reproduction of the Map of China, Past and Present (Jiajing, 1522–1566)

71 Detail of the reproduction of the Map of China, Past and Present

The Yellow river and the Yangtze are painted in yellow and blue respectively. Original map (Indian Archives, Sevilla), probably drawn by Yu Shi. Illustrated here is an ink print made in 1555 by Jinsha Studio, Fujian, 115cm by 100cm

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古今形勝之圖

General Map (72)

Yu Di Zong Tu

Map of the Northern Capital Area (74)

Beizhili Yu Tu

Map of the Frontier in Liaodong (75)

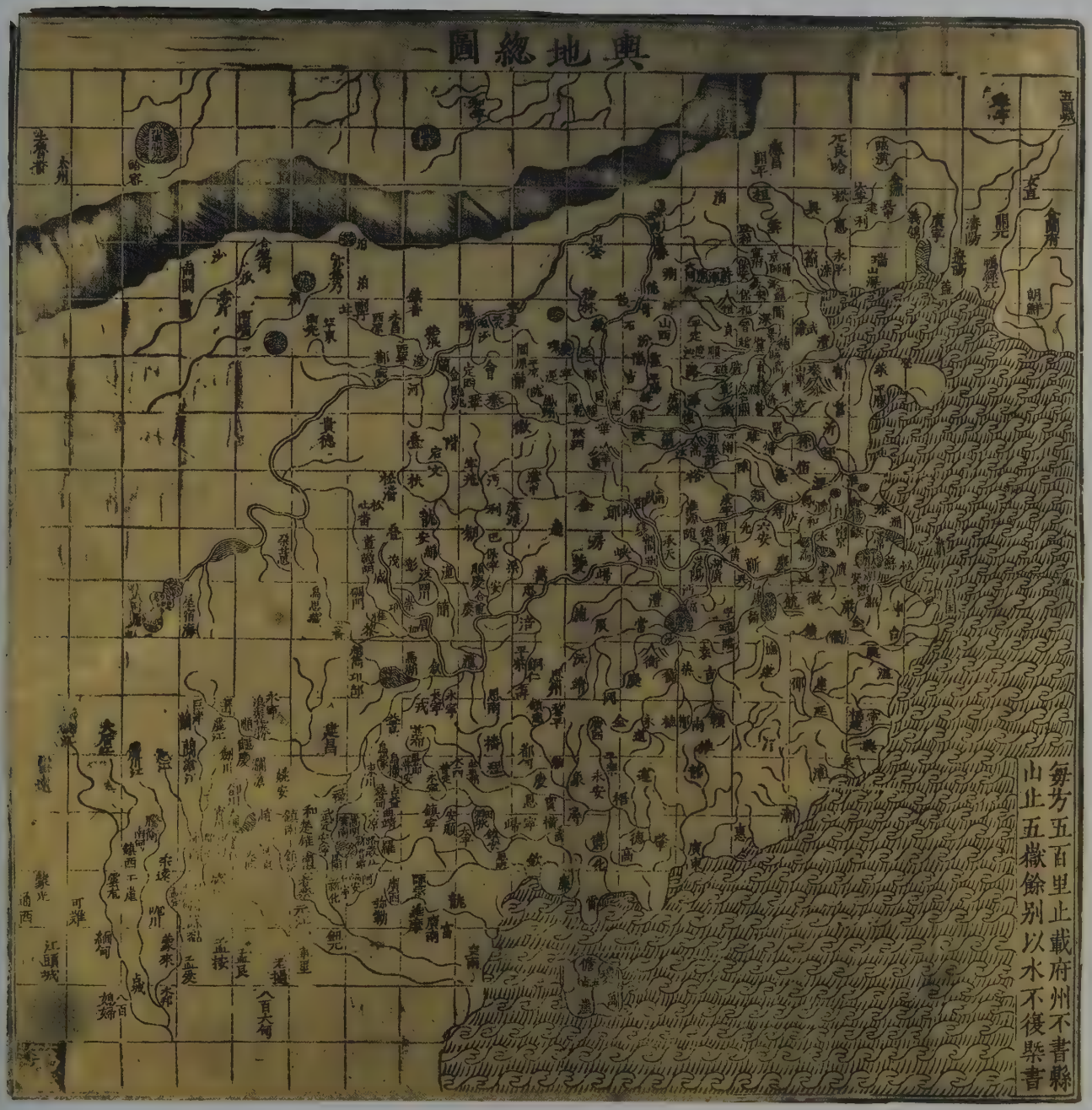
Liaodong Bian Tu

The *Ming Atlas* (*Guang Yu Tu*) was compiled by Luo Hongxian on the basis of the Yuan Dynasty *Maps* (*Yu Di Tu*) by Zhu Siben. In his compilation, Luo drew on fourteen other relevant books including *Small Maps of Nine Frontier Regions* (*Jiubian Xiao Tu*, 1338) by Xu Lun and *Maps of Ming Dynasty China* (*Da Ming Yitong Tu Zhi*, 1481).

The atlas was completed in 1541 and block printed in 1555. Seven editions followed, six in the 1558–79 period and one in 1799. The first edition includes two prefaces, one by Zhu Siben and the other by the compiler; one general map; sixteen maps of the two capital areas (Beijing and Nanjing) and thirteen provinces; nine maps of the nine northern regions; five maps of frontier regions; three maps each of the Yellow river and shipping on the Grand Canal; two maps of maritime shipping; one map each of Korea, the northern wilderness, Vietnam, the western regions, the southeast and southwest sea areas; charts; and statistical data. With 117 pages, it is the first atlas of China. Area is represented by a grid, called *jili huafang*. All the maps are finely drawn. Not only are twenty-four standardized symbols used for the maps, but they are listed between the prefaces and maps in legend form, a first in the history of map making in China

The General Map is the first map in the atlas. On the map are 342 squares each measuring 1.8cm. The positions of geographical objects, water systems and cities are accurately drawn; all prefectures are indicated by name but the Great Wall is absent on the map. Three lakes are marked as sources of the Yellow river; the Minjiang river is taken as the main source of the Yangtze; and long grey lines represent deserts in the northwest. As this map is based on Zhu Siben's *Maps* in terms of content and methods of portrayal, it provides clues for what the latter looks like. After its publication, the General Map exerted a far-reaching influence and was a popular reference work. Later editions of the map are not as accurate as the first.

72 General Map (Jiajing, 1522–1566) ▷

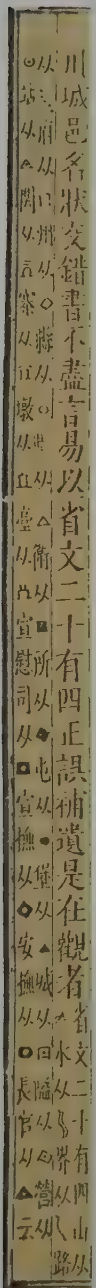


The Map of the Northern Capital Area is the second map in the *Ming Atlas*; it covers Beijing and the surrounding Hebei province. According to Luo Hongxian's preface it is a revised copy of a similar provincial map in Zhu Siben's *Maps*. Standard symbols with names are used to mark prefectures, counties, mountain passes and hills. A fairly accurate grid network is used to represent the area.

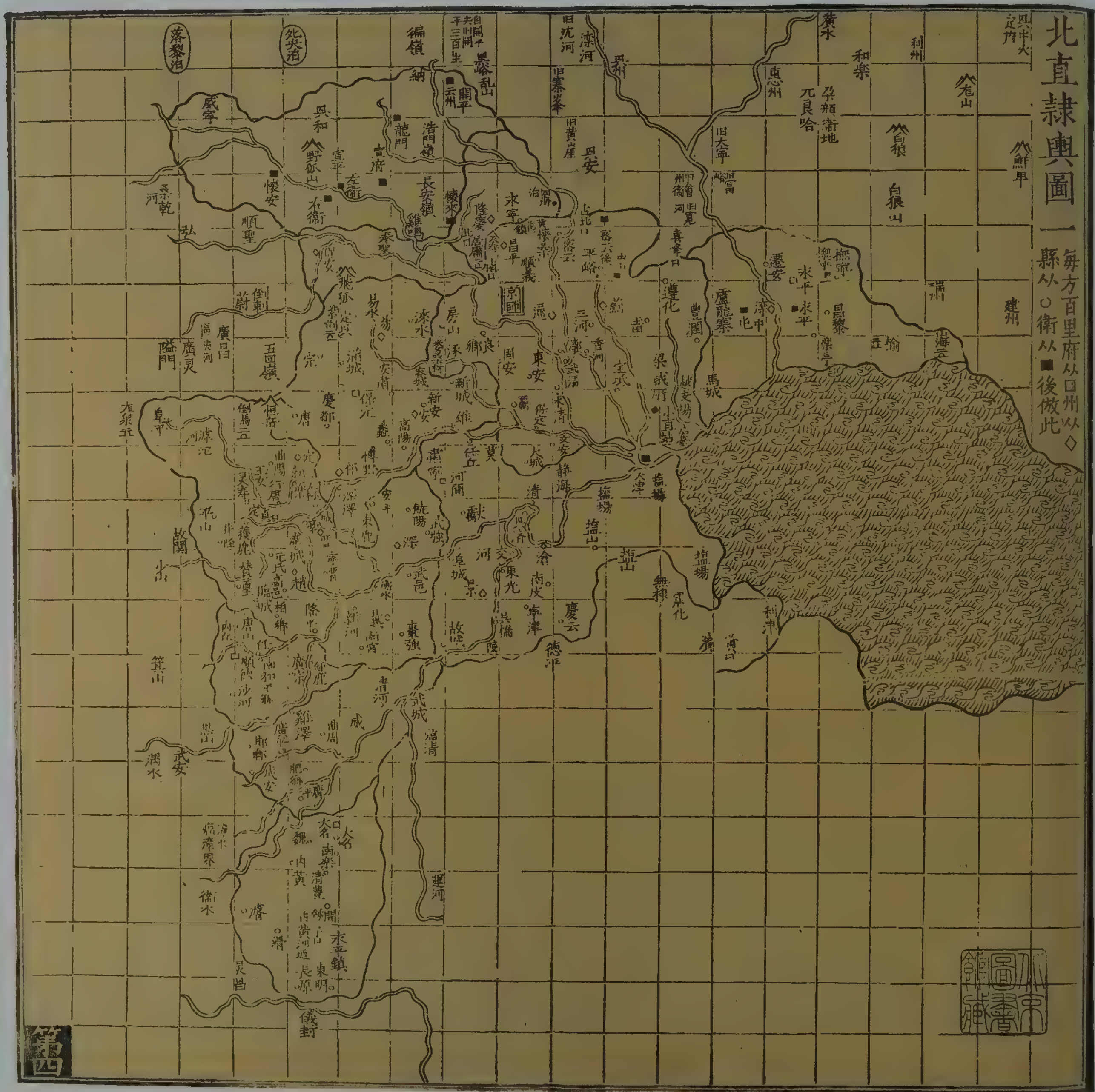
The Map of the Frontier in Liaodong is one of nine maps of the northern regions added by Luo Hongxian when he compiled the atlas. Frontier defence in Liaodong was centred at Guangning during this period and areas of varying troop concentrations such as Wei, Suo, Guan, Ying and Bao are all

◁

73 **Legend on the Ming Atlas**



74 **Map of the Northern Capital Area (Jiajing, 1522–1566)**



covered in great detail on the map. Prominence is given to the Great Wall extending east to the Qianshan mountains. Finely drawn with great accuracy, the map was included in *A Study of the Ming Atlas* (*Guang Yu Kao*) and the *Official Map of the Ming Dynasty* (*Huang Ming Zhi Fang Ditu*), both compiled in the middle and late Ming periods respectively.

Three of forty- four maps and a legend from the Ming Atlas (Guang Yu Tu), compiled by Luo Hongxian. Compilation was completed in 1541 and the first copies were printed in 1555. Scale, the General Map, each square represents 500 sq. li, the Map of the Northern Capital Area, and the Map of the Frontier in Liaodong, each square represents 10 000 sq. li. Book 34.5cm by 35.5cm, the General Map 34.2cm by 35.5cm

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75 Map of the Frontier in Liaodong (Jiajing, 1522–1566)

General Map (76)

Yu Di Quantu

Map of Hills and Shoals along the Coast of Guangdong (77)

Guangdong Yanhai Shansha

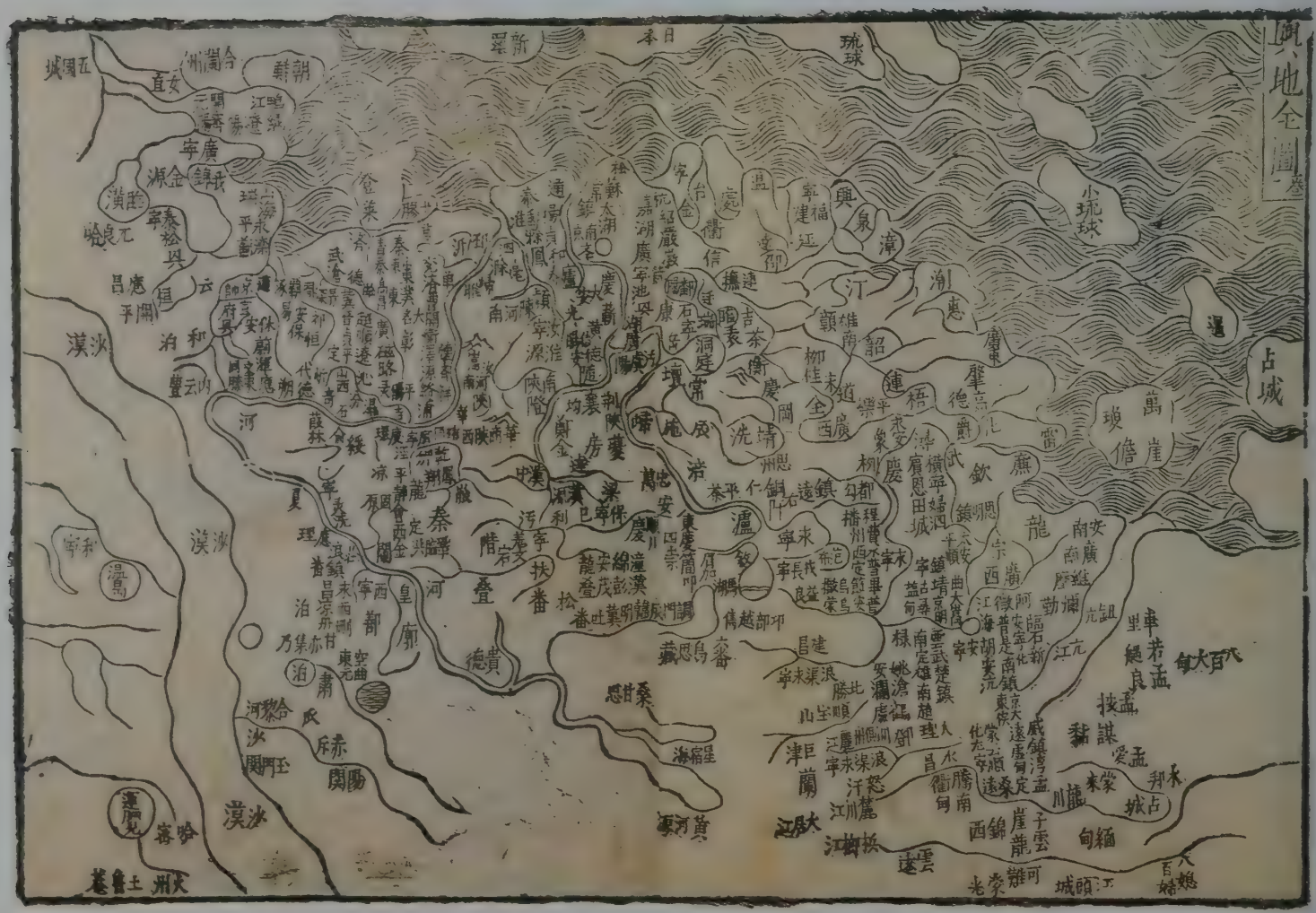
Map of Guangdong Coast (78)

Guangdong Yanhai Tu

The maps include the General Map, the Map of Shoals and Hills along the Sea Coast, the Map of Prefectures and Counties along the Coast and the Map of Invasions from Japan. Notes in the atlas come under such titles as 'Official Handling of Japan-Related Affairs', 'Records of Tributes from Japan', 'Records of Japanese Riots in Various Provinces' and 'Coastal Defence of Various Provinces'.

The General Map is a sketch of the entire country. The Map of Shoals and Hills along the Sea Coast is a collection of seventy-two sketches outlining the geography of the coast from the Yalu river in the north to Guangdong in the south.

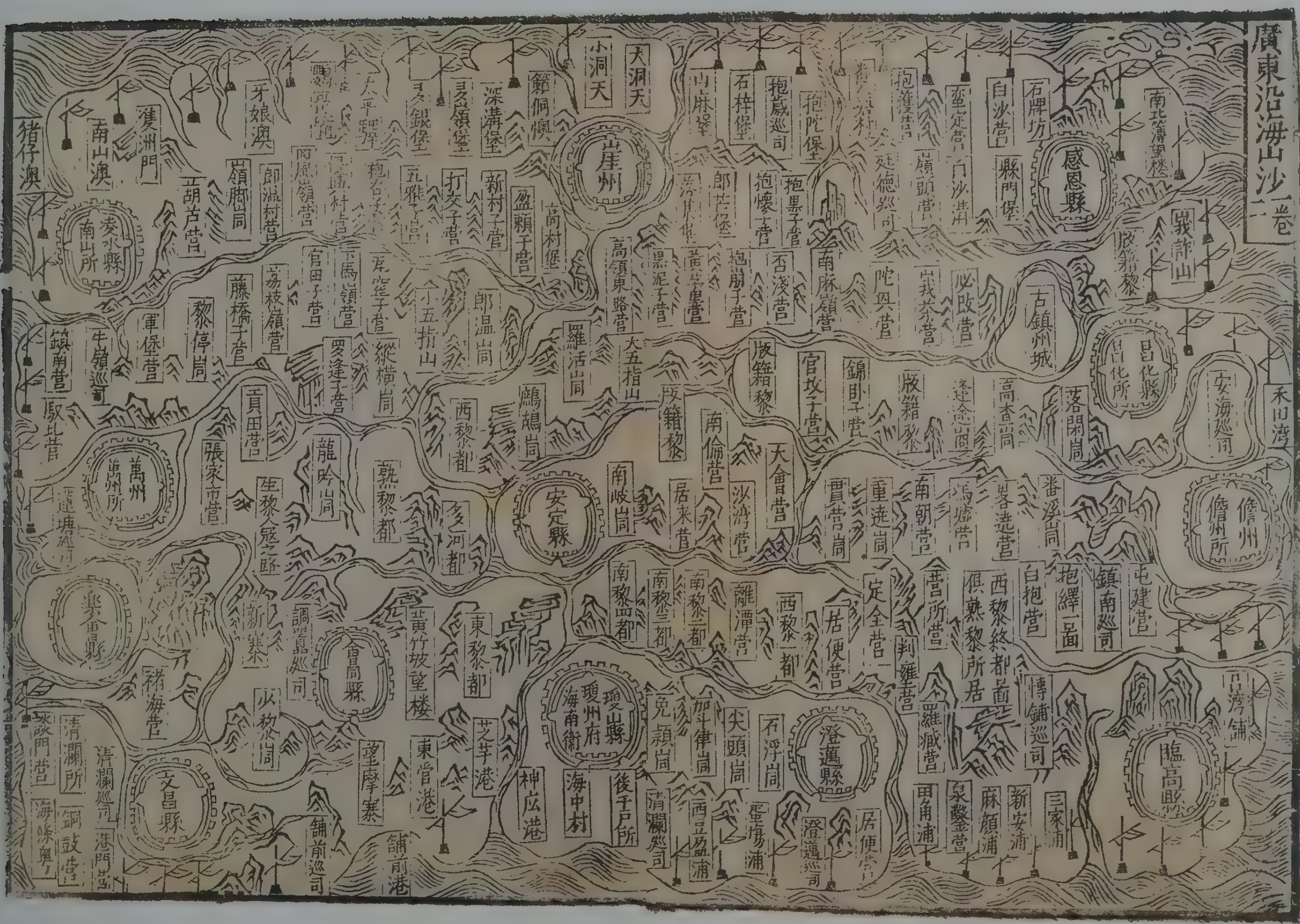
76 General Map (Jiajing, 1522–1566)

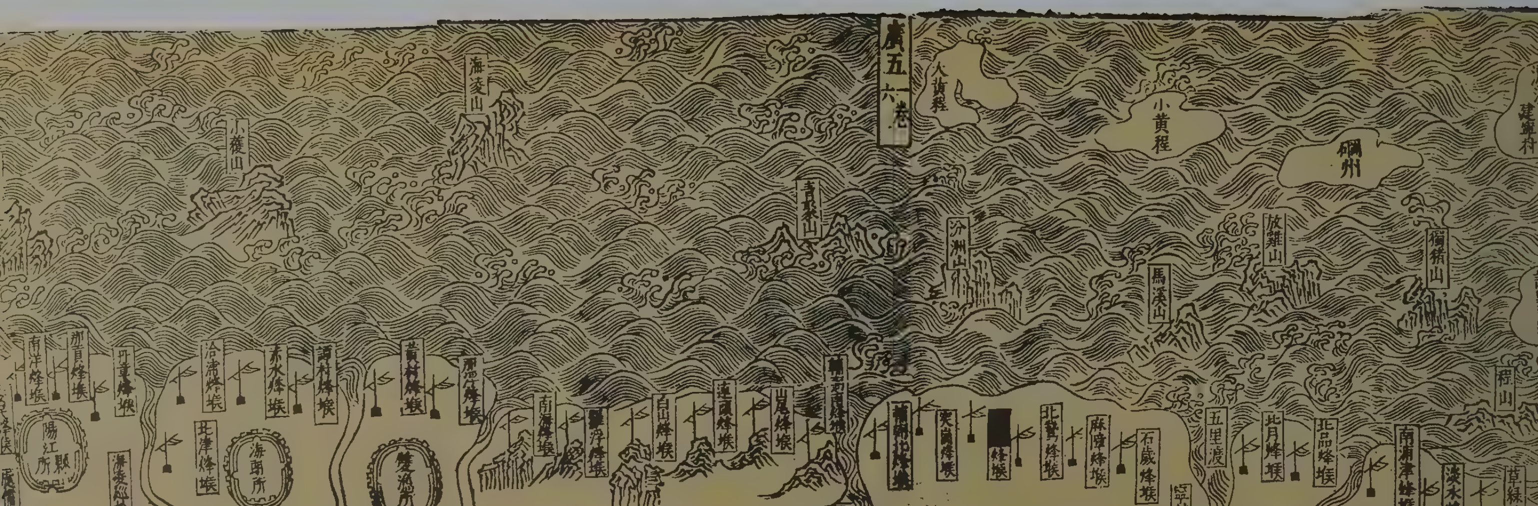


No grid is used, but coastlines, ports, bays, islands, administrative regions at different levels, and coastal defences such as beacon-fire towers, army barracks and fortresses are all drawn in great detail. The coastal defences are shown to be on full alert with banners flying high over them. The maps clearly had a military function.

With the fight against intrusions of Japanese pirates intensifying after the establishment of the Ming Dynasty, coastal-defence maps began to flourish. The Map of Guangdong Coast extends from Huizhou prefecture to Annan (present-day Vietnam). The *Atlas of Coastal Defence* (*Chouhai Tu Bian*) is the most representative work of this kind. In fact, all later coastal maps are based on this atlas in style.

77 Map of Hills and Shoals along the Coast of Guangdong (Jiajing, 1522–1566)

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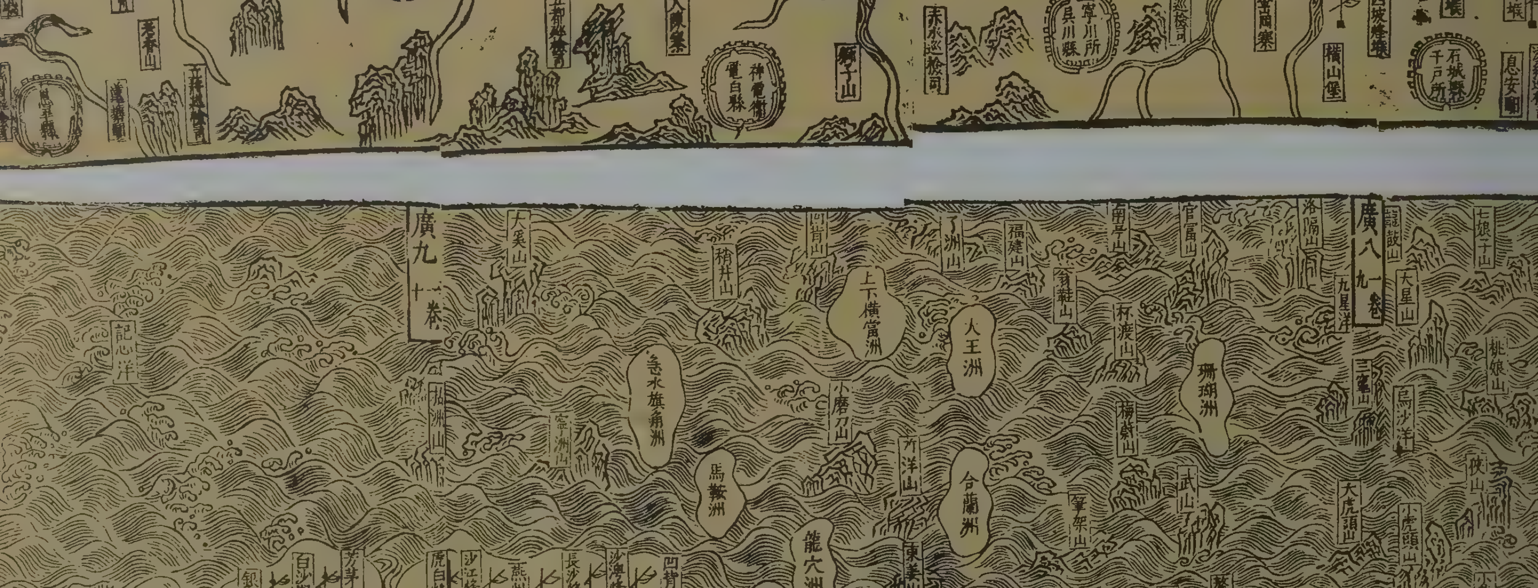
小黃程
硇州
大鵬寨
獅子山


廣九 十 卷
廣八 九 卷
大王洲
珊瑚洲
合蘭洲
龍穴洲
平海所
大鵬所
南海衛 東莞縣
東莞所

78 Map of Guangdong Coast (Jiajing, 1522–1566)

From the Atlas of Coastal Defence (Chouhai Tu Bian), compiled by Hu Zongxian and Zheng Ruozeng in 1556 and published in 1562. Ink prints, book 20cm by 30cm

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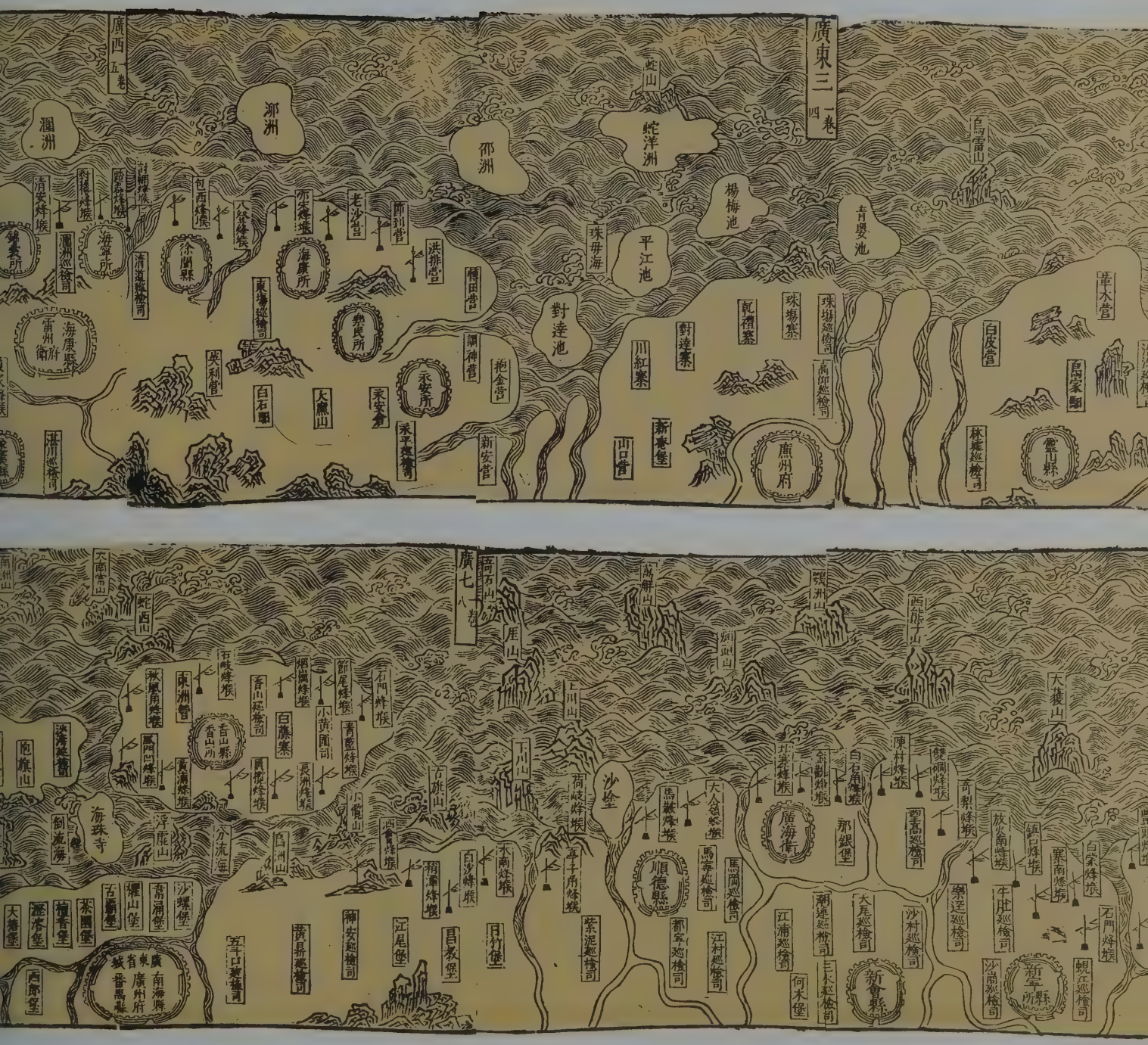


Map of Beijing Palaces (79)

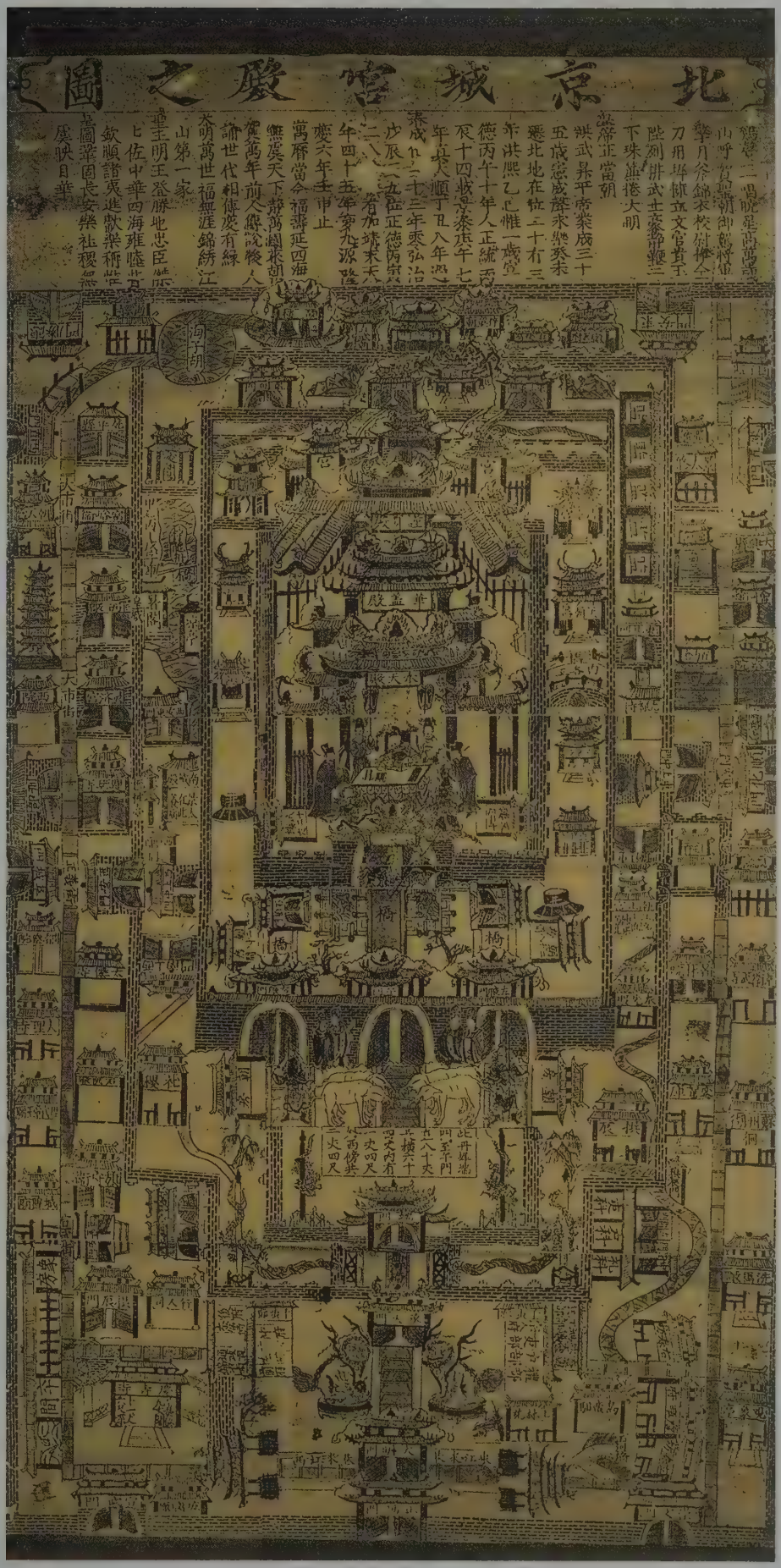
Beijing Cheng Gongdian zhi Tu

The map bears neither cartographer's name nor date. It is suggested from an analysis of its content and notes, that the map was made between 1531 and 1562 and was printed between 1573 and 1619.

The map is devoted to the portrayal of palatial structures in Beijing; using miniaturization (a method often employed in ancient Chinese map making) the cartographer also outlines main buildings and streets in the city's urban area, offering a fairly complete picture of Beijing.

Vertical projection is used for the depiction of palatial buildings, street blocks, roads, rivers, and lakes, showing the layout of the city. For all buildings, a frontal elevation is used and each one is marked with a name. On the south–north axis are the Zhengyang Gate Tower, Daming Gate Tower (on the site of present-day Mao Zedong Memorial Hall), Chengtian Gate (now Tiananmen Gate), Fengtian Dian (Hall of Supreme Harmony), Huagai Dian (Hall of Perfect Harmony), and Jinshen Dian (Hall of the Preservation of Harmony). The line of buildings presents an imposing spectacle. Also drawn in great detail are major government offices flanking the Chengtian Gate. On the upper part of the map is a thirty line inscription listing the titles and durations of the reigns of Ming emperors. Meriting special attention is a water-way on the map that provides strong evidence about the source of water for the city moat.

The map is the earliest extant map of Beijing.



79 Reproduction of the Map of Beijing Palaces (Jiajing, 1522–1566)

Probably drawn between 1531–62 and printed during the Wanli era (1573–1620), 99.5cm by 49.5cm. Original map is in the Northeastern University Library, Miyagi, Japan

BEIJING LIBRARY

Map of the Nine Frontier Regions (80)

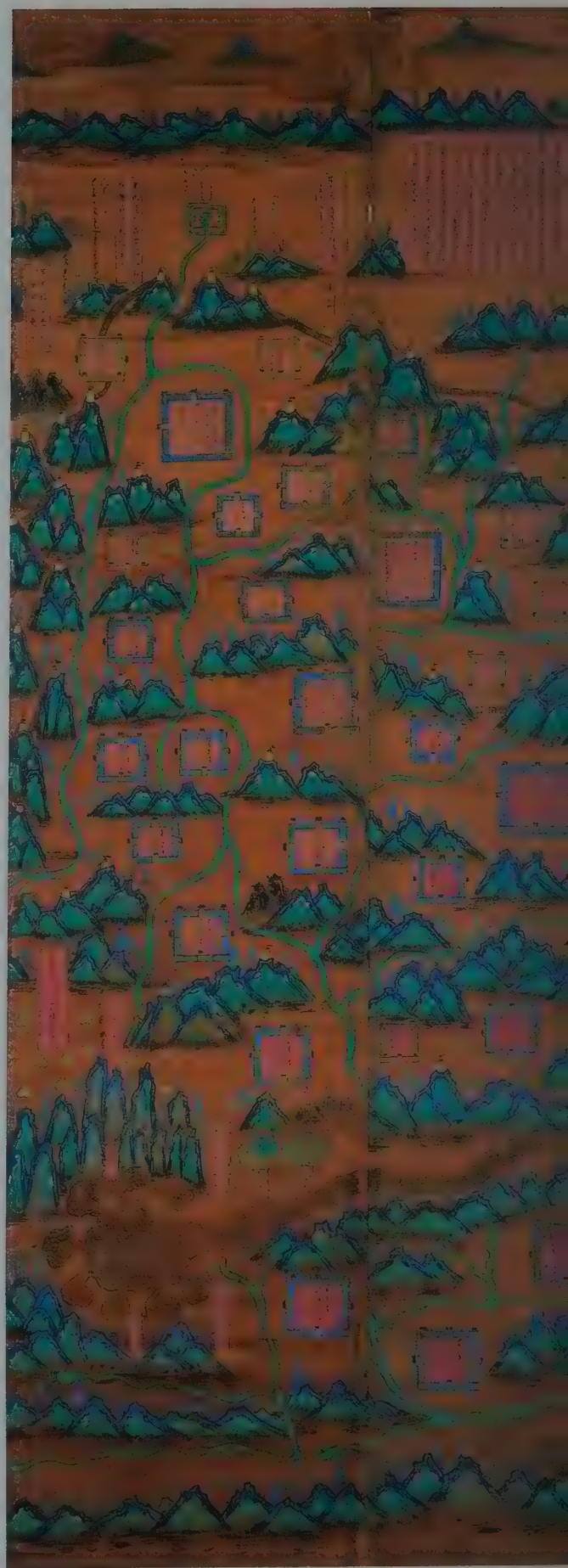
Jiubian Tu

Xu Lun's original copy contained a map – the Map of Nine Frontier Regions – and an essay 'Comments on the Map of the Nine Frontier Regions'. It was submitted to Emperor Jiajing in 1537 and printed with carved blocks the next year. Notes on this later copy come from the 'Comments'.

The Ming government established the Nine Frontier Regions as a defence against intrusions from nomadic tribes in Northern China. Between the Yalu river in the east and the Jiayu Pass in the west across Northern China, the Nine Frontier Regions were Liaodong, Xuanfu, Datong, Yansui, Ningxia, Gansu, Jizhou, Taiyuan and Guyuan. Each was defended by strong troops led by trusted generals. It is a typical military map showing frontier defence, illustrating the distribution and topography of the Nine Regions.

The map is printed traditionally; on its twelve sections are graphic depictions, in heavy blue and green, of rolling mountains, the torrential Yellow river, the winding Great Wall and fortresses of various sizes. The original notes are in Chinese and Manchu was added during the Qing Dynasty.

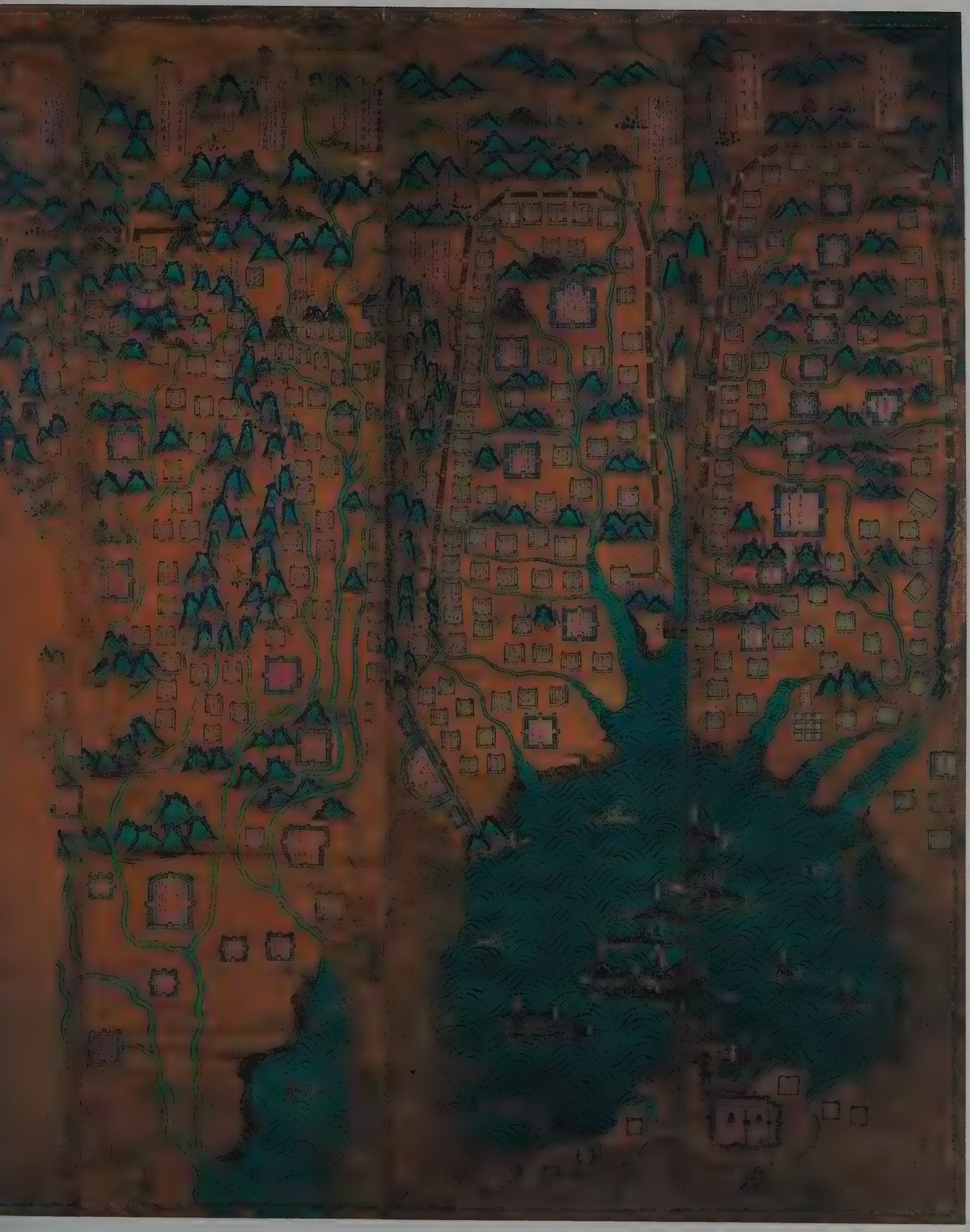
The Map of the Nine Frontier Regions provides important data for investigating the site of the Great Wall during the Ming period and studying the history of frontier defence in China; its high quality craftsmanship and printing have led it to be collected by governments of later periods.



80 Reproduction of the Map of the Nine Frontier Regions (Jiajing, 1522–1566)

Coloured map in scroll form drawn by Xu Lun in 1534, printed in 1538. Original map is now lost; illustrated here is a coloured copy consisting of twelve continuous pictures printed on silk designed to be folded like a screen; notes added in Manchu, 208cm by 567.6cm

LIAONING PROVINCIAL MUSEUM



Map of Defence Deployment near Shenmubao (81)

Shenmubao Fujin Buzhen Tu

The Ming government, after the start of the Jiajing reign, laid much emphasis on mapping defence deployment along the country's northern border for military reasons. Aside from Xu Lun's original Map of the Nine Frontier Regions (see 80), drawn in 1534, frontier officials made *A Map Guide to Defence Deployment in Gansu Military Region* (*Gansu Zhenzhanshou Tu Lue*) and *A Map Guide to Defence Deployment in Ningxia Military Region* (*Ningxia Zhenzhanshou Tu Lue*) during the same period.

Shenmubao is a strategic military area in Shaanxi. The map shows the area's topography, troop barracks, fortresses and mountain passes. Attached written notes describe defence-related places, distances between them, their terrain and deployment of military facilities. This military map provides data for the study of historical geography and defence along Ming China's northern frontiers.

81 Map of Defence Deployment near Shenmubao (Jiajing, 1522–1566)

Selected from A Map Guide to Defence Deployment in Shaanxi Military Region (Shaanxi Zhenzhanshou Tu Lue), *drawn in the last years of the reign of Jiajing, originally in two volumes. Only sixty-eight maps with attached comments have survived. Coloured map on paper, 52cm by 43.9cm*

NATIONAL LIBRARY, TAIWAN


乾樹溝離邊七十里
磁窯溝離邊三十里
木瓜庄寨離邊七十里
沙河谷山離邊五十里
石窯川離邊七十里
東山墩
塘馬
清水坪離邊九十里據險
十里鋪設塘馬
高廟兒離邊五十里
石山子離邊一百二十里

Map of Jimen Hot Spring (82)

Jimen Tangquan Tu

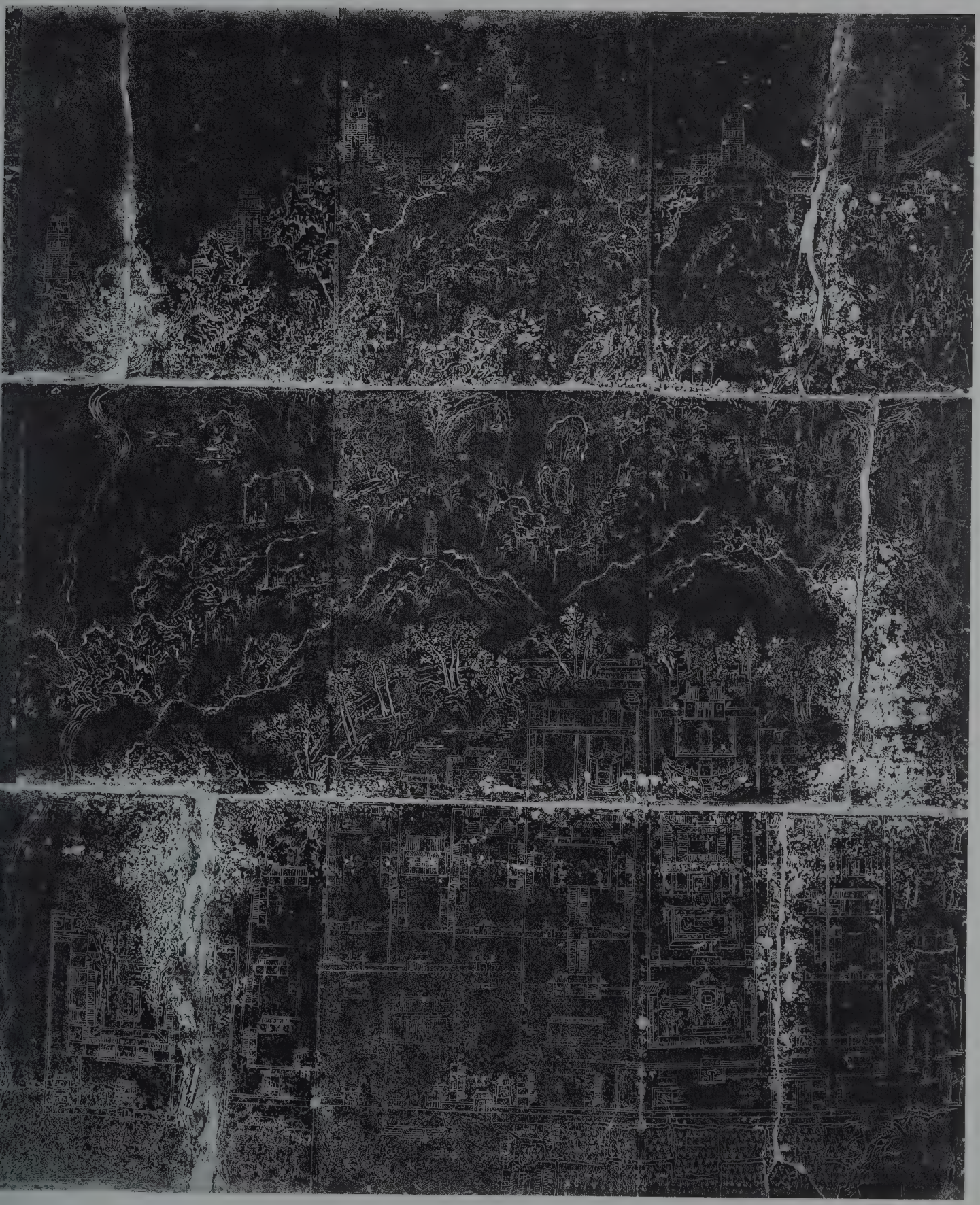
This map presents a panoramic view of the hot spring resort in Jimen. It covers an area which extends to Weijin river in the west, the Yuan ruins in the east, the Great Wall in the north, and the Village of the Hot Spring in the south. Drawn on the map, in the traditional method, are mountains, rivers, mountain caves, temples, monasteries, buildings, bridges, steles and the Great Wall. Prominence is given to the last mentioned which is marked with observation towers, battlements and flags, showing a defence line on full alert.

During the reign of Emperor Longqing (1567–1572), Qi Jiguang, a general who had won national fame for his successful military campaigns against intruding Japanese pirates, became commander of the garrison troops in Jizhou, Changping and Baoding around Beijing. Repeatedly, he mobilized his troops to renovate the hot spring resort in Jimen. He wrote a commemorative article and had it and a map of the resort engraved on the stone base of a pagoda. The map is not only a true representation of the Jimen hot spring resort but also a precious record of frontier defence at that time.

82 Rubbing of the Map of Jimen Hot Spring (Wanli, 1573–1620)

Taken from a pagoda base bearing a map in nine parts of Jimen Hot Spring, engraved in 1577 by Huang Pei, map scale 1:2,500, 135cm by 108cm

TANGQUAN SANITORIUM OF ZUNHUA COUNTY, HEBEI



Map of Flood-Prevention Work on the Yellow River (83)

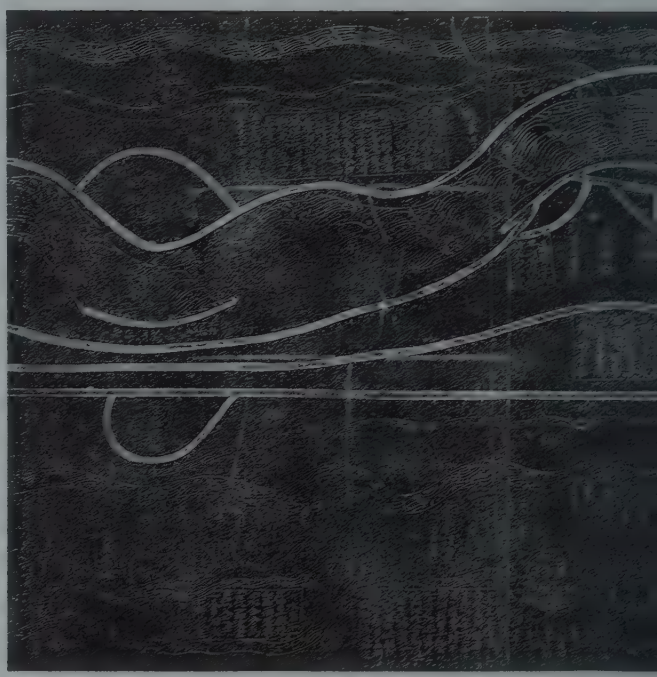
Hefang Yilan Tu

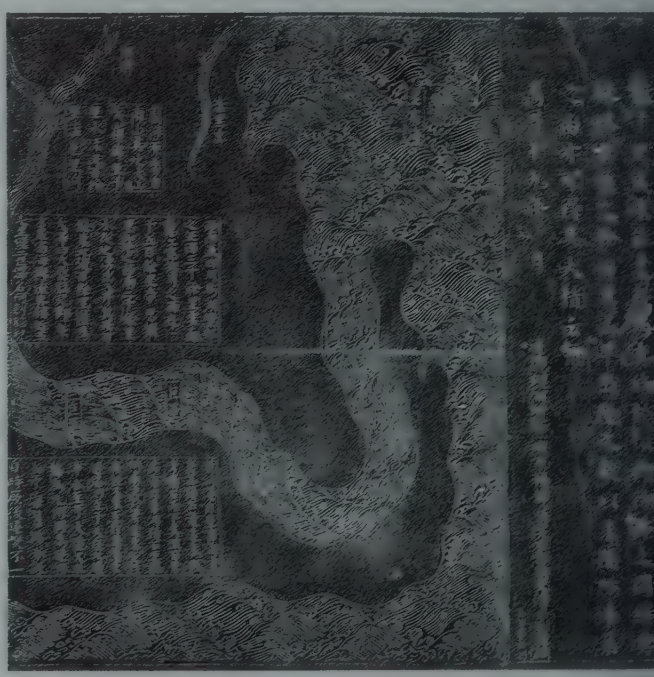
The map focuses on the Yellow river starting from its source 'Xin Su Sea', flowing through present-day Qinghai, Gansu, Ningxia, Inner Mongolia, Shaanxi, Shanxi and Henan, merging with the Grand Canal near Xuzhou (Jiangsu), breaking away from the canal near Huai'an, and taking over the Huai river before finally emptying into the sea. The map also shows the Grand Canal extending southward from Beijing to Zhejiang province after crossing the Yellow river, the Huai river and the Yangtze. Also drawn on the map are the main tributaries of the Yellow river and the Grand Canal.

The map is drawn in the traditional method: different symbols are used for prefectures, major cities and counties; places of historical interest are vividly portrayed and double curves represent rivers. Different wavy lines are used to grade objects: big wavy lines for the Yellow river, rippling lines for other rivers, scale-like curves for lakes, and blank spaces for silted-up rivers.

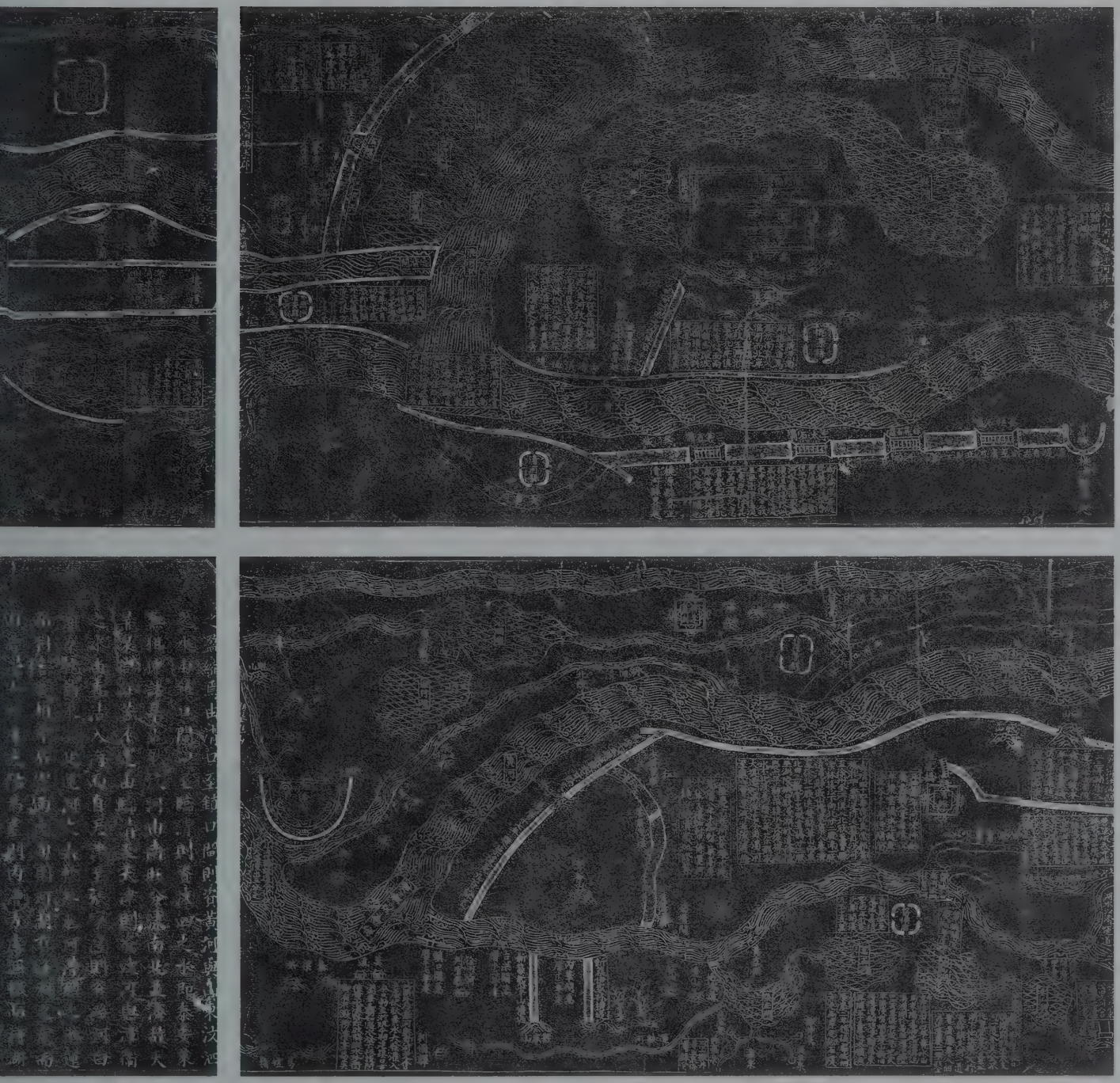
Flood-prevention projects are the map's main content: drawn with fairly thick lines are various preventative dykes and dams along both banks of the Yellow river, sluice gates and small bridges. Notes at numerous intervals record the dates of the dyke's construction and their lengths, the dates and locations of dyke breaches, and breach-prone river sections, all intended as reference data for later generations.

The map is the largest extant sketch in China of flood control along the Yellow river in ancient times. One of the illustrations (83) is part of an ink rubbing covering four sections of the Yellow river from it source down to Zuling in Jiangsu. The other is part of a coloured copy (84) covering the section of the Yellow river from Peizhou (present-day Peixian county, Jiangsu) to Andong county (present-day Lianshui county, Jiangsu).





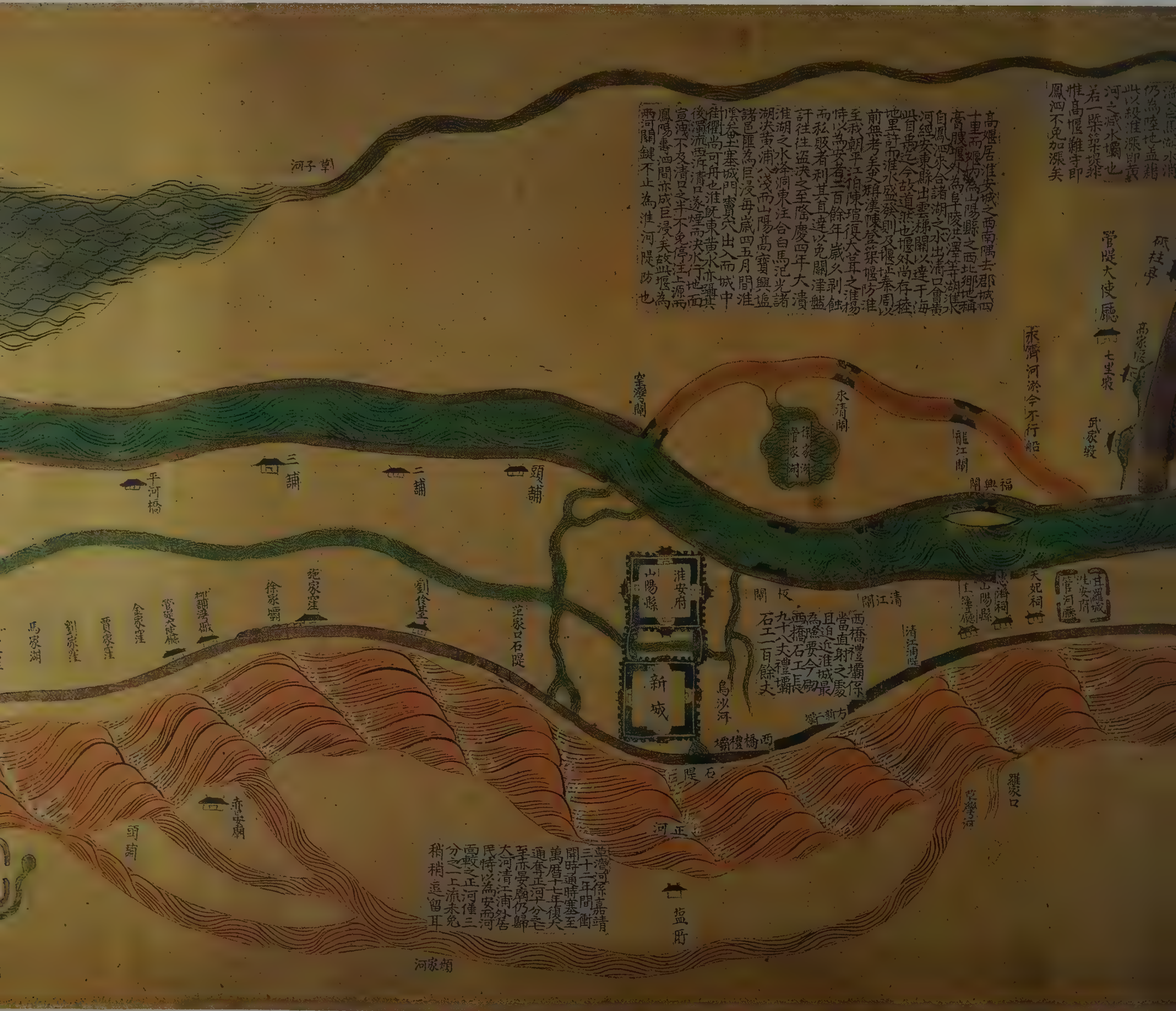
83 Detail of the rubbing of the Map of Flood-Prevention Work on the Yellow River (*Wanli*, 1573–1620)




臨淮縣
虹縣
白鹿湖
小河口
白洋河
宿遷縣
馬陵山
古城

84 Detail of the reproduction of the Map of Flood-Prevention Work on the Yellow River (Wanli, 1573–1620)

◁


淮安府
山陽縣
新城
頭舖
二舖
三舖
清江閘
鹽廳

Original map (Museum of Chinese History), drawn in 1590 by Pan Jixun, a water-control expert, 43cm by 2,010cm, has three subsequent editions: as an illustration for Flood Prevention Work of the Yellow River, 21.5cm by 1,005cm; and as illustrated in part here, an ink rubbing, 43cm by 2,010cm and a coloured reproduction covering the section of the Yellow river from Peizhou (present-day Peixian county, Jiangsu) to Andong county (Lianshui county, Jiangsu), 45cm by 2,008cm

BEIJING LIBRARY, CHINESE HISTORY MUSEUM

Comprehensive Sea Map (85)

Quanhai Tuzhu

Song Gong was a high-ranking official; his map is a military map consisting of two parts – coastal defence and river defence. Attached to it is the Map of Invasions from Japan. The Comprehensive Sea Map was made with the evident purpose of fighting against Japanese pirates and guarding against domestic troubles.

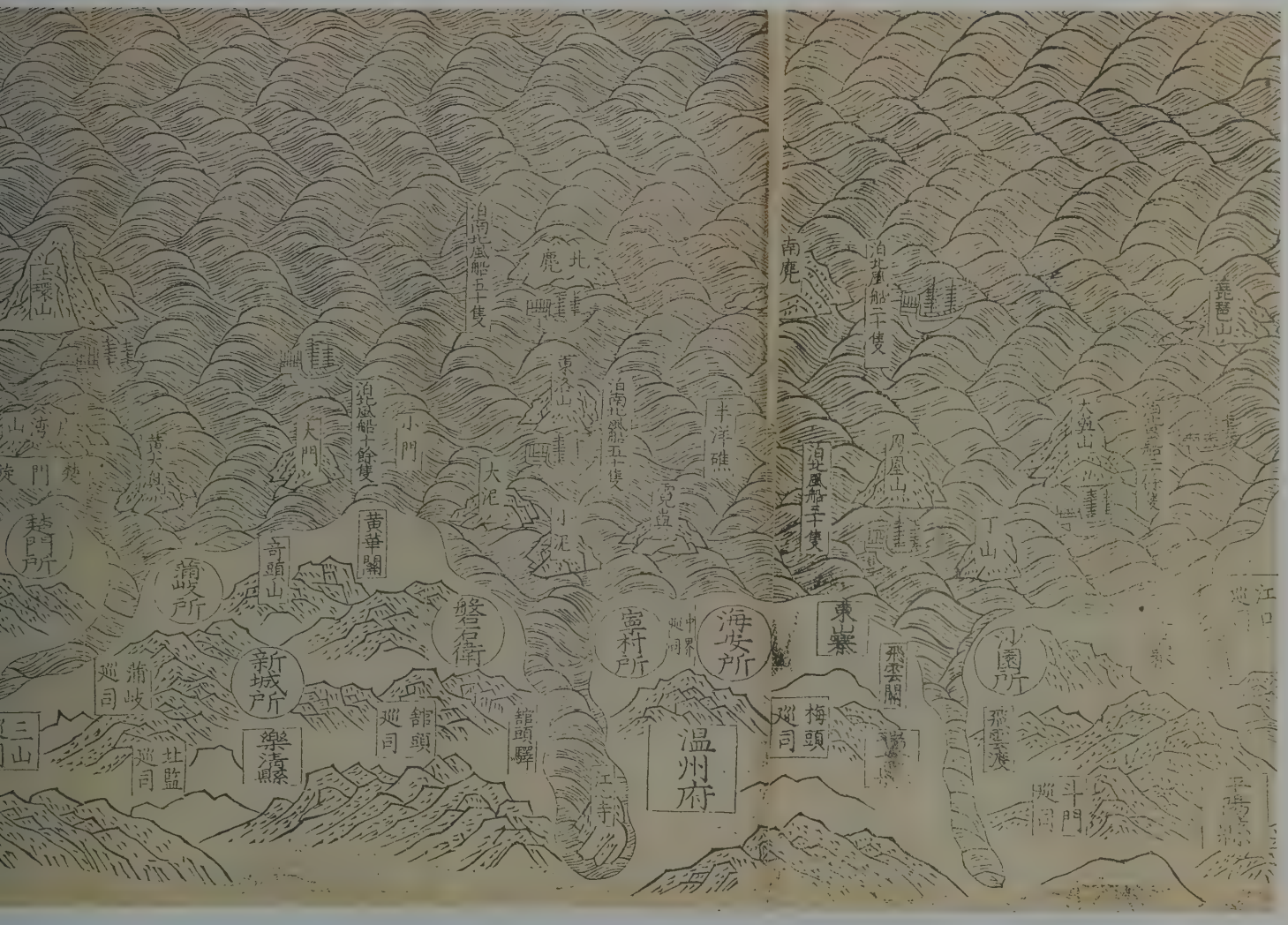
The map's content fully brings out its theme. Drawn in great detail are islands along the coast with symbols and notes indicating ports and bays suitable for ship mooring and the number of vessels they can accommodate. On land, apart from markings of communities, eye-catching symbols indicate the location of patrol headquarters and beacon-fire towers plus defence details. The part of the map covering the Yangtze river is renamed the Map of Nanjing Coastal Areas, but it is in fact a map of defence along the Yangtze. Indicated along both banks are the terrain as well as defence details. Notes record strategic military points and public security conditions in certain areas. Drawn on the map are shoals, beaches and reefs, with notes explaining the conditions of the river bottom.

The map is named after its preface with 'Comprehensive Sea Map' in its title. An excerpt from the preface reads '. . . thus a map has been drawn, covering 10,000 li, from Denglai in the north to Fujian and Guangdong in the south . . .' The coastal part of the existing map, however, extends no farther than the estuary of the Yangtze in the north. Only the attached Map of Invasions from Japan covers Denglai at the northernmost edge. The part illustrated here covers a section of the Zhejiang coast from the Zhejiang-Fujian border to Songmenwei (present-day Songmen, Wenling county).

85 Detail of the Comprehensive Sea Map (Wanli, 1573–1620)

Compiled by Song Gong with a 1591 preface by Li Hualong, 30.6cm by 1,309.3cm, folded into a booklet 11.4cm. Illustrated here is a section of the Zhejiang coast. Woodblock print

BEIJING LIBRARY



Map of Dengfeng County (86)

Dengfeng Xian Tu

Dengfeng county is one of China's best tourist attractions with a large number of historic sites and ancient buildings. Still extant are the Zhongyue temple, Shaolin temple, Forest of Stupas, Meditation cave, Chuzu nunnery, Shaoshi watchtower, Jietan temple, Fawang temple, and Songyang Taoist temple (Songyang Academy).

The map, erected by the county magistrate, shows eighty historic sites, including nearly all the temples in Dengfeng that can be found in historical records.

The map was made in the traditional style of ancient Chinese cartography. Despite the absence of a grid, it shows quite accurately relative locations of the temples and the flow of the major river Yinghe and its tributaries. Most of the rivers are represented with double lines, but their names are absent except for Yingshui Yuan (source of the Yinghe) and Shizongshui; names of well-known hills, however, are available. The seat of Dengfeng county government is at the centre of the map, with the city walls and towers graphically depicted. The town of Yingyang is marked with a square symbol, but villages and temples are represented diagrammatically. The map uses a special symbol to indicate fields, rarely seen in other maps of the Ming period.

It is valuable for studying the development of Buddhism and Taoism in China as well as Chinese temple architecture.

86 Rubbing of the Map of Dengfeng County (Wanli, 1573–1620)

Taken from a stone tablet bearing the map of Dengfeng County, engraved and erected by Chen Guozhang in 1593, 112cm by 85cm

SONGYANG ACADEMY, DENGFENG COUNTY, HENAN


登封縣圖

World Map Printed in Wuxi (87)

Qiankun Wanguo Quantu Gujin Renwu Shiji

Prepared by Liang Zhou of Wuxi county, Changzhou prefecture, the original map was printed in black in 1593. It is now in a private collection and was exhibited at the British Library in February 1974.

In its rendering, the use of symbols is similar to that found in the Map of China, Past and Present (70, 71). According to the preface above the map, the cartographer, in preparing this work, had referred to: a Chinese map by Luo Hongxian, a world map by the Italian missionary, Matteo Ricci, and a world atlas by Abraham Ortelius of Antwerp. As a result, the map is rich in content, with a large number of Chinese and foreign place names and explanatory notes on the historical, geographical and economic conditions of various places. Listed below the map are social and economic data for provinces, prefectures and counties, such as the number of households, population, and outputs of rice, wheat, silk, cotton, fodder and salt.

The map features China in the centre of the world. The Chinese part was based on the Map of China, Past and Present, but with more detailed notes, and the rest was almost entirely based on an early edition of Matteo Ricci's map of the world. However, the cartographer followed strictly the ancient Chinese concept of the earth, portraying distant countries and regions as small islands in a vast ocean around China, regardless of their actual sizes. This way of portraying the world was quite common in Chinese map making in the late Ming and early Qing periods.

87 *World Map Printed in Wuxi*
(Wanli, 1573–1620)

Original map drawn by Liang Zhou in 1593 and printed in black from engraved plates, 171.5cm by 130.5cm

PRIVATE COLLECTION


乾坤萬國全圖
古今人物事跡

Map of Huai'an Prefecture(88a)

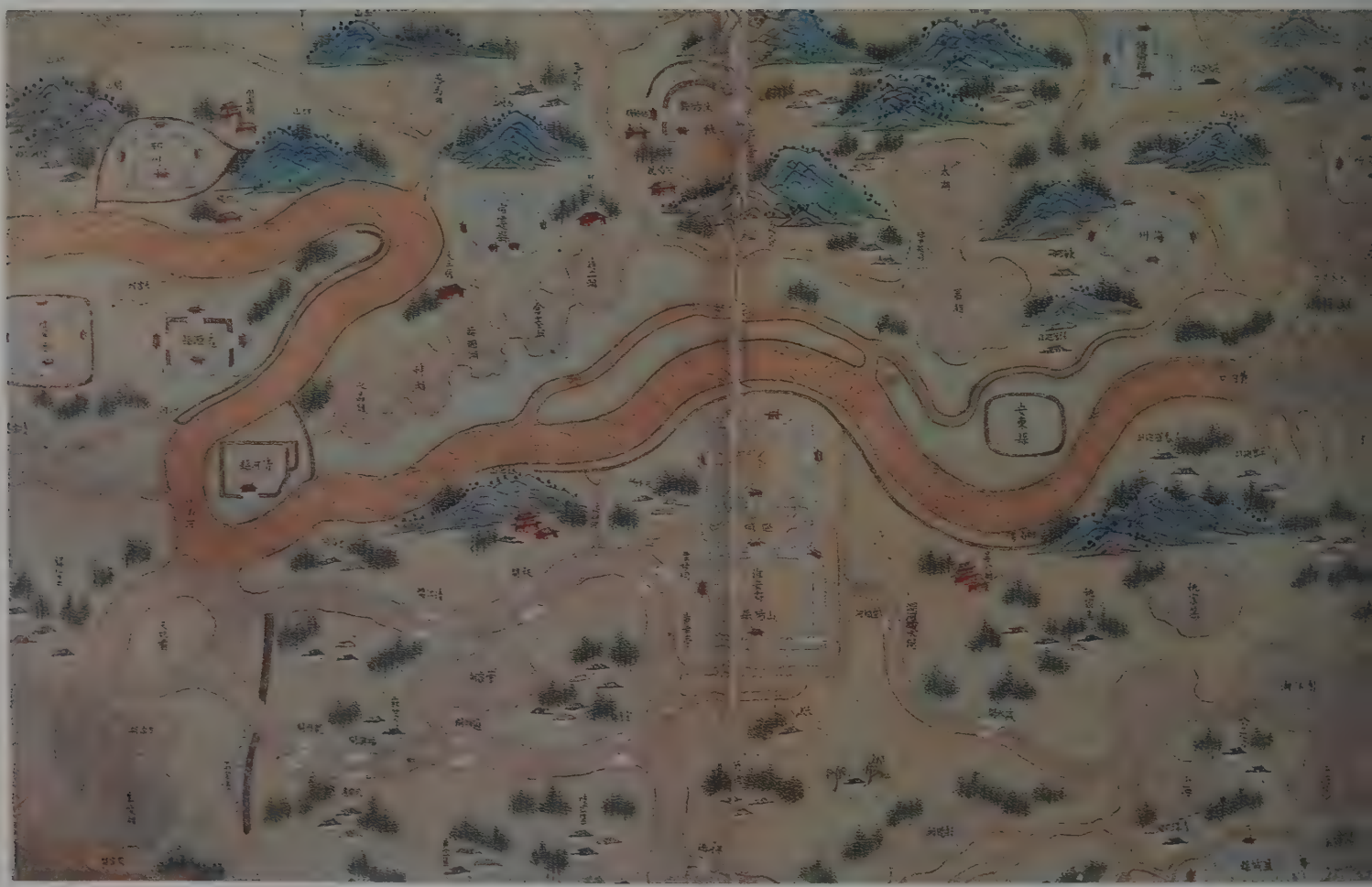
Huai'an Fu Tu

Map of Quanjiao County (88b)

Quanjiao Xian Tu

From the two volume *Atlas of Prefectures and Counties around Nanjing (Nanjing Fuxian Ditu)* comprising fifty-two maps of administrative divisions under Nanjing. Painted on silk, each of the coloured maps carries explanatory notes. The atlas was compiled sometime during the Wanli era; it includes: twelve maps of the counties under Yangzhou prefecture; twelve maps of the counties under Huai'an prefecture; nineteen maps of the counties under Fengyang prefecture; five maps of the counties under Xuzhou, two of Chuzhou, and two of Hezhou, which were all directly under the jurisdiction of Nanjing.

88*a* ***Map of Huai'an Prefecture***
(Wanli, 1573–1620)



They are detailed in content, with vivid, delicately painted pictographs representing cities, hills, water systems, dams, dykes, military installations, and historic sites.

The explanatory notes, with uneven emphasis, cover the evolution of political divisions, geographic features, water conservancy facilities, military affairs, local people and customs, and scenic spots and historic sites.

88*b* ***Map of Quanjiao County***
(Wanli, 1573–1620)

Two of a set of fifty-two maps from the Atlas of Prefectures and Counties around Nanjing (Nanjing Fuxian Ditu). *Coloured maps on silk, painted circa 1594–98, 31cm by 51cm*

ZHENJIANG MUNICIPAL MUSEUM, JIANGSU

Map of Jiangxi Province (89)

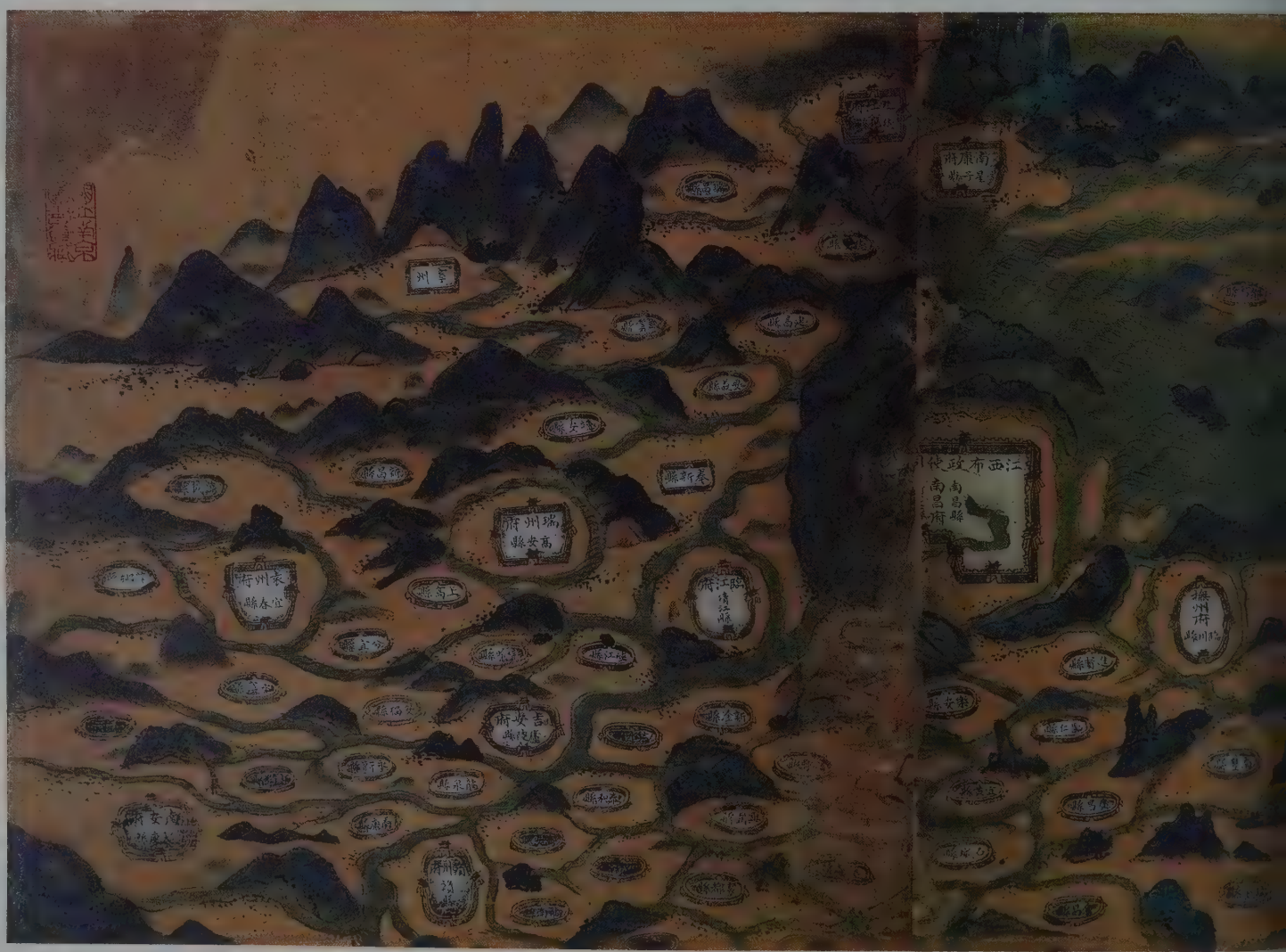
Jiangxi Sheng Ditu

Map of Yuanzhou Prefecture (90)

Yuanzhou Fu Tu

Map of Taihe County (91)

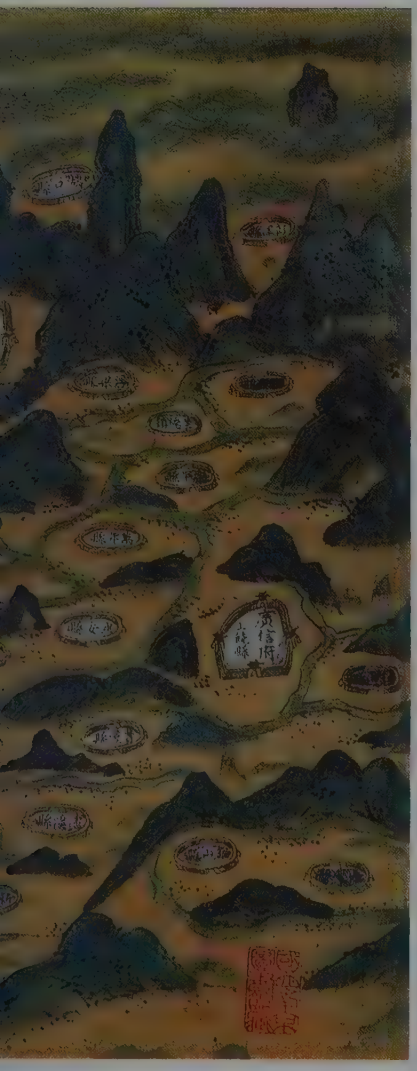
Taihe Xian Tu



From the multi-volume *Atlas of Jiangxi* (*Jiangxi Yudi Tushuo*) prepared during the Wanli era. Now extant is only one incomplete volume with thirty-seven coloured maps painted on silk. They include one provincial map, and thirty-six maps of prefectures and counties.

As one of the provincial atlases prepared in ancient China, the *Atlas of Jiangxi* follows in the tradition of ancient Chinese cartography, with vivid and colourful pictographs depicting geographic features such as mountains, lakes, woods, cities, towns and houses. The accompanying explanatory notes describe the evolution of political divisions, topographic features, strategic positions, folk customs and other conditions of the localities. The atlas is a valuable reference book for the study of ancient Chinese cartography as well as Jiangxi's historical geography in the Ming period.

89 Map of Jiangxi Province
(Wanli, 1573–1620)

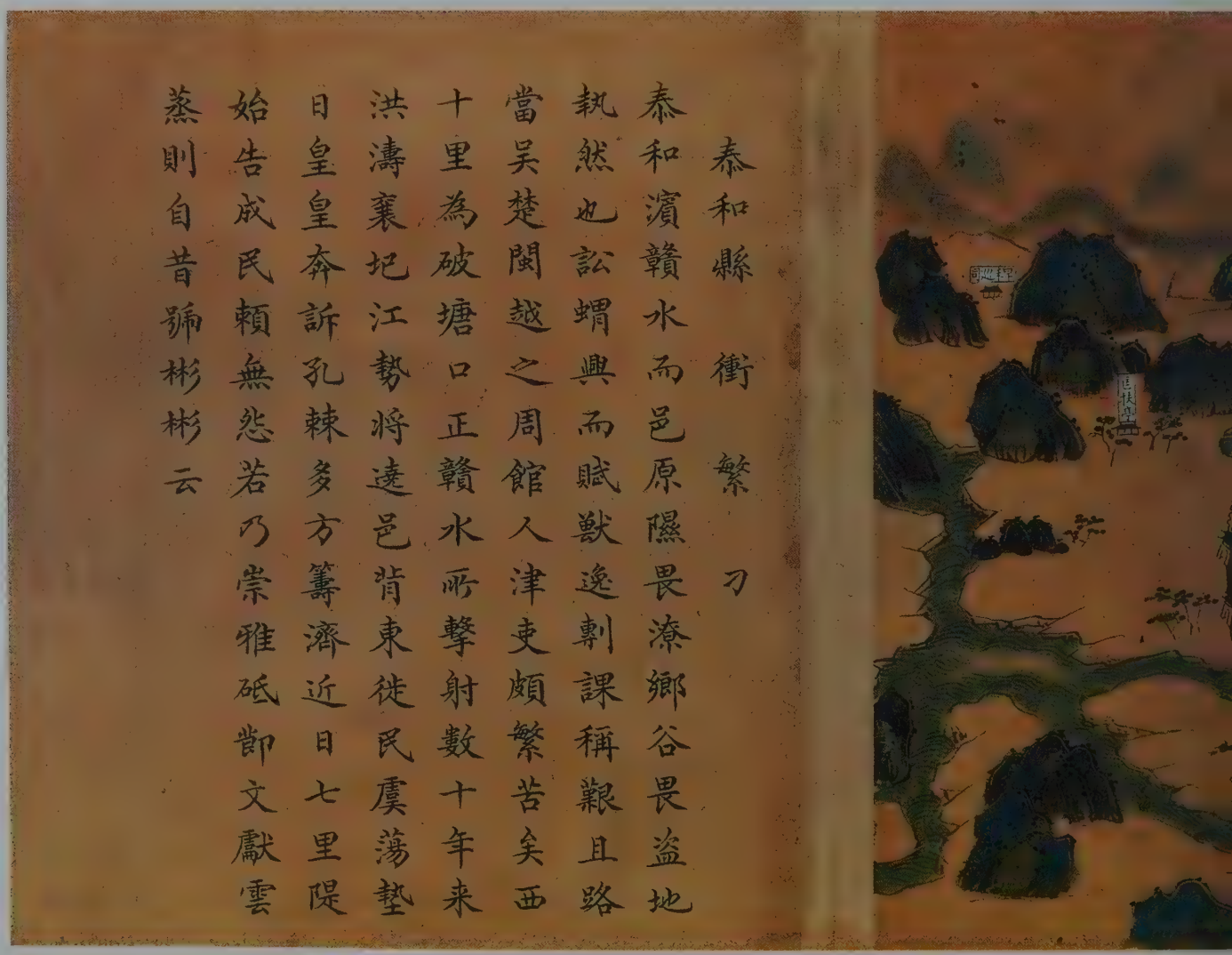


90 Map of Yuanzhou Prefecture
(Wanli, 1573–1620) ▷

91 Map of Taihe County
(Wanli, 1573–1620)

Three maps from the Atlas of Jiangxi (Jiangxi Yudi Tushuo). Coloured atlas on silk, only one incomplete volume with thirty-seven maps extant. Provincial map 26cm by 56.6cm; maps of prefectures and counties 28cm by 26.5cm; each map carries explanatory notes

BEIJING LIBRARY



Complete Map of the World (92)

Kunyu *Wanguo Quantu*

The original map was prepared by the Italian missionary Matteo Ricci in 1602. The coloured reproduction illustrated here comprises six sheets. The main part of the map features the elliptical earth, with China in the centre. In the four corners are the Southern Hemisphere, the Northern Hemisphere, the Nine Divisions of the Celestial Sphere, and the Celestial Globe. The earth is represented on an isometric projection, with straight parallels and symmetrically curved meridians on both sides of longitude 170 degrees East. An original explanatory note by Matteo Ricci says, 'The continents are rendered in five colours for readers' convenience.' In this reproduction, however, only three colours are used – brown-yellow for Asia, light pink for the Americas and Antarctica, and a near white colour for Europe and Africa. Other colours used on the map include: blue-green for the mountain pictographs, dark green for wavy lines symbolizing the oceans, red for the names of the continents, and black for the names of countries and other place names. Painted in the oceans are sailboats and aquatic animals such as the whale, shark and sea lion, and on Antarctica, terrestrial animals such as the rhinoceros, elephant, lion and ostrich. In the blank spaces on the map are commentaries written by Chinese officials and scholars, and an article by Matteo Ricci on scientific knowledge about the earth and Western mapping skills. With the introduction of Western mapping skills, Chinese cartography entered a new period of development.

An ink print of this map is kept in the Museum of Chinese History, Beijing, and two further reproductions can be found in the Liaoning Provincial Museum.

92 Reproduction of the Complete Map of the World (Wanli, 1573–1620)

Original world map prepared by the Italian missionary Matteo Ricci in 1602. Illustrated here is a widely available coloured reproduction painted on paper, 192cm by 346cm

NANJING MUSEUM

World Map (93)

Shanhai Yudi Quantu

This map is selected from volume 10: *Geography of the* 106-*Volume Illustrated Encyclopaedia* (*Sancai Tu Hui*), compiled by Wang Qi and printed in 1609. With a collection of drawings and paintings from various works, the encyclopaedia is divided into sections according to subject, for example, astronomy, geography, history, people, animals and plants.

The map was copied by Wang Qi from a world map prepared by Feng Yingjing in 1602, which was again derived from a world map made by Matteo Ricci in 1602 (see 92).

The map shows the spheric earth with six continents: Asia, Europe, Africa, North America, South America and Antarctica. China is named the Great Empire of Ming. The water surface is divided into the Atlantic, the Small Eastern Ocean and the Large Eastern Ocean (i.e., the Pacific). The seas off the east coast of China are marked as the Ming Seas. Also marked on the map are some astronomical and geographical terms and ancient place names of the world. The content of the map is a reflection of the basic knowledge of world geography at the time.

The map is not particularly accurate especially in the contours of the continents but their relative locations are roughly correct.

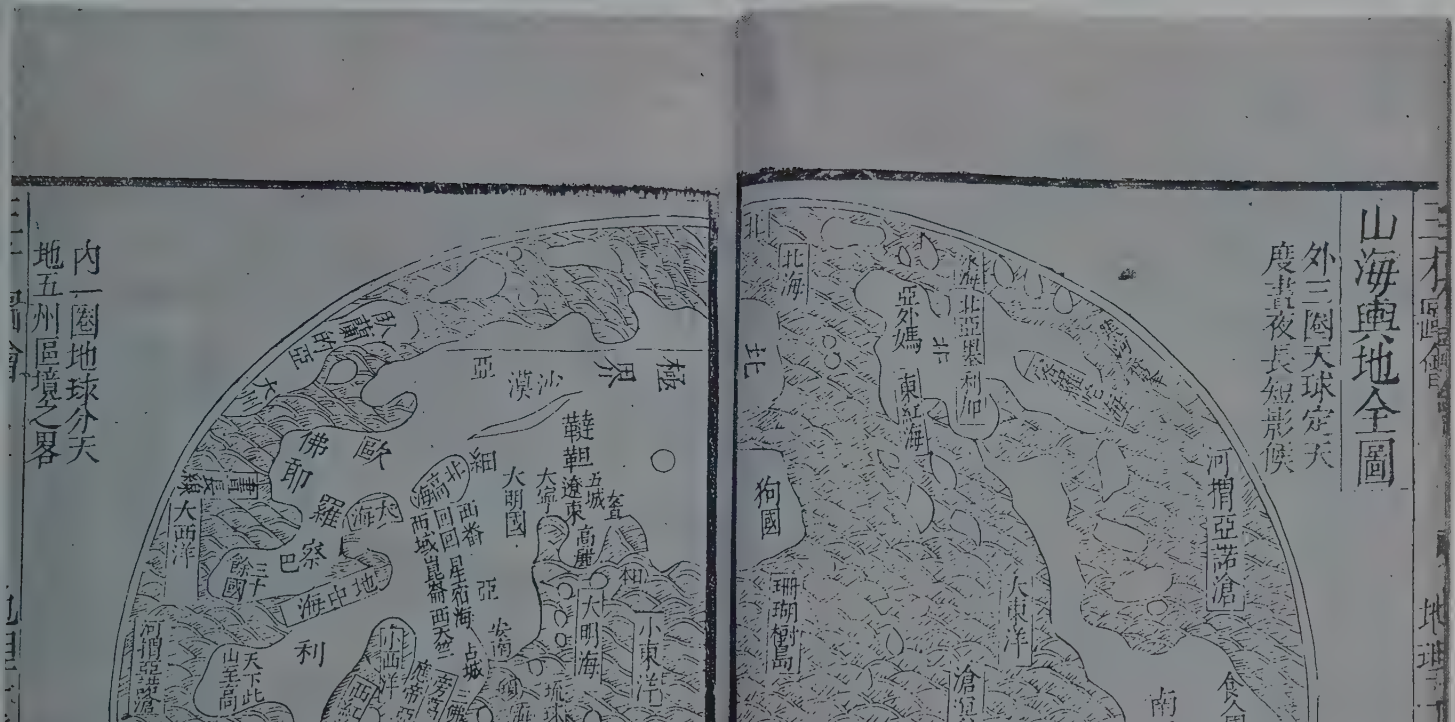
In the four corners of the map are explanatory notes discussing the universe, earth, and longitude and latitude. Judging from these notes, parallels and meridians must have been used in preparing this map, but they failed to show in the engraving for technical reasons.

Prepared by a Chinese scholar with both Chinese and Western mapping skills, this generalized map of the world was a result of cultural exchanges between China and the West in the late Ming period. Though simple in content and inaccurate, the map has reference value for studying the history of cultural exchanges between China and the West.

93 *World Map (Wanli, 1573–1620)*

From the Illustrated Encyclopaedia (Sancai Tu Hui) *compiled by Wang Qi and printed in 1609*

BEIJING LIBRARY

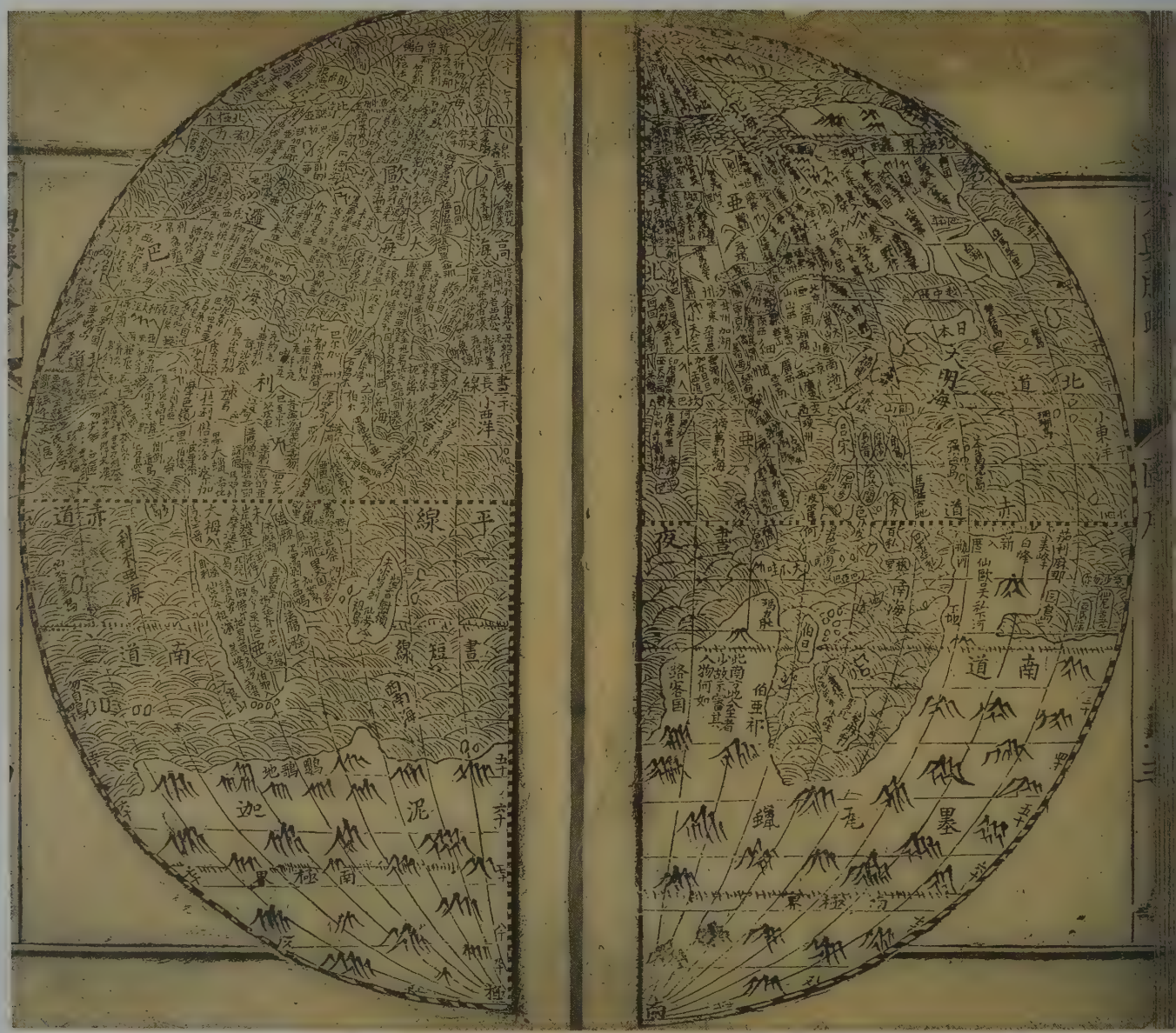

山海輿地全圖
外三圈天球定天
度晝夜長短影候
內一圈地球分天
地五州區境之畧
圖中橫竪三十六
方每方中各十度
地球橫竪經緯界
線別方隅稽度數
大明國
大明海
小東洋
大東洋
北海
狗國
珊瑚樹島
東南海
白露海
南亞墨利加
食人國
銀河
歐羅巴
地中海
大西洋
利未亞
利未亞海
西南海
新入匿
鸚鵡地

Map of the World in Two Hemispheres (94)

Dongxi Liang Banqiu Tu

In China, the Italian missionary Matteo Ricci was the first cartographer to render the world in two hemispheres – he translated and prepared such a map in 1599 , with five continents and three oceans accommodated in two hemispheres. Such a novel map attracted the attention of Chinese scholars, and quite a few of them reproduced the map and included it in their own works, making it known to the public.

Illustrated here is the first reproduction made by Feng Yingjing in 1604, later included in *A Concise Geography* (*Fangyu Shenglue*) by its compilers in 1610.

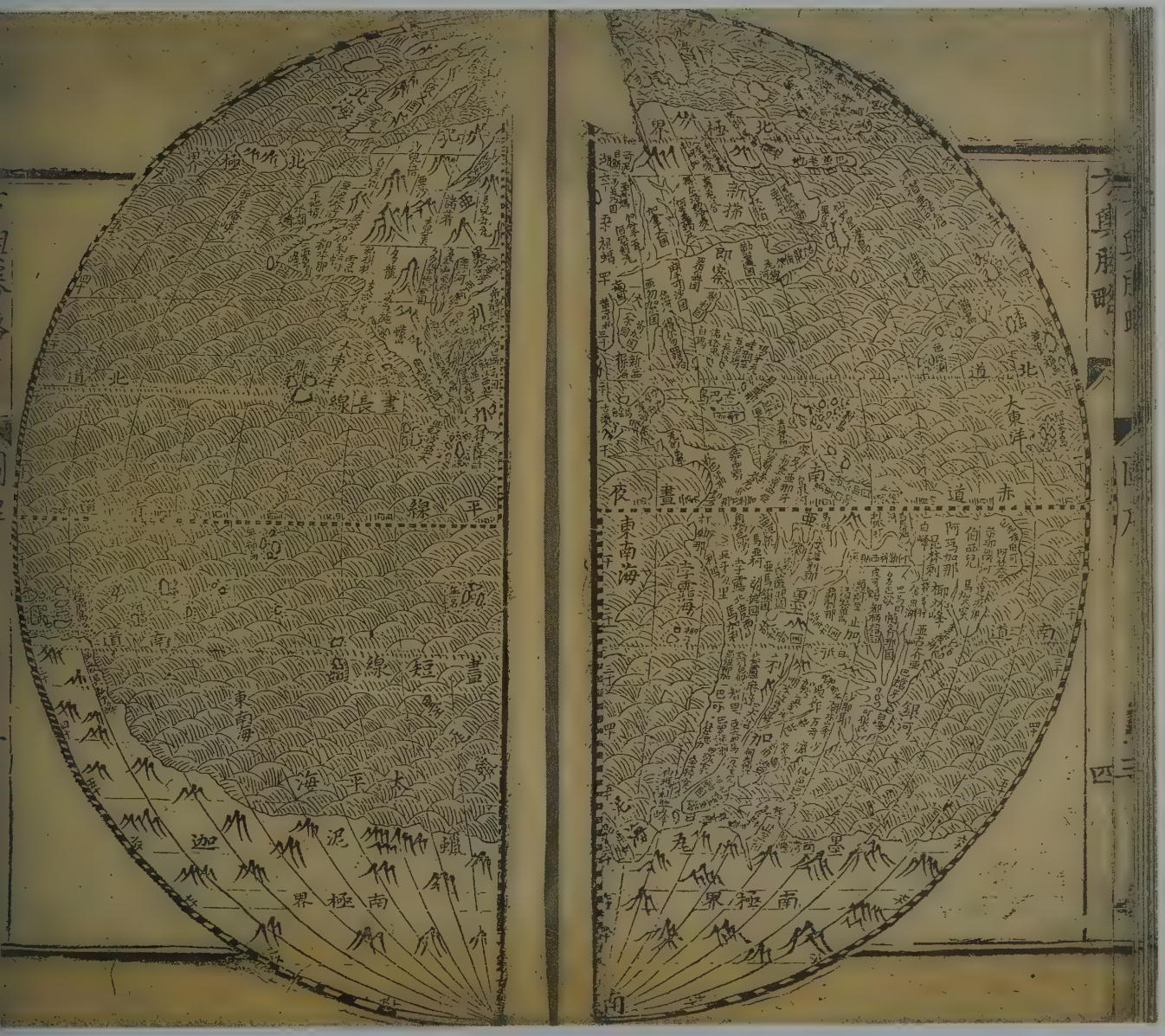


The map shows the Eastern and Western Hemispheres, each 26cm in diameter. Locations of the continents are similar to those on contemporary world maps. The place names are almost identical with those on Matteo Ricci's map, except for some errors made in engraving. This map played a positive role in extending the knowledge of world geography in that period.

94 Map of the World in Two Hemispheres (Wanli, 1573–1620)

From A Concise Geography (Fangyu Shenglue), compiled by Cheng Bai'er et al. and printed in black from engraved plates in 1610. This is the earliest extant Chinese map of the world in two hemispheres reproduced by Feng Yingjing after Matteo Ricci's map of 1599, diameter of each hemisphere 26cm

BEIJING UNIVERSITY LIBRARY



Map of Shaanxi (95)

Shaanxi Yu Tu

Shaanxi was a major province in Northwest China in the Ming period, with its administration covering present-day Shaanxi, the greater part of Gansu, the eastern part of Qinghai, and the greater part of the Ningxia Hui autonomous region. All Ming provinces prepared their own maps, and the Map of Shaanxi is representative of them.

With its upper part representing south, the map extends beyond the Great Wall in the north and Hanjiang river in the south, and between Jiayuguan in the west and the Yellow river in the east. Painted in the traditional style, various pictographs in different colours are used to show mountains, rivers, roads, seats of prefectural and county governments, grasslands, fortresses and historic sites. Its bright colours and particularly fine artistry single the map out from the canon of ancient Chinese maps.

95 Map of Shaanxi (Tianqi, 1621–1627)

Coloured map, painted on silk, 256cm by 320.5cm in five sheets

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Zheng He's Nautical Chart (96)

Zheng He Hanghai Tu

This nautical chart records the seventh westward expedition by navigator Zheng He (1371–1435) between 1431 and 1433. During the reign of Emperors Yongle and Xuande (1403–1435), Zheng He led a large fleet on seven maritime expeditions under the emperors' orders.

The chart was collected in the final volume (volume 240) of the *Book of Military Affairs* (*Wubei Zhi*). Compiled by Mao Yuanyi and based on reference to 2,000 earlier books on military subjects, it consists of five illustrated parts on military affairs, sports, communications, sciences, etc. The first page carries a preface by Mao Yuanyi followed by twenty pages of the chart and two pages containing a stellar guidance chart.

The chart shows routes from right to left. Starting from Nanjing, the fleet sailed down the Yangtze river, and then along the Jiangsu, Zhejiang and Fujian coasts. After passing the South China Sea, the fleet visited Singapore, Ceylon (now Sri Lanka), and the Maldives. From there the route split into two – one across the Indian Ocean to Mogadishu on the east coast of Africa and onward to Hormuz in the north, and the

96 Zheng He's Nautical Chart (Chongzhen, 1628–1644)

Original chart in scroll format, also reproduced in the Book of Military Affairs (Wubei Zhi) compiled by Mao Yuanyi and completed in 1621. The book was presented to Emperor Chongzhen in 1628

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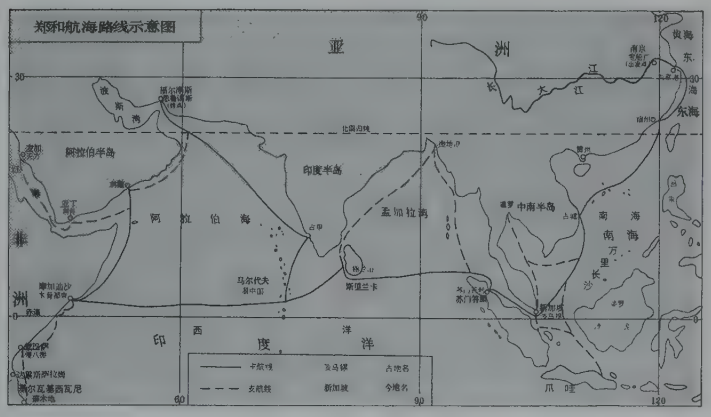
other directly across the Arabian Sea to Hormuz. The southernmost port called on by the fleet was Kilwa Kisiwani in today's Tanzania.

The chart shows the coastlines, ports, islands, shores and reefs seen at high tide, and landmarks such as pagodas and temples. The routes are marked with bearings and distances, as well as soundings in some locations. The chart carries over 500 place names, including more than 300 of foreign countries. The stellar guidance chart is proof of the advanced navigation skills of the Ming Empire.



97 ***Sketch of Zheng He's Nautical Route***

Map of the Ming Empire (98)

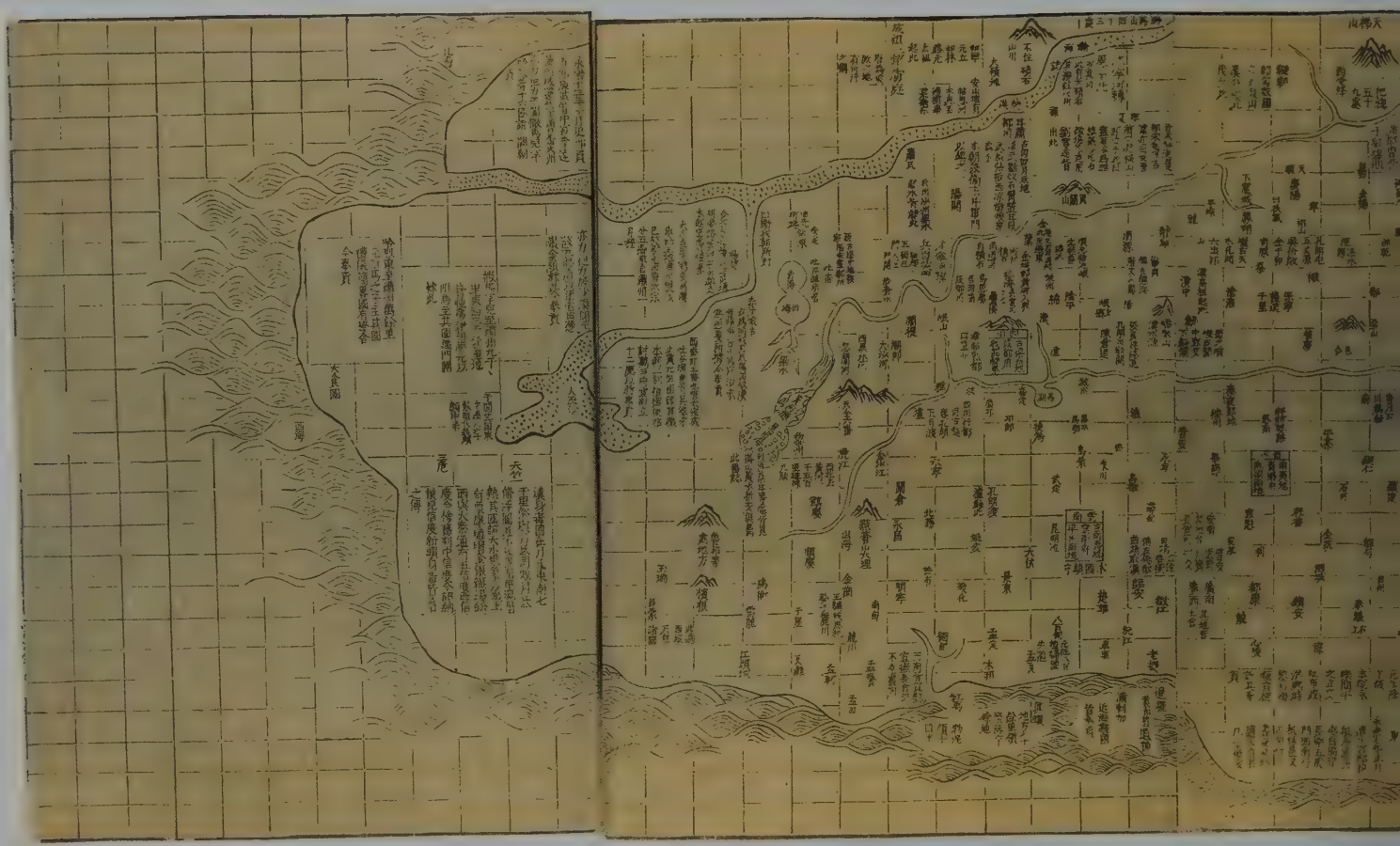
Huang Ming Da Yitong Ditu

Map of Nanjing (99)

Nanjing Ditu

Map of the Western Regions (100)

Xiyu Tu



The *Atlas of the Ming Empire* (*Huang Ming Zhifang Ditu*) comprises three volumes with fifty-two maps. The first volume contains two national maps of the Ming Empire (see 98) and fifteen regional maps (see 99). It shows the administrative divisions of the Ming Empire after the Wanli era (1573–1619), prefectures and counties, and major geographical features such as mountains, rivers, lakes and seas, as well as some important place names. Under some of the place names are notes on the history of the area. For instance, a note under 'Beijing' says it 'used to be the seat of Jizhou, was once named Shuntian prefecture, and served as the capital of Yan State during the Warring States period.' ▷

98 Map of the Ming Empire (Chongzhen, 1628–1644)

The second volume comprises maps of frontier regions, which show the Great Wall, strategic passes, and frontier towns and villages; and the third volume consists of specialized maps featuring rivers, inland and maritime navigation, flood prevention, coastal defence and horse breeding, and maps of foreign lands such as Korea, the Northern Desert, Annam, the Western Regions (see 100) and foreign islands. Each of the maps carries brief explanatory notes and detailed commentaries. A grid system is used to show the scales. On the borders of the maps are relevant notes on the evolution of political divisions, geographic features and some historical events. The cartographer based the maps on military examples.

◁ **99 Map of Nanjing (Chongzhen, 1628–1644)**

Three of fifty-two maps from the Atlas of the Ming Empire (Huang Ming Zhifang Ditu), compiled by Chen Zushou et al., printed in black in 1636 from engraved plates, 31.2cm by 26.6cm

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100 Map of the Western Regions (Chongzhen, 1628–1644)

Historical Map of China and the Neighbouring Regions (101)

Jingu Hua Yi Quyu Zongyao Tu

Map of Western Han Prefectures and Principalities (102)

Xi Han Junguo Tu

Printed from engraved plates in 1638, the *Historical Atlas of China* (Jingu Yudi Tu) consists of three volumes with fifty-eight maps – fifty showing political divisions in various dynasties beginning from the Ming Dynasty in a reverse historical sequence, and eight featuring special themes. The maps were prepared from a base map of the Ming Empire, with Ming elements marked in black and those of previous dynasties in red, which is contrary to traditional practice. Each map carries explanatory notes and commentaries.

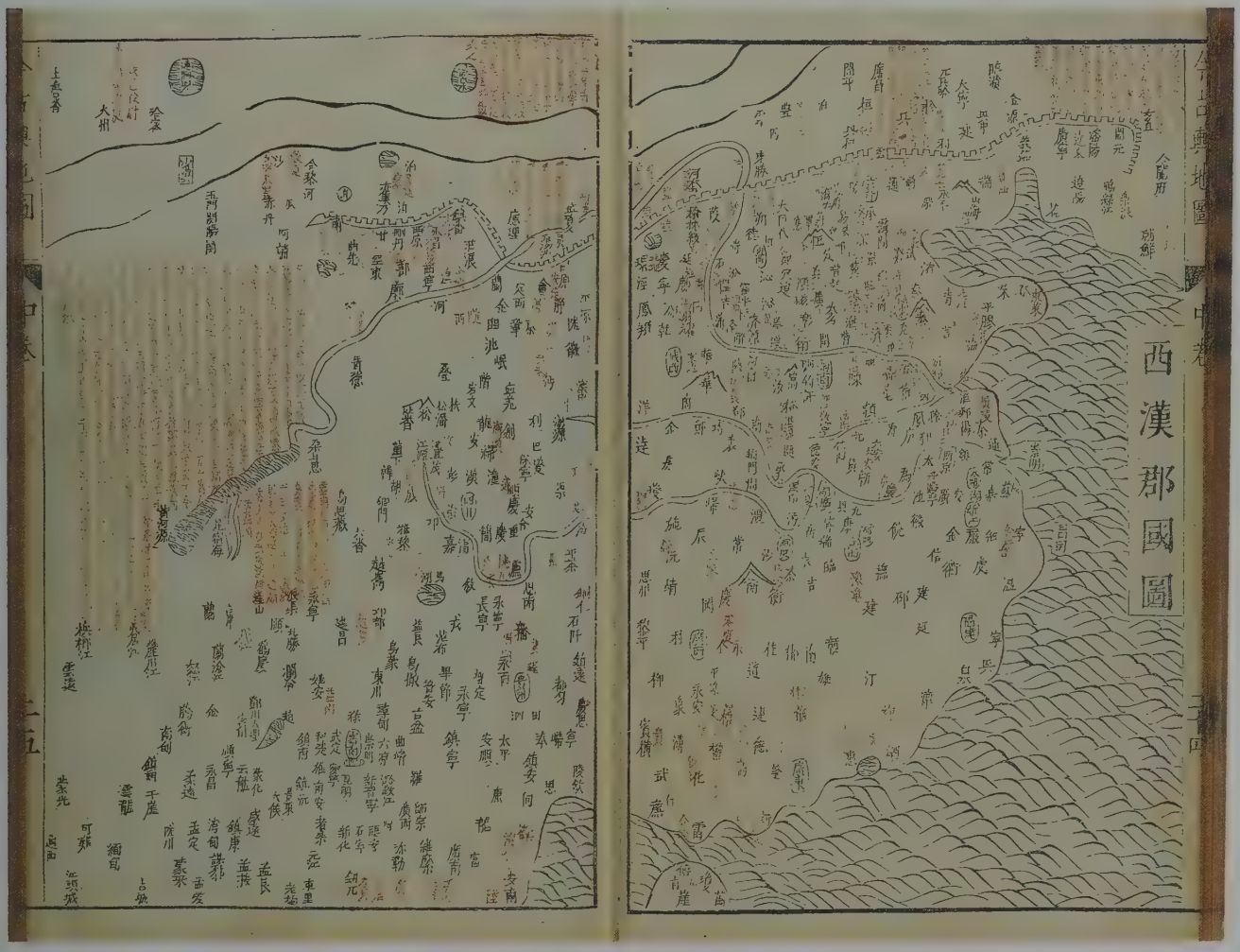
The Historical Map of China and the Neighbouring Regions is selected from volume 1. It shows in comparison the political divisions of the Ming Empire (in black) and

101 Historical Map of China and the Neighbouring Regions (Chongzhen, 1628–1644)

those of the Han, Jin, Tang and Song Dynasties (in red). The names of prefectures and counties are marked with the names of different dynasties. The map covers the desert in the north, Hainan Island in the south, Turpan in the west and Korea in the east. The map also shows geographical features such as mountains, rivers, seas, islands, deserts and the Great Wall. It is rich in content and clear in arrangement.

The Map of Western Han Prefectures and Principalities is selected from volume 2. It is similar to the Historical Map of China and the Neighbouring Regions, but its historical features include only the prefectures and principalities of the Western Han Dynasty. The map carries more detailed explanatory notes and commentaries.

The *Historical Atlas of China* is the earliest extant cartographic work made by two-colour process printing in China.



102 Map of *Western Han Prefectures and Principalities* (Chongzhen, 1628–1644)

Two of fifty-eight maps from the Historical Atlas of China (Jingu Yudi Tu), *compiled by Wu Guofu et al. Printed in two colours through process printing in 1638 from engraved plates*

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Map of the Mountains and Rivers as Recorded in the Book of Yu Gong (103)

Yu Gong Shanchuan Tu

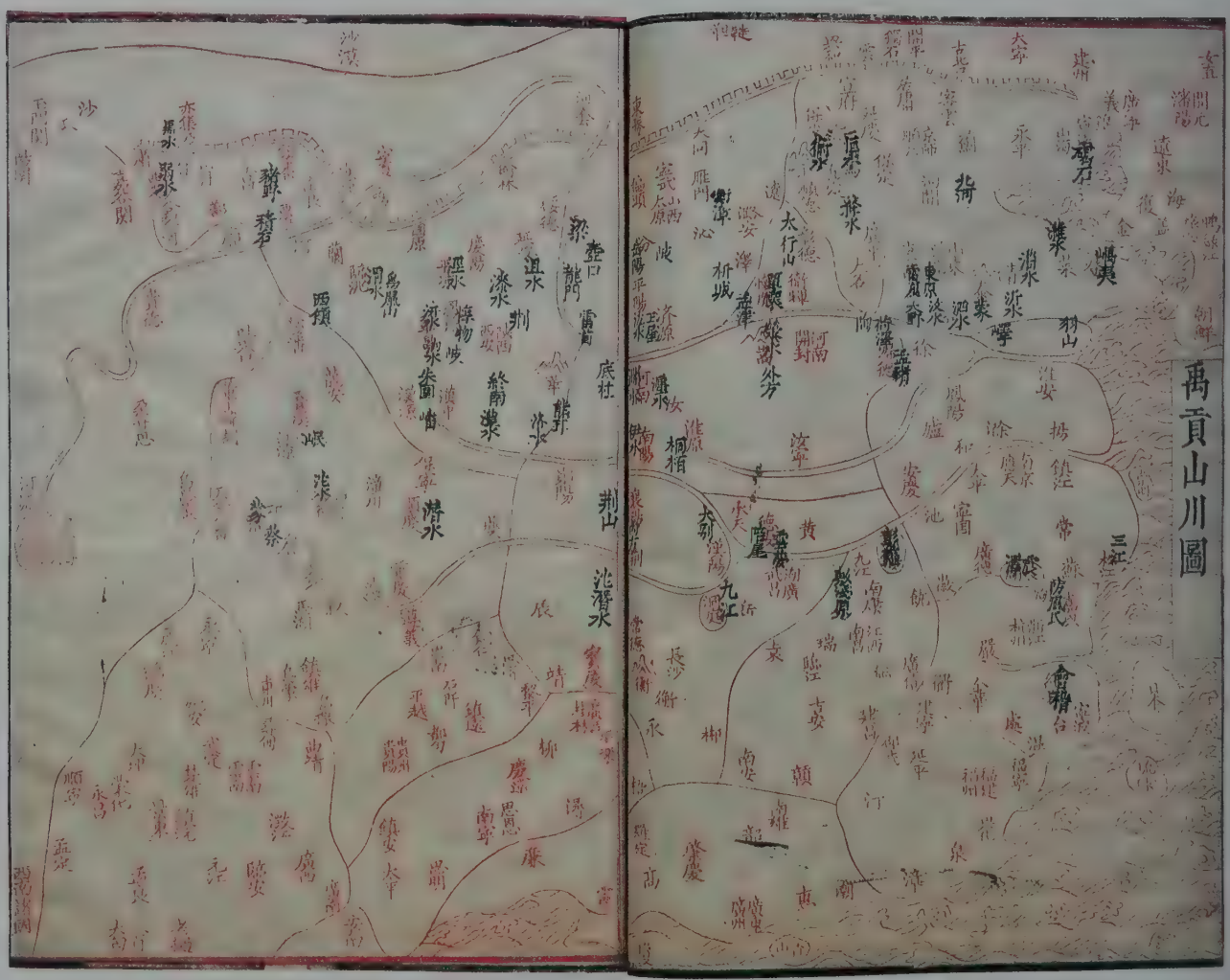
Map of the Divisions of the Nine Regions and the Twelve Regions (104)

Tang Yu Jiuzhou Shierzhou Fenjie Tu

The *Study of History* (*Yue Shi Yue Shu*) is in six volumes, with volume 1 consisting of historical maps. Elements that cannot be shown on maps are discussed in volumes 2 and 3.

The Map of the Mountains and Rivers as Recorded in the *Book of Yu Gong* shows in black the names of the mountains, rivers, lakes and other place names taken from the original book over a base map of the Ming Empire with Ming names in red. The work records the geographic conditions of the Xia Dynasty (*circa* twenty-first century–sixteenth century BC). Such an academic rendition of the content of the *Book of Yu Gong* was rarely seen on other maps.

103 Map of the Mountains and Rivers as Recorded in the Book of Yu Gong (Chongzhen, 1628–1644)



The Map of the Divisions of the Nine Regions and the Twelve Regions shows the names and boundaries of the ancient political divisions in black over a base map of Ming political divisions with their names in red. The regions were said to be the administrative divisions of the Xia Dynasty.

The base map shows Ming provinces, prefectures and counties and geographic features such as mountains, rivers, lakes, seas and deserts, as well as the Great Wall. Boundaries between the nine regions are shown by single lines, and those between the twelve regions, by doubles lines.

104 Map of the Divisions of Nine Regions and Twelve Regions (Chongzhen, 1628–1644)

Both maps are from the Study of History (Yue Shi Yue Shu), *a work in six volumes written by Wang Guanglu in 1643. Printed in red and black from engraved plates*

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Historical Map of China and Its Neighbours (105)

Hua Yi Gujin Xingsheng Tu

Map of China with a Grid (106)

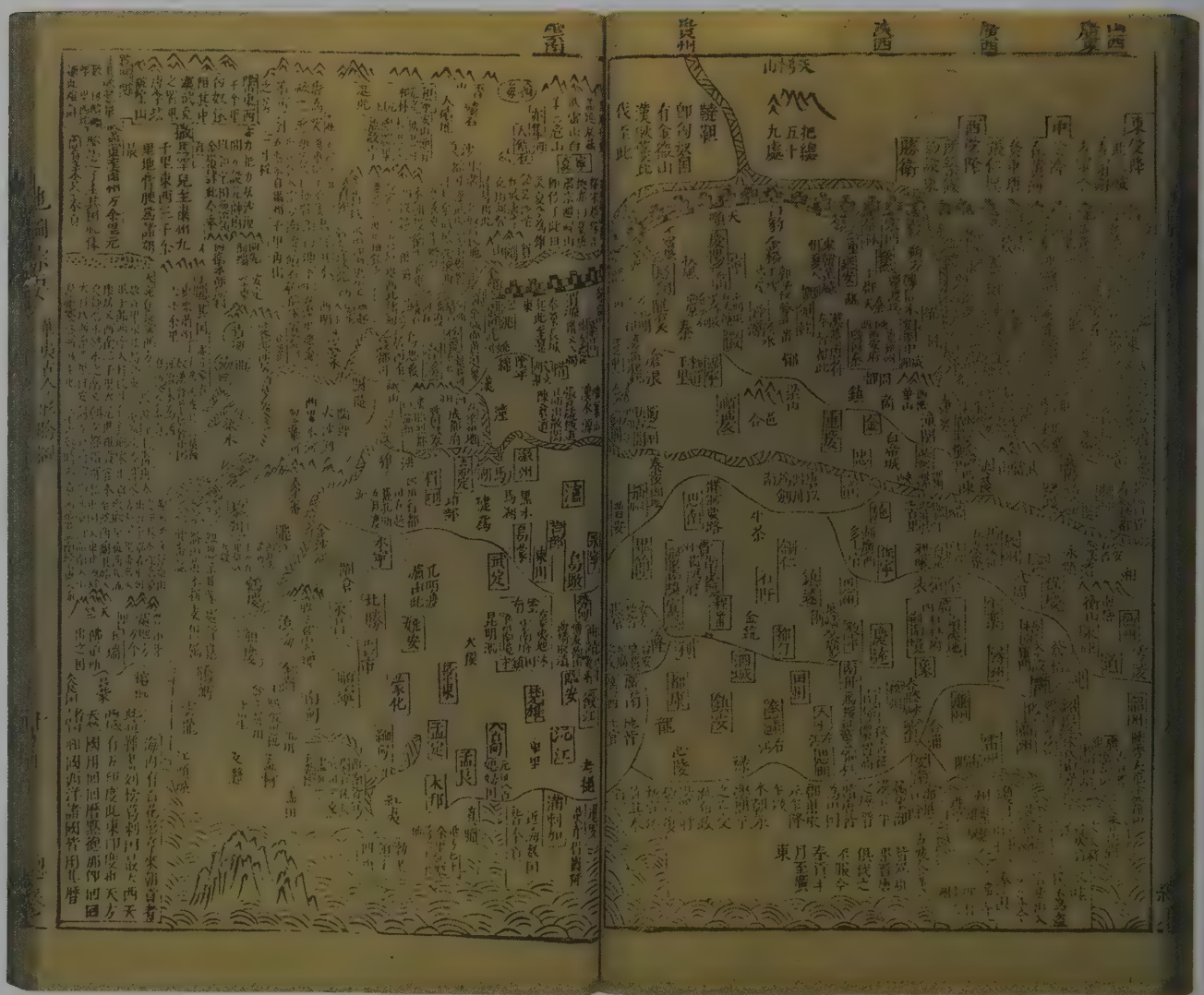
Tianxia Yudi Fenli Zong Tu

Map of Henan's Administrative Divisions (107)

Henan Fenjie Tu

Map of the Frontier Region in Jizhen (108)

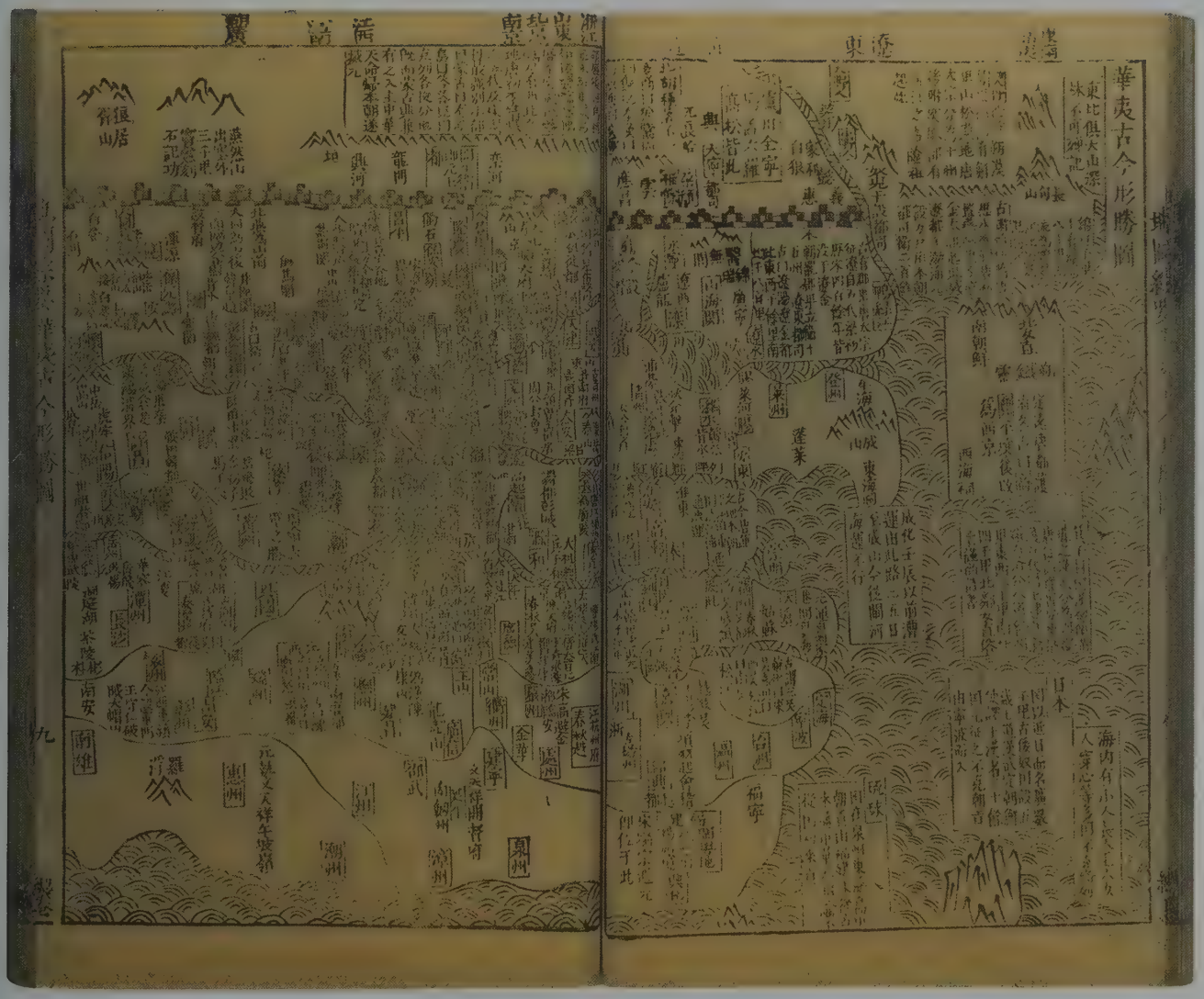
Jizhen Yanbian Tu



The *Illustrated Comprehensive Geography* (*Ditu Zongyao*) was compiled by Wu Xueyan, Zhu Shaoben and others in the late Ming period, with a preface written by Li Ruchun, and printed in 1645.

The work consists of three volumes: volume 1, in sixteen chapters, deals with the administrative divisions of the Ming empire, their evolution, frontiers, and geographical features such as mountains, rivers and strategic passes; volume 2, in fifteen chapters, records the prefectures and counties of Beijing and Nanjing and the empire's thirteen provinces, their natural features, inhabitants, customs and historic sites; volume 3 discusses the Ming empire's border regions and their nationalities, as well as neighbouring countries. The book contains sixty-six maps, including generalized maps of the Ming empire and specialized maps of its localities. A grid system is adopted to show scale. Names of political districts are marked with different symbols to show their relative importance. The Yangtze and Yellow rivers and the seas are ▷

105 Details of the Historical Map of China and Its Neighbours

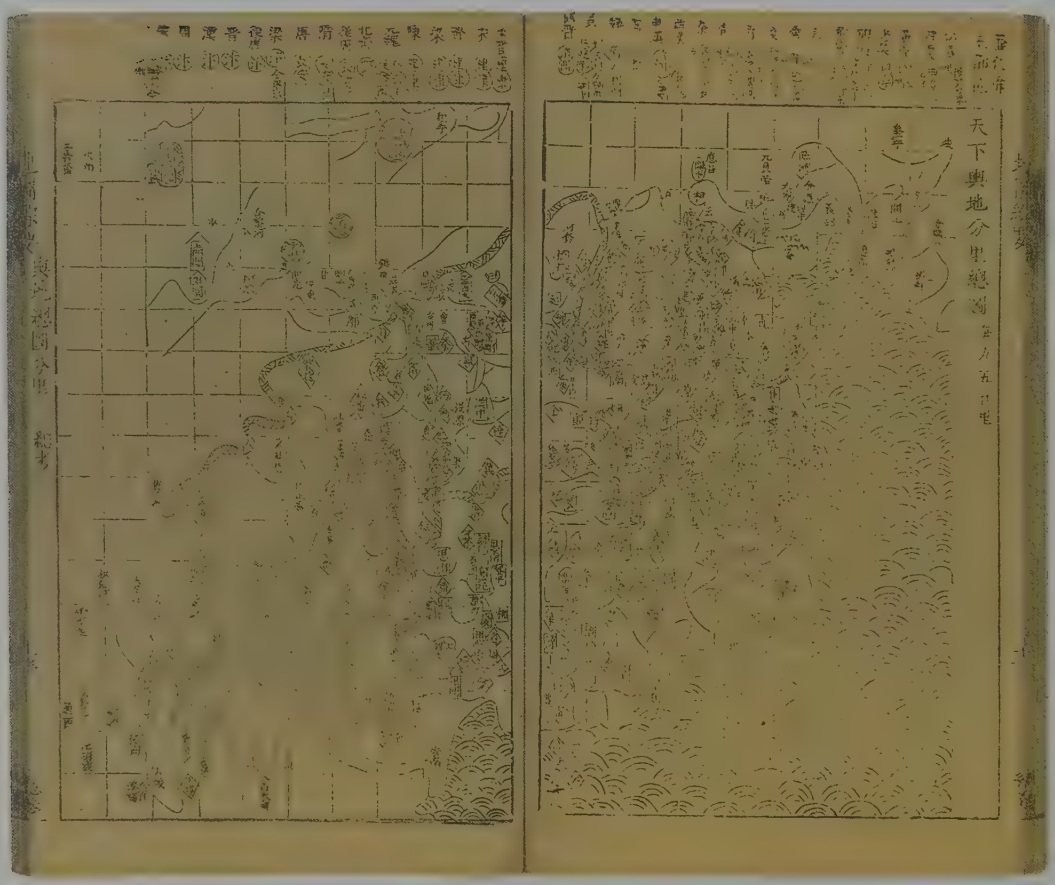


represented by wave-like lines, while other rivers are indicated by single lines. Some of the maps are rendered in the traditional graphic style, with detailed place names.

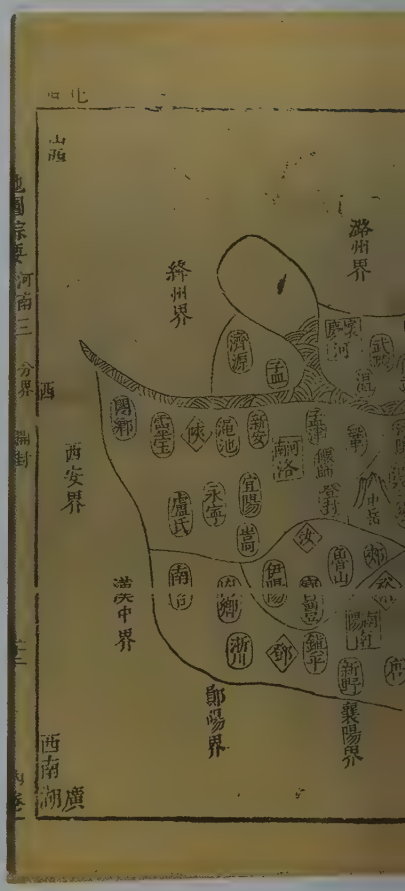
The Historical Map of China and Its Neighbours shows the administrative divisions of the Ming empire, including prefectures and counties under Beijing, Nanjing and its thirteen provinces, tributary states, and bordering regions, all in the traditional style. In the blank spaces on the map are explanatory notes on history, geography, folk customs and other information about various localities.

The Map of China with a Grid is a generalized map of the Ming empire, derived from an earlier map but in a simplified form.

The Map of Henan's Administrative Divisions is a provincial political map, showing the boundaries and relative locations of prefectures and counties. Except for the



106 Map of China with a Grid



107 Map of Henan's Administrative Divisions

Yellow river and the Songshan mountain, the map shows no natural features.

The Map of the Frontier Region in Jizhen is from volume 3. Geographic conditions and troop distribution are represented in detail. The map is valuable for the study of military-oriented geography and the making of frontier maps in the late Ming period.

Four of sixty-six maps from the Illustrated Comprehensive Geography (Ditu Zongyao) *compiled by Wu Xueyan, Zhu Shaoben et al. Printed in black in 1645 from engraved plates. Each square on the Map of China represents 62 500 sq. km.*

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108 Map of the Frontier Region in Jizhen

Qing Dynasty
1644–1911

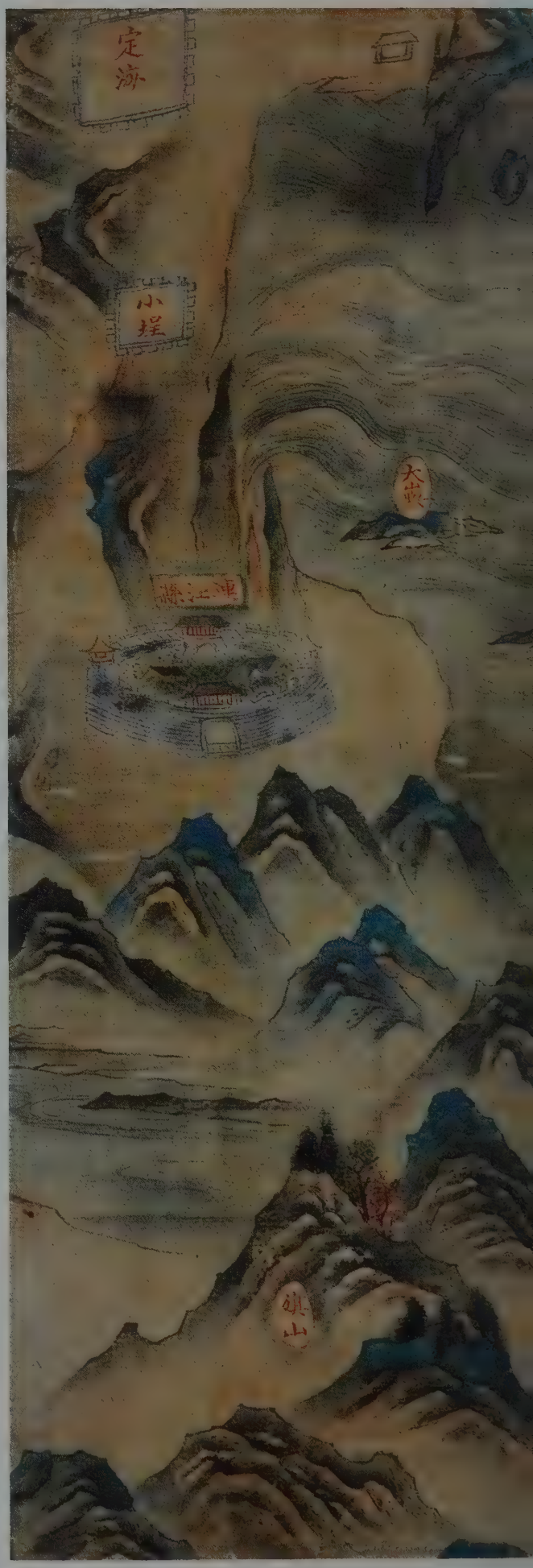
Map of Fujian's Coastal Regions (109)

Fujian Yanhai Tu

The orientation of the map puts east at the top. From left to right, the map shows the coastal prefectures and counties of Fujian province, islands, villages, castles, ridges, ports and bays, as well as bridges and temples.

Painted graphically, the natural and man-made features are represented in vivid colours; places near present-day Fuzhou city, such as Houguan town, Minxian county, Gushan hill, the seat of Xinghua prefectural government, the Pinghai garrison town, Meizhou Island, Mazu temple and the Xiding bridge can all be found on the map, as well as places near present-day Xiamen city, such as Xiamen, Gaoqi, Dadan island, Lushan hill and villages and houses near the hill.

Portraying in great detail strategic positions along the coast, such as castles and islands, the map must have served as a coastal defence map. A large number of place names on the map are still in use.



109 Detail of the Map of Fujian's Coastal Regions (Kangxi, 1662–1722)

Coloured map on silk in scroll form, painted in 1683, 36cm by 661.5cm. Illustrated here are three sections: Lianjiang county and Fuqing county; Quanzhou prefecture; and Xiamen to Haicheng

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上重
五星嶼
下重
外五虎

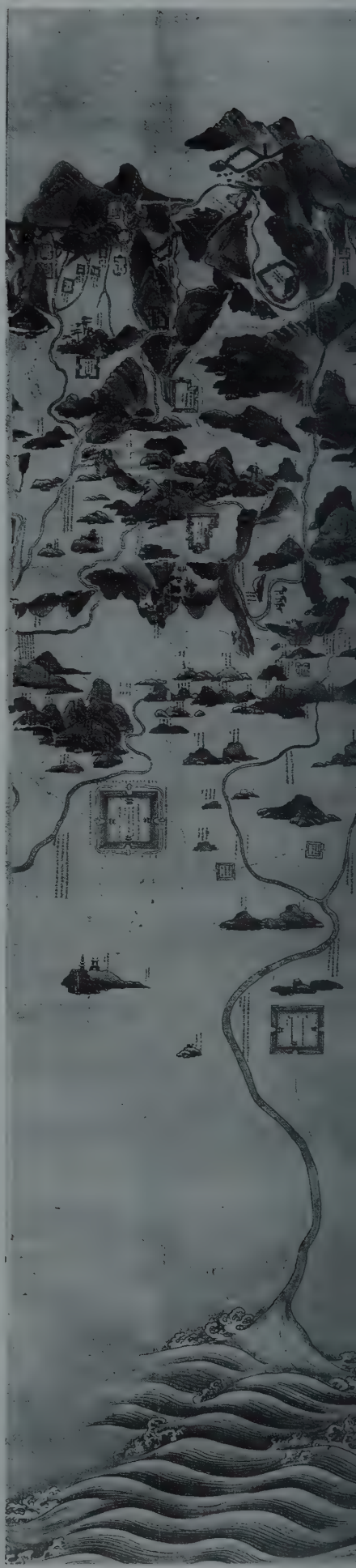
Traffic Map of Zhili Province (110)

Zhili Quansheng Daoli Zong Tu

The map was first collected by the Archives of the Cabinet in the Qing Dynasty.

It covers the whole of Zhili province (now Hebei, Beijing city and part of Inner Mongolia). It was prepared in the traditional manner: rivers are represented with double lines to show the main streams and their tributaries; the Taihang and Yanshan mountains and other hills are depicted graphically, and prefectural and county seats, towns and villages are all encircled in walls.

As the map was made to show communities and the distances between them, the cartographer paid more attention to relative locations than to overall scale, which is inaccurate. Cities are all surrounded by moats and walls with towers. Inside and around the city walls are explanatory notes on their structure and distances to other places.



110 Detail of the Traffic Map of Zhili Province (Kangxi, 1662–1722)

Coloured map, painted on silk between 1677–83. Illustrated here is a detail showing Yongping prefecture

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Map of Fujian (111)

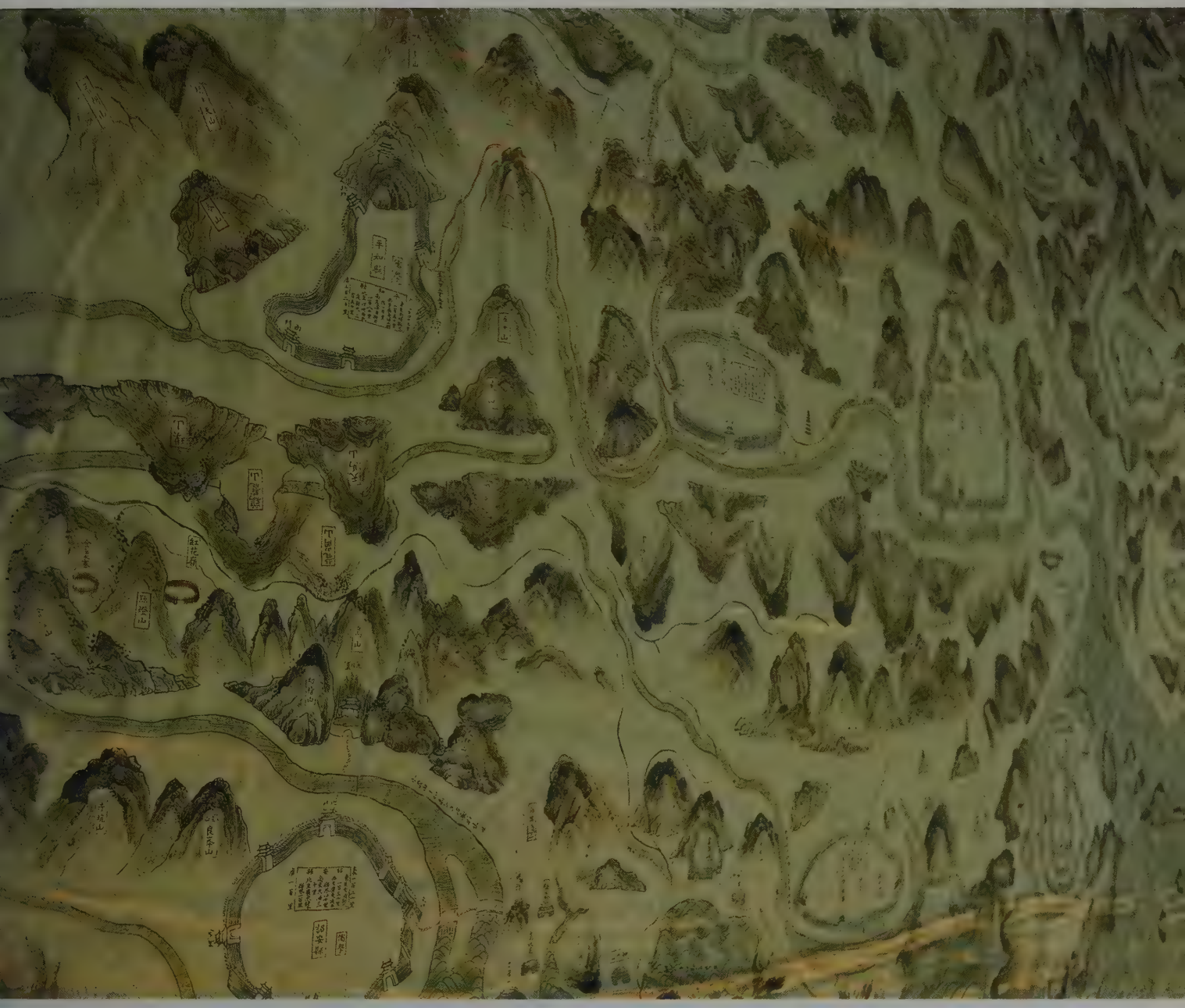
Fujian Yu Tu

With yellow satin borders embroidered with nine golden dragons, the map, painted on silk and prepared in the traditional style, was first collected by the Archives of the Cabinet in the Qing Dynasty. It shows Fujian's topographic features, administrative divisions, and ports and fortresses along its coast. Boundary lines between prefectures are marked in red, and those between counties are marked in green. Roads are represented by broad yellow lines. There are over fifty cities and towns on the map, with city walls marked by pictographs. Within the city walls are government offices, prefectural and county schools, and Confucian temples. Distances to other places are marked outside the cities to supplement the mileages denoted along the roads; the map was also named the 'Traffic Map of Fujian Province'.

According to historical records, Emperor Kangxi established the prefecture of Taiwan under Fujian province in 1683, with the three counties of Taiwan, Zhuluo and Fengshan under the prefecture. The map's content is in conformity with the records. In addition, the administrative division of Xiamen was changed from Suo to Ting in 1686, but it was still denoted as Suo on the map. These facts show that the map must have been prepared between 1684 and 1686.

111 **Map of Fujian (Kangxi, 1662–1722)**

112
Case in which the Map of Fujian is kept



113 Detail of the Map of Fujian

114 Golden dragons embroidered on the border of the Map of Fujian

Prepared by Fujian authorities and presented to the Qing government after Emperor Kangxi unified Taiwan in 1683. Coloured map on silk, painted in 1684–86, 640cm by 640cm, sheet size 750cm by 750cm

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Map of Guangdong (115)

(Guangdong Yu Tu)

The map was first collected in the Archives of the Cabinet in the Qing Dynasty.

It is a small-scale generalized map, showing in detail rivers, mountains and communities. The names of administrative divisions are framed differently to show their respective sizes. Mountains are represented in a graphic style, denoting their locations and trends. Named on the map are 136 mountains and twenty-eight islands.

115 Map of Guangdong

Coloured map on silk, painted in the early Qing Dynasty, 100.5cm by 86cm

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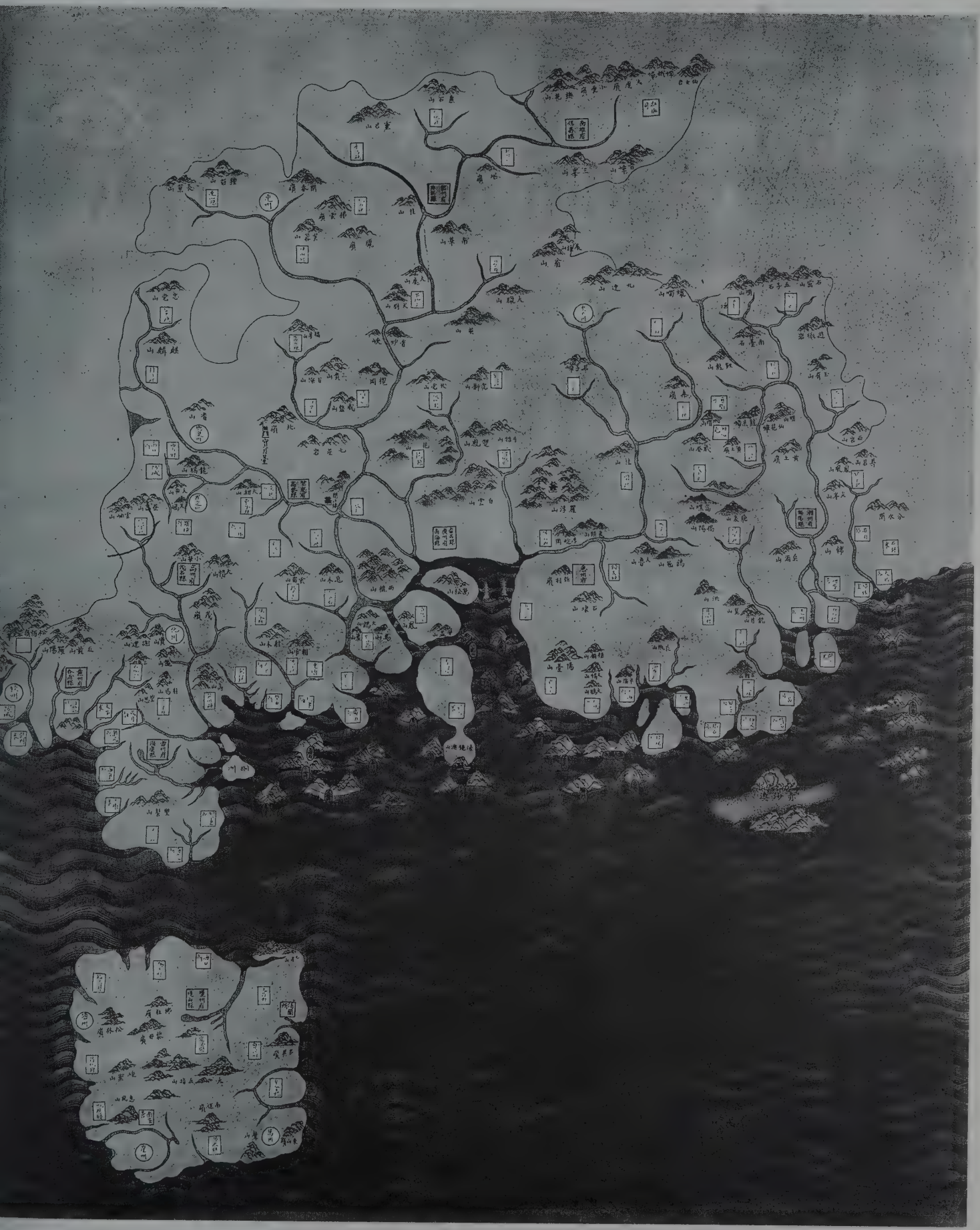

Chart of the Confluence of the Yellow and Huaihe Rivers (116)

Huang Huai Heliu Gudao Ruhai Tu

Chart of the Silting of the Yellow River Estuary (117)

Huai Huang Buxu Gudao Haikou Yudian Tu

Chen Yuyu was an official in charge of flood-prevention work along the Yellow river. His account comprises six volumes. Included in the first volume, the two charts were prepared by Sun Gong'an, one of Chen's assistants.

The charts show the flow of the Yellow river from right to left. The top side of the charts represents west. The colour code is yellow for the Yellow river, green for the Huaihe river, lakes and other rivers, and black for water conservation projects, clearly showing the water systems of the Yellow and Huaihe rivers.

The Chart of the Confluence of the Yellow and Huaihe Rivers shows the merged flow of the Huaihe river and

116 Detail of the Chart of the Confluence of the Yellow and Huaihe Rivers (Kangxi, 1662–1722)

Hongze lake into the Yellow river at Qingkou, following the principle of 'building dykes to confine water and guiding water to fight silting', thus ensuring that the Yellow river flowed smoothly eastward into the sea.

The Chart of the Silting of the Yellow River Estuary shows that, in the late Ming and early Qing Dynasties, insufficient efforts to harness the Yellow and Huaihe rivers had meant that the Huaihe failed to flow into the Yellow river which resulted in the silting of the latter's estuary, and caused flooding in many counties.

Two charts from An Outline Account of Flood Prevention of the Yellow River (Hefang Kan Zuanyao), *compiled by Chen Yuyu in 1700, prepared by Chen's assistant Sun Gong'an and printed in three colours by process printing. Illustrated here are the two charts' Qinghe county sections, where the confluence of the rivers is situated*

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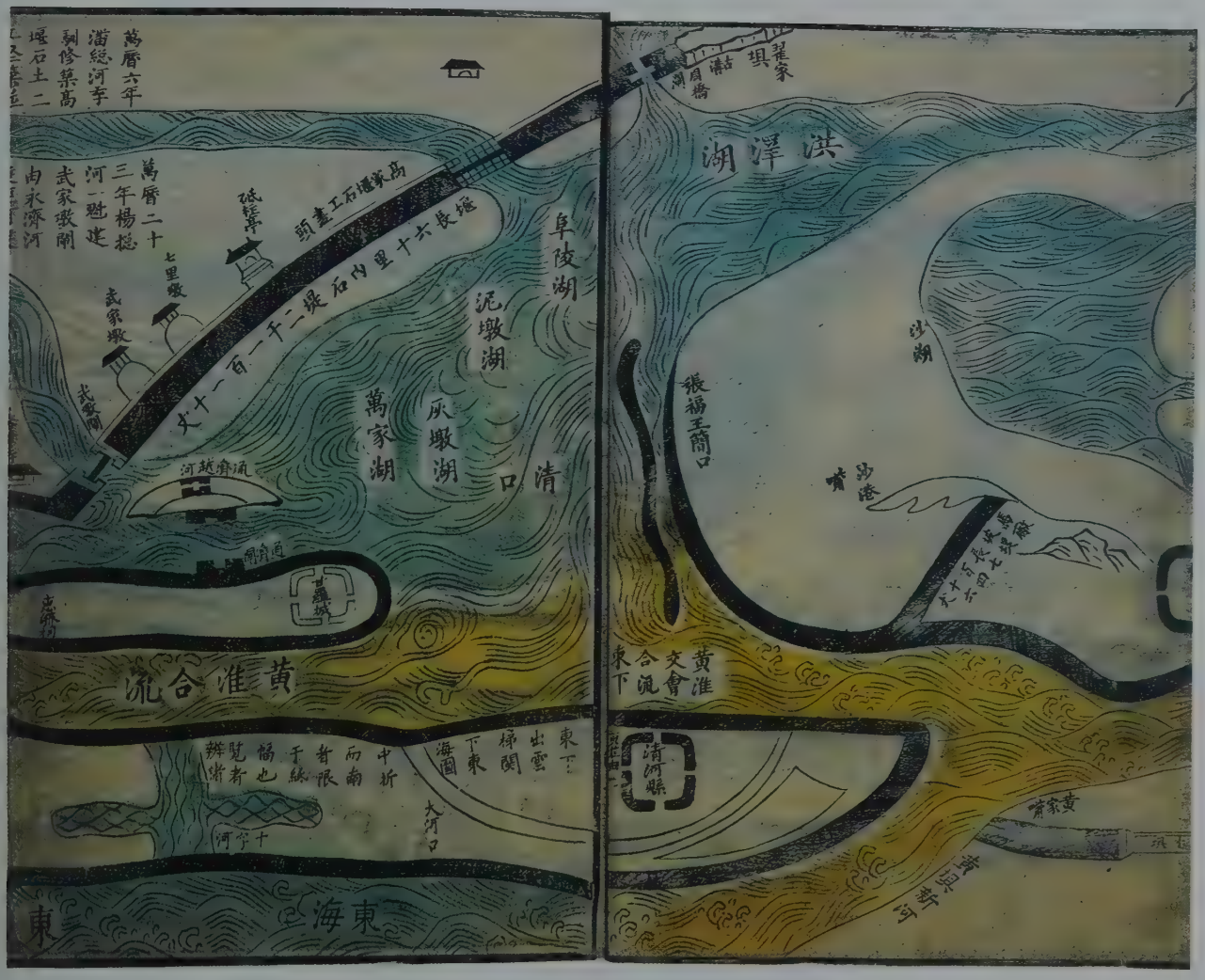

117 Detail of the Chart of the Silting of the Yellow River Estuary (Kangxi, 1662–1722)

Chart of the Yellow River (118)

Huanghe Tu

The chart was first collected in the Archives of the Cabinet in the Qing Dynasty.

Painted in a delicate style in bright colours, this is primarily an artistic work. Representation is not accurate, but the chart shows the relative locations of cities and topographic features on both banks of the river. The chart carries names of mountains, rivers, cities, towns and historic sites, and denotes distances between some of the cities and towns. The chart was presented to Emperor Kangxi by an official in charge of water conservation affairs when the emperor was on an inspection tour of the south.

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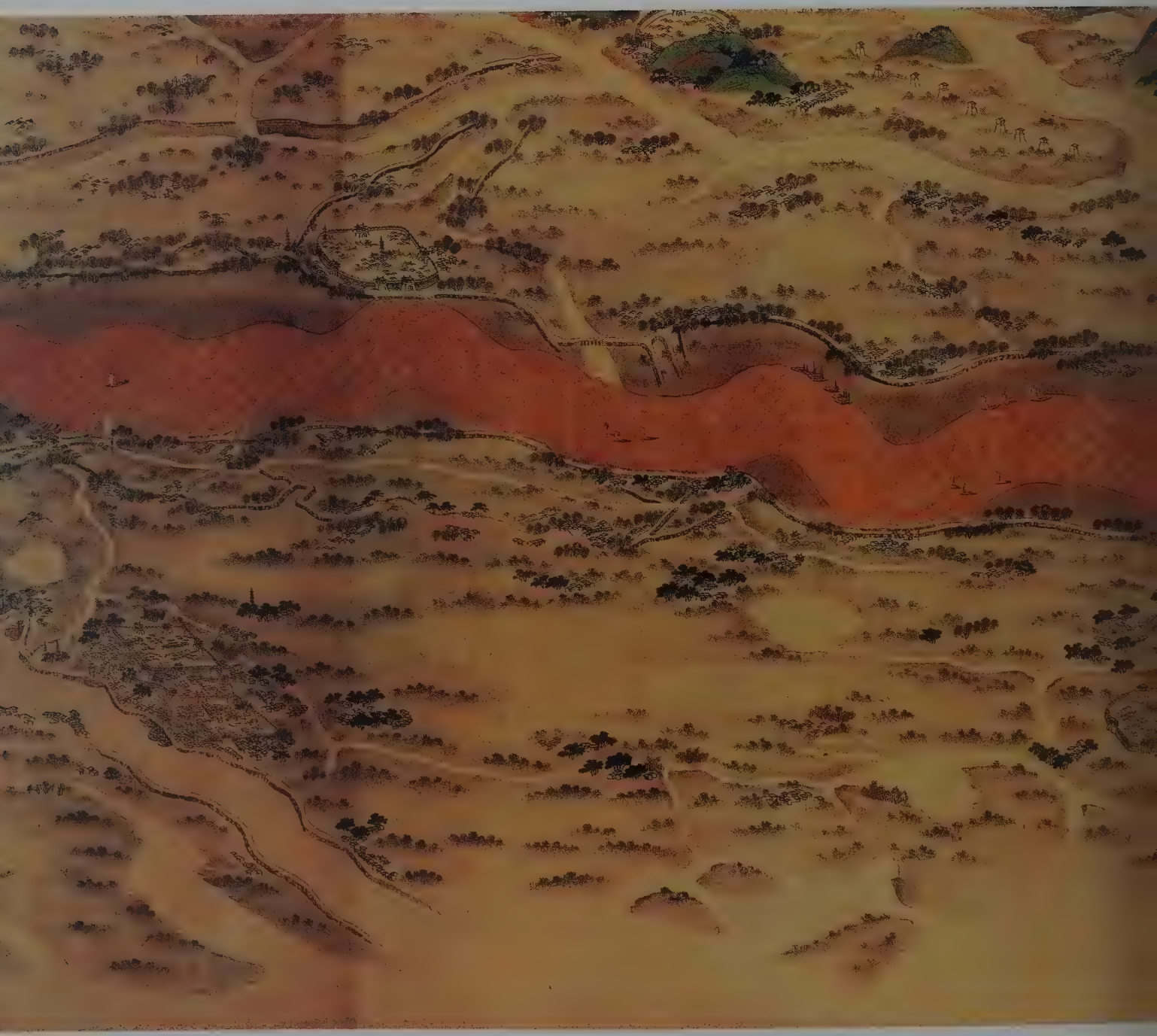

118 Detail of the Chart of the Yellow River (Kangxi, 1662–1722)

Coloured chart on silk, painted in the latter part of the Kangxi era. The chart represents two sections from the Map of Yellow River, which shows a part of the river from Fenglingdu to the sea.

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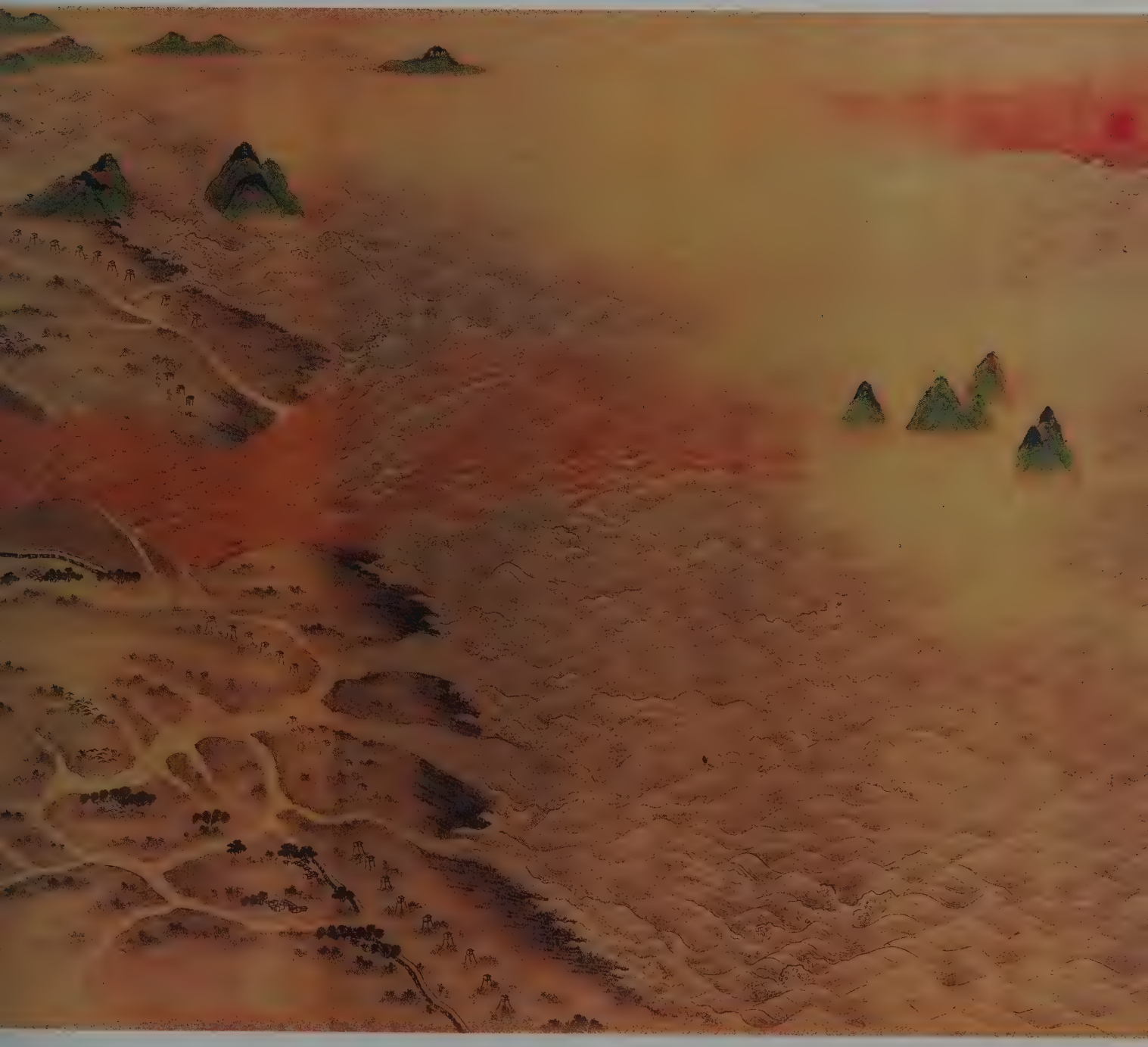


Confidential Map of the Qing Empire (119)

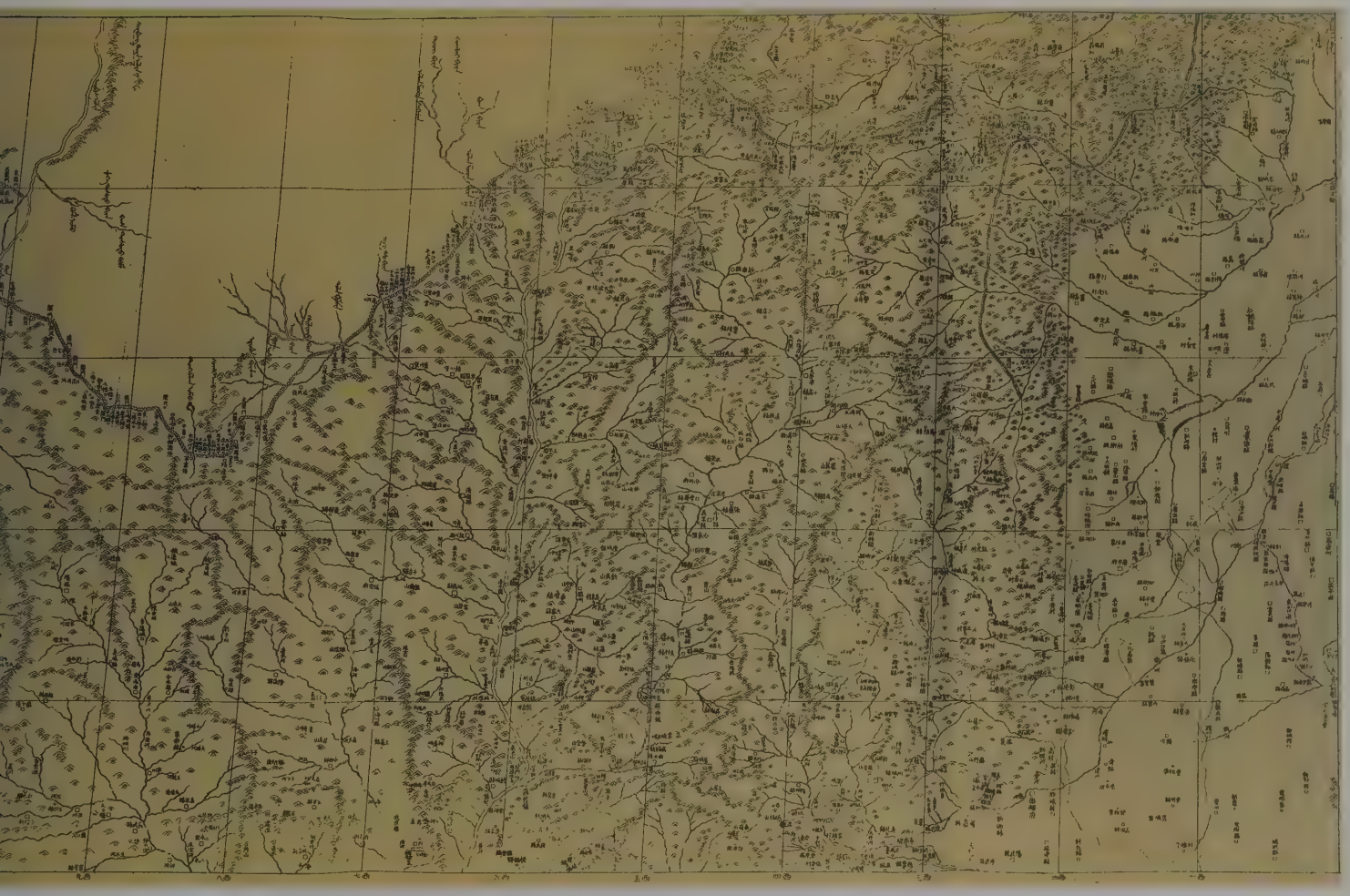
Qing Neifu Yitong Yudi Mi Tu

This was the first map based on field surveys. Such a nationwide survey was unprecedented in the history of world cartography. In 1929 the forty-one copper plates for the map were found in the Imperial Palace of Shenyang, and they were used to print the map in book form. The forty-one sheets can be put together to make up a complete map of China.

With the meridian running through Beijing as the prime meridian for longitude reference, the map covers an area between longitude 29 degrees East and 40 degrees West, and latitudes of 18 and 61 degrees North. Each trapezium on the map represents one degree of longitude and latitude.

The original map was made under the direction of Emperor Kangxi. It took ten years for Chinese and Western cartographers to prepare the map, carrying out astronomical and triangulation surveys and making use of existing maps and geographic works. The map was completed and presented to the emperor in 1718. ▷

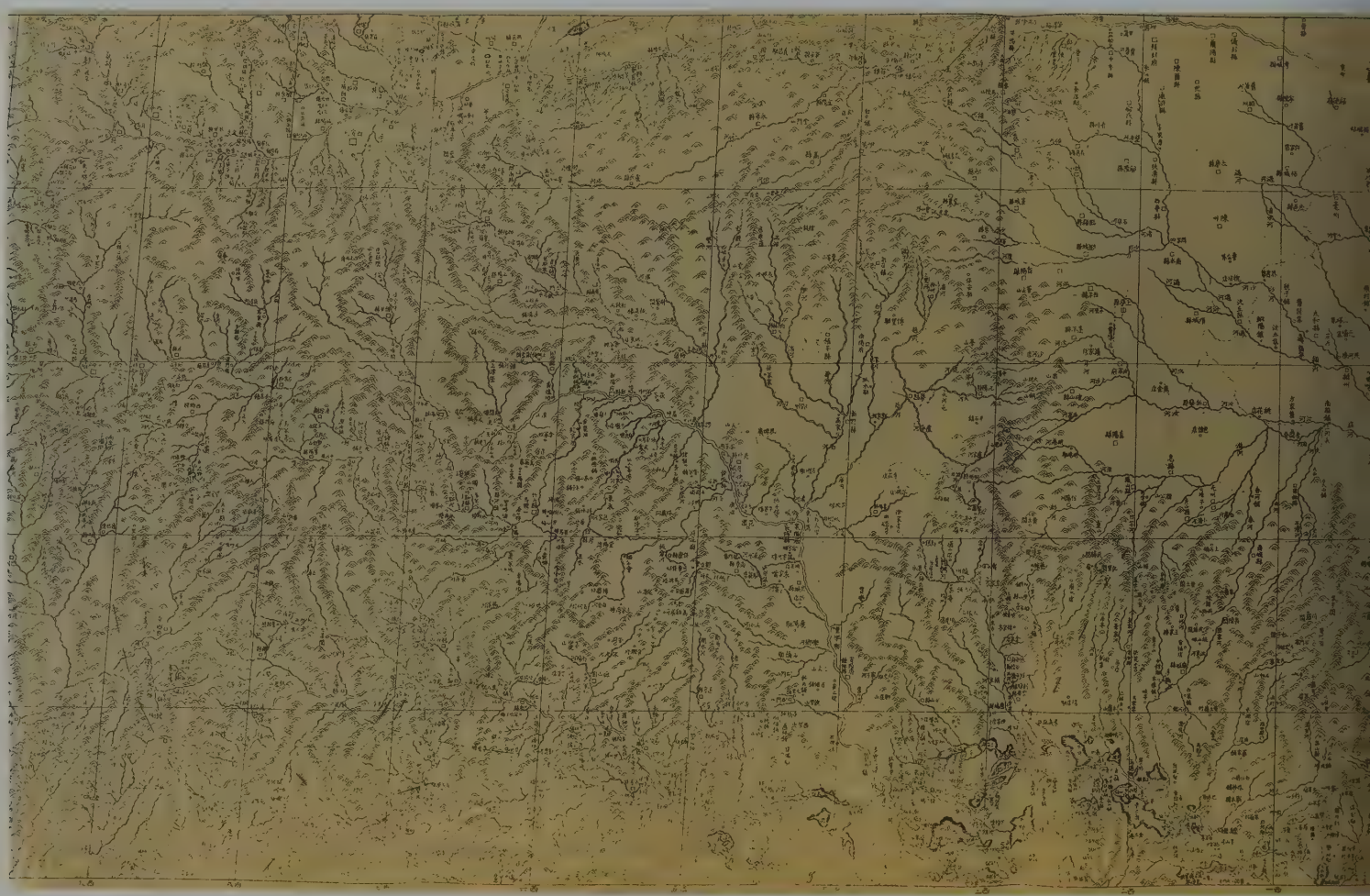
119 Detail of the Confidential Map of the Qing Empire (Kangxi, 1662–1722)



Representation of natural and man-made features, including relative locations, is quite accurate, except for the West Hunan and Southeast Guizhou areas, which might not have been covered by the surveys due to the fact that they were inhabited by ethnic minorities. Han Chinese is used for interior provinces, and Manchu for frontier regions.

This was the first Chinese map to adopt the longitude and latitude coordinate system based on the earth's sphericity, breaking away from the traditional Chinese concept of the earth. As it is of a much higher order of accuracy than previous maps it became a model for many subsequent Chinese maps.

◁



Surveys for the original map (then called the Complete Map of the Qing Empire, see 122, 124) were completed in 1717. The map was reprinted under the present name Qing Neifu Yitong Yudi Mi Tu, in 1929. Scale 1:1,400,000, comprising forty-one sheets, each 40cm by 67cm bound in book form (52.5cm by 77cm). Illustrated here are sheets No. 2 of Shandong and Liaodong Peninsula and No. 3 of Shanxi and Shaanxi both in the 4th row; sheets No. 3 of the Central Plains and No. 4 of Western Sichuan in the 5th row

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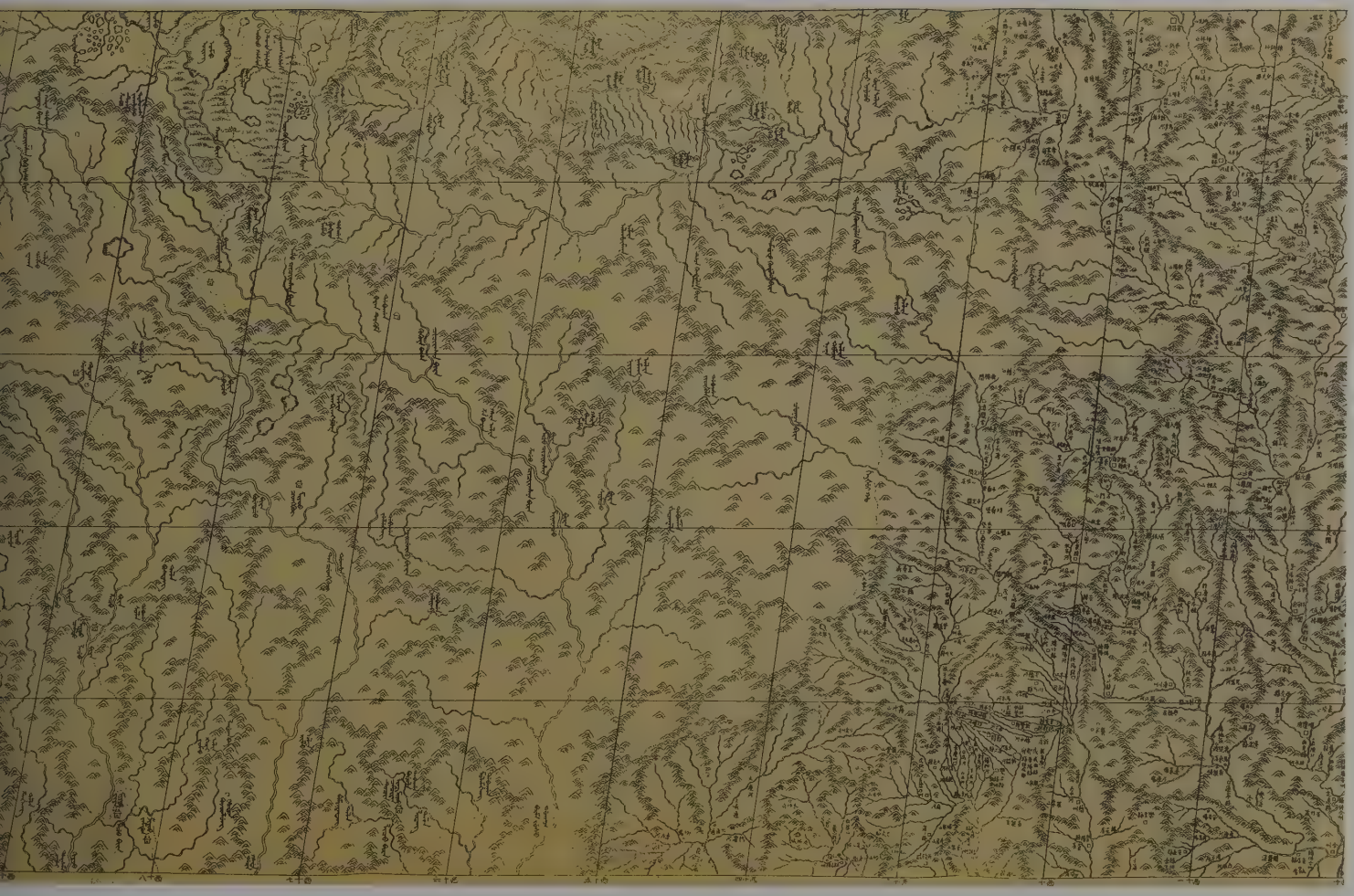

Map of Beijing City (120)

Beijing Huangcheng Gongdian Yashu Tu

Based on field surveys, the map covers the city proper with Daqing gate (now the site of Chairman Mao's Memorial Hall) in the south, Di'an gate in the north, Dong'an gate in the east, and Xi'an gate in the west. Shown in detail are the Imperial Palace, government office buildings, residential houses, streets and ditches. Also seen on the map are citizens' houses inside the gates of Dong'an, Xi'an and Di'an, which proves that the Ming and Qing layouts of the imperial capital city differed.

The map tells nothing about its maker or time of preparation, and carries no title. In 1750 it was used to prepare another complete map of Beijing. It was first stored in the Archives of the Cabinet.

120 Map of Beijing City
(Kangxi, 1662–1722)

Coloured map, painted on silk, 238cm by 178cm

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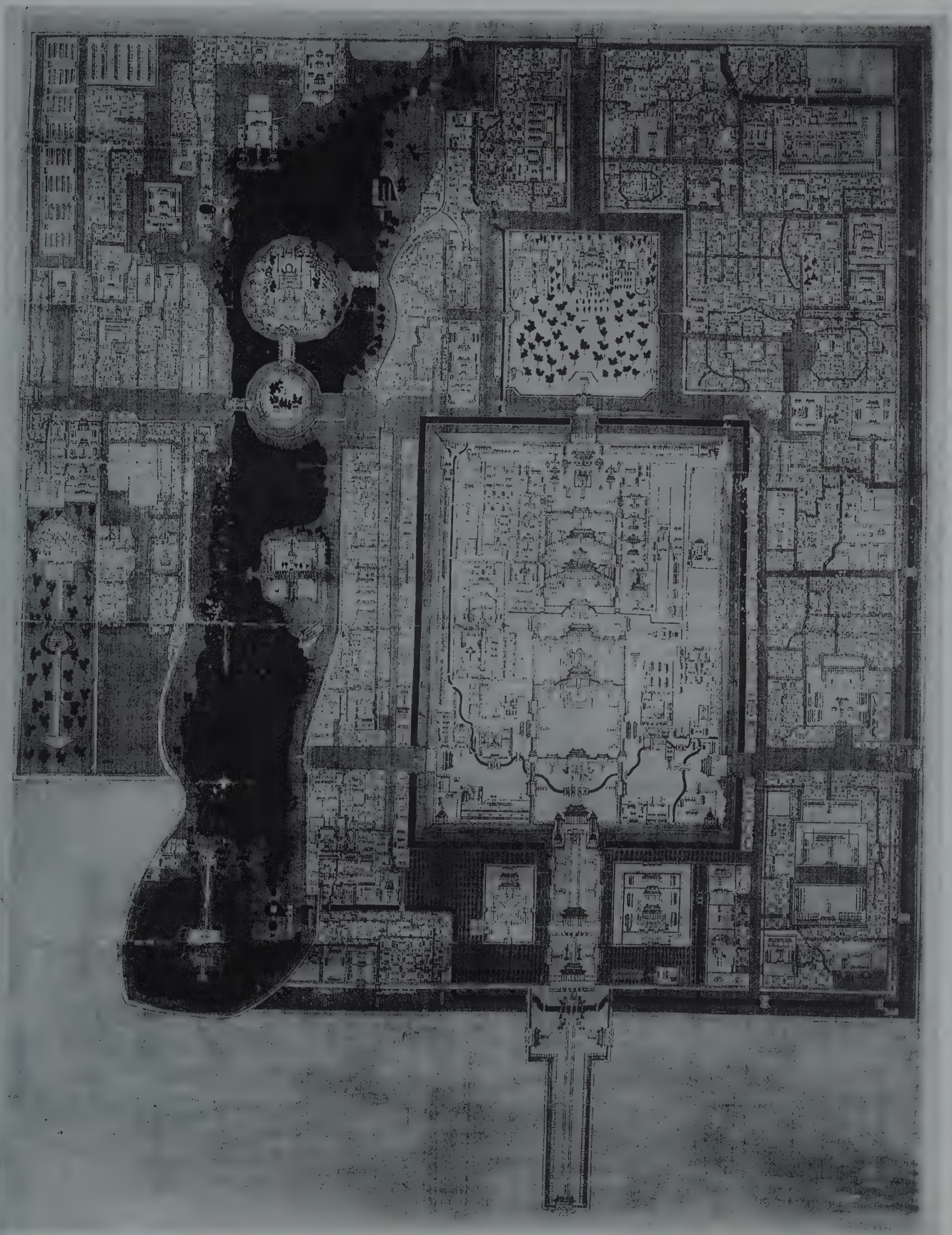

Complete Map of Shandong (121)

Shandong Quantu

Map of Tibet (122)

Xizang Tu

The original Complete Map of the Qing Empire (see 119), was printed from woodcuts and is very rare, these two maps are coloured facsimiles, based on transit surveys made in 1717.

The *Collection of Qing Maps* (*Da Qing Zhongwai Tianxia Yitong Quantu*) has no complete map of the country but twenty-eight provincial and regional maps in different sizes. Latitude lines are equidistant parallels, while longitude lines slant towards the North Pole except for the prime meridian, which runs through Beijing. Both the differences of latitude and longitude are half a degree.

The Complete Map of Shandong covers an area between longitude 1 degree West and 6 degrees East, and between latitudes of 35 and 38 degrees North. It was the first map to show a fairly accurate contour of Shandong Peninsula.

121 Complete Map of Shandong (Kangxi 1662–1722)

The Map of Tibet covers an area between longitudes of 16 and 28 degrees West, and between latitudes of 26 and 33 degrees North. As it was difficult to conduct field surveys in Tibet, the map was prepared by Tibetan cartographers based in China. Though the boundary line between Tibet and the interior is incomplete on the map, it was one of the earliest Tibetan maps in Han (Chinese) prepared in China.

Two of twenty-eight provincial and regional maps from the coloured facsimile of the Complete Map of the Qing Empire, 1718 (see 119, 124), from the Collection of Qing Maps (Da Qing Zhongwai Tianxia Yitong Quantu).
Map of Shandong 70cm by 116cm;
Map of Tibet 61.5cm by 96cm

BEIJING LIBRARY

122 Map of Tibet (Kangxi, 1662–1722)

Map of Russia (123)

Yiyu Lu Yu Tu

In 1712 Tu Lichen and others were ordered by Emperor Kangxi to pay a visit to the Turhuts, a tribe of nomadic Mongols who were staying on the lower reaches of the Volga river, north of the Caspian Sea. On their way, they made detailed records of what they saw, including the mountains, rivers, roads, resources and folk customs of various places. After returning to Beijing, *Notes of Foreign Lands* (Yiyu Lu) was compiled and published in both Chinese and Manchu languages in 1723; the map was placed at the beginning of the book.

It shows the eleven major rivers of Russia, which must have related to the team's journey. Also shown are general geographic features of Russia. The deficiency of the map is that it lacks place names.

The map was later collected in *A Complete Collection of the Four Branches of Literature* (Siku Quanshu, 1790).

123 Map of Russia
(Yongzheng, 1723–1735)

Attached to Notes of Foreign lands (Yiyu Lu), *compiled by Tu Lichen in 1723. Printed in black from the engraved plate, 25.6cm by 26cm*

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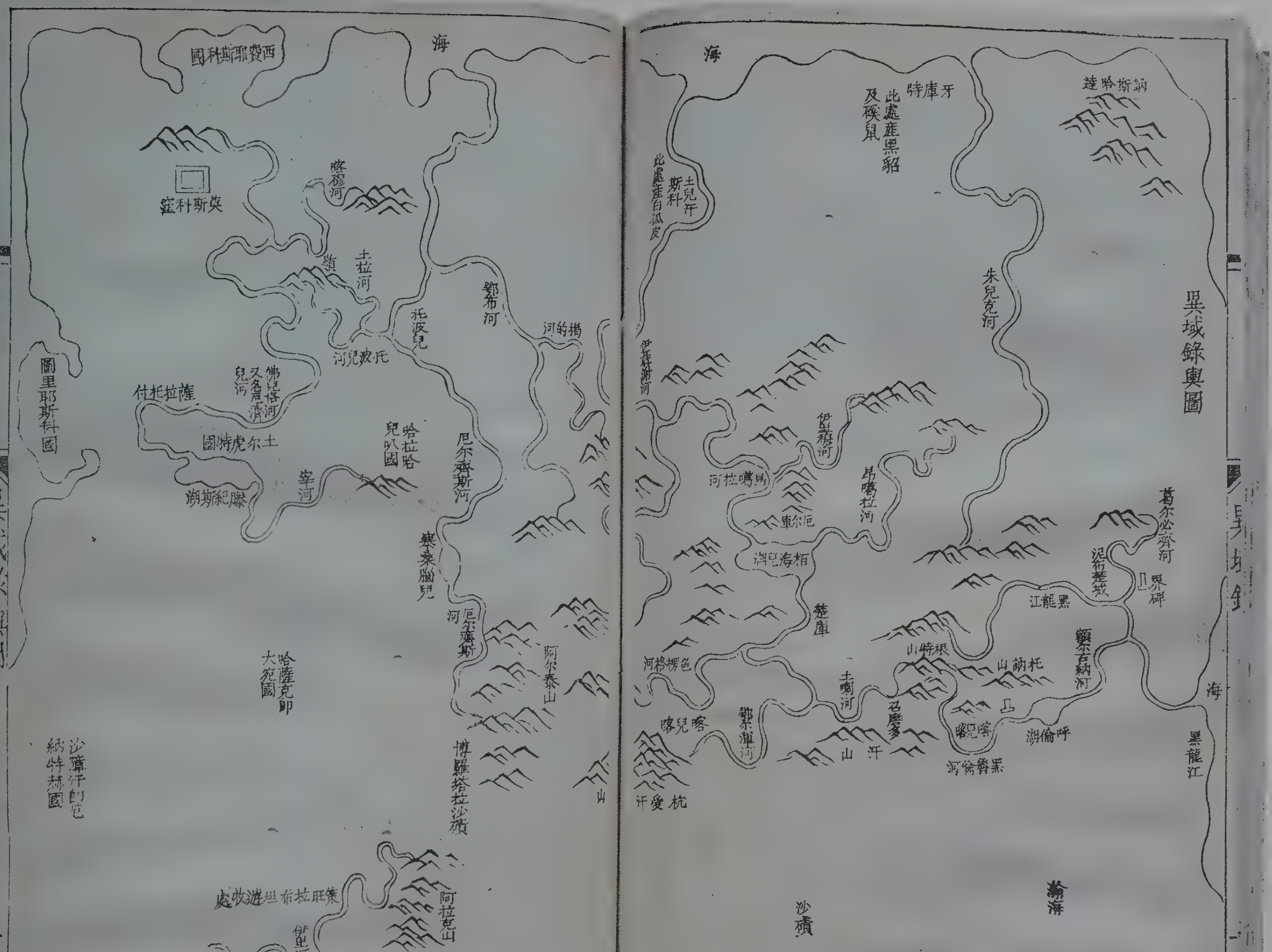

異域錄輿圖
海
京師
盛京
黃河
沙磧
瀚海
黑龍江
阿爾泰山
陽關
吐魯番

Qing Map of the Yongzheng Era in Ten Rows (124)

Yongzheng Shipai Huangyu Quantu

This revised edition includes information available from foreign maps, and covers a wider land area. It is more detailed in content: locations of natural and man-made features are fairly accurate; mountains and rivers delicately represented; place names neatly arranged and symbols scientifically designed.

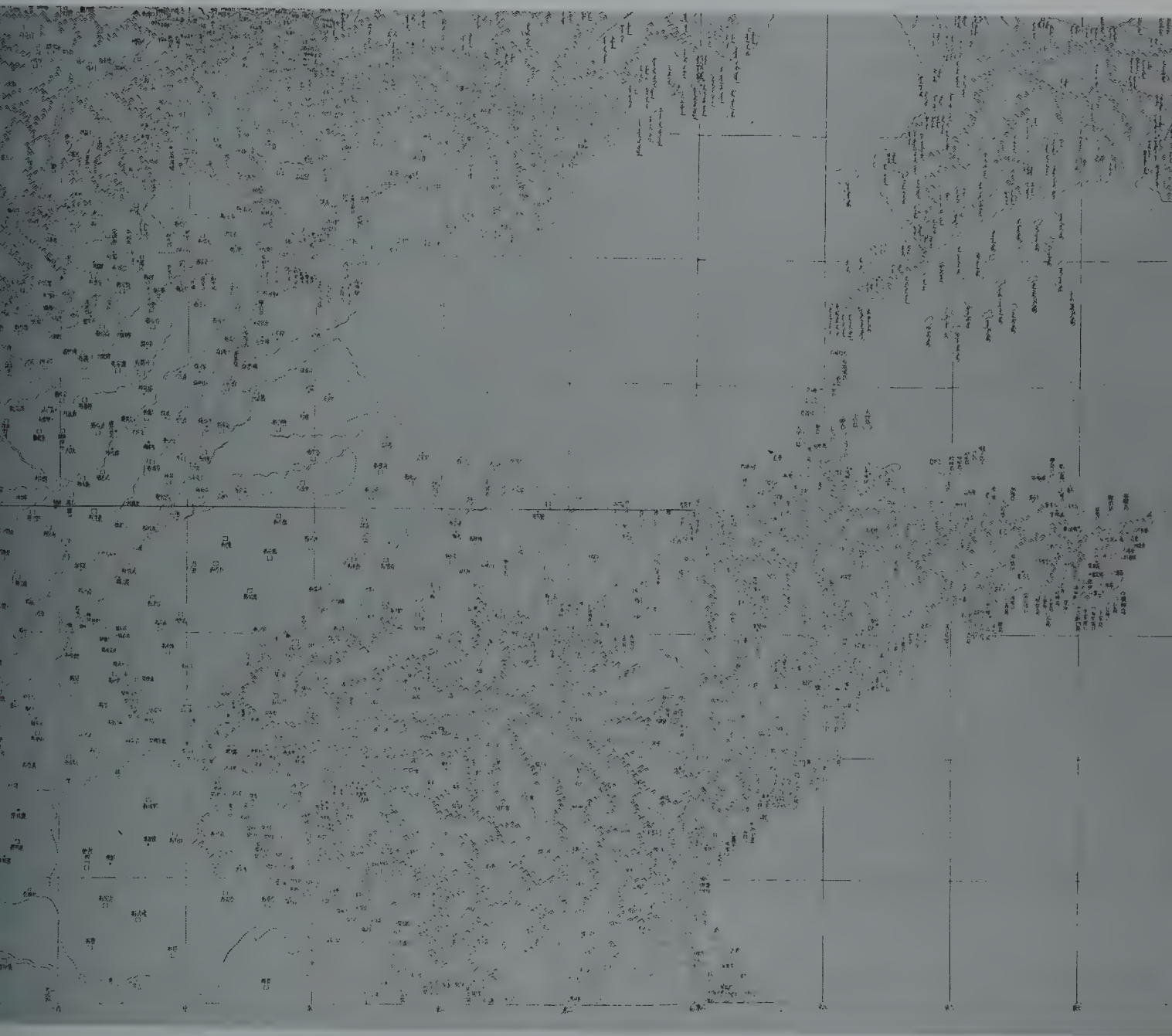
The map covers a vast area, with the Arctic Ocean in the north, Hainan Island in the south, the sea in the northeast, Taiwan in the southeast, and the Caspian Sea in the west. There are horizontal and vertical lines on the map, dividing it into squares. With the prime lines running through Bejing, vertical lines east of Beijing are numbered 1–30, west of Beijing, 1–92; and horizontal lines north of Beijing are numbered 1–41, south of Beijing, 1–39. The map is divided into ten equal horizontal rows, hence the name 'Qing Map in Ten Rows'. Marked (in Manchu) are places west of the Jiayuguan pass and in Qinghai, Tibet and western Sichuan, while place names in a vast area south of the Great Wall to Hainan Island are marked with Chinese characters.

In recent years various editions of the map have been found in the library of the Chinese Academy of Sciences, the First Archives of Chinese History and the library of the Palace Museum, which were prepared later in 1727, 1729 and 1730.

124 Qing Map of the Yongzheng Era in Ten Rows (Yongzheng, 1723–1735)

Revised edition of the Complete Map of the Qing Empire (see 119, 122), prepared in 1725; squared and divided into ten equal horizontal rows. Printed in black from the engraved plates

LIBRARY OF THE CHINESE ACADEMY OF SCIENCES



General Hydrographic Map (125)

Zong Tu

Hydrographic Map of Tai'an County (126)

Tai'an Xian

The *Hydrographic Atlas of Southwest Shandong* (*Shandong Shiqi Zhouxian Yunhe Quanyuan Tu*) features a section of the Grand Canal and water resources in the region. The atlas comprises one general map and seventeen prefectural and county maps, bound in folding leaves.

The general map shows the general topographic features and locations of the seventeen prefectures and counties, namely, the prefectures of Jining and Dongping, and the counties of Ziyang, Qufu, Ningyang, Zouxian, Sishui,

125 General Hydrographic Map
(*Qianlong*, 1736-1795)

Tengxian, Yixian, Yutai, Wenshang, Tai'an, Pingyin, Xintai, Laiwu, Feicheng and Mengyin.

The prefectural and county maps show the seats of prefectures and counties, mountains, major villages, springs, rivers, streams, bridges, dykes, dams and sluice gates.

Except for the general map, the leaves of the maps are divided into two parts, with the right carrying the map and the left, the explanatory notes.

Two of eighteen maps from the Hydrographic Atlas of Southwest Shandong (Shandong Shiqi Zhouxian Yunhe Quanyuan Tu) *prepared 1736 to 1795. Coloured maps painted on silk. General Map 26.5cm by 48.5cm; prefectural and county maps 26.5cm by 24.5cm*

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126 Hydrographic Map of Tai'an County (*Qianlong*, 1736–1795)

North Sky Chart (127a)

Bei Tian Xing Tu

Equator Chart (127b)

Chidao Xing Tu

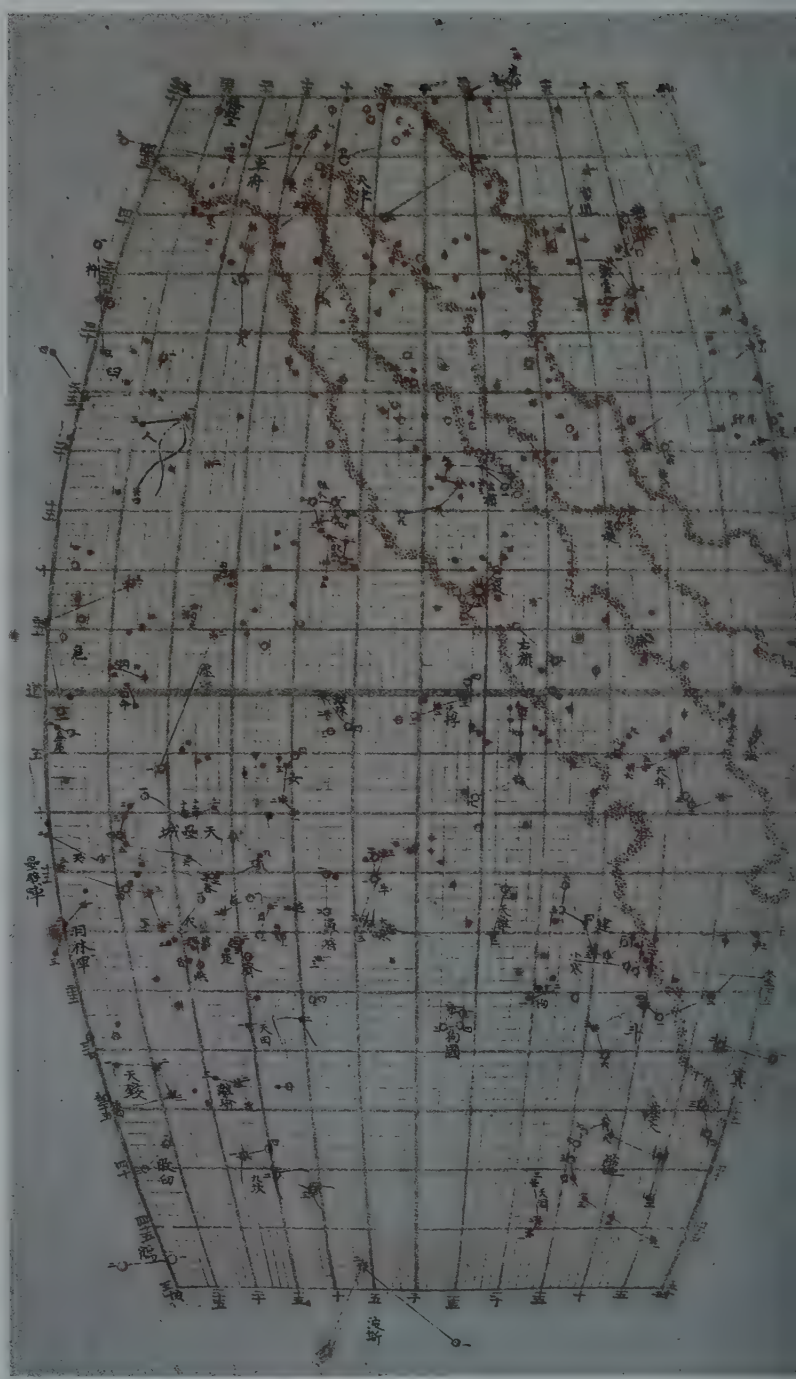
At the beginning of the *Sidereal Atlas* (*Hengxing Tushuo*, 1745) is an article by Chen Jie on the evolution of ancient star charts. To facilitate its use, the atlas divides the celestial sphere into eight areas, each with a chart. The two star charts of the North Sky and South Sky take the north celestial pole and south celestial pole as their centres respectively, covering an area of 40 degrees from each pole. The other six star charts each cover an area of 50 degrees north and south of the equator and 60 degrees east–west of the equator.

The atlas adopts the longitude and latitude of the equator as the coordinate system to determine the positions of stars, taking into consideration the precession of equinoxes affecting the nodes of the zodiac and the equator. The value of the precession of the equinoxes was 51 inches eastward a year, approaching the present-day scientific value of 50.2 inches, which shows that astronomical observations in China were particularly accurate. The period of westward movement of the nodes of the moon's path and the zodiac was 19 years, also approaching the present-day value of 18.6 years. The atlas records 3,083 stars of seven magnitudes, represented by red symbols of differing size and shape.

The circular North Sky Chart carries 402 stars in a network with one degree difference of declination and right ascension, and their positioning is quite accurate. The map orients north. The Plough within the Great Bear is distinctly represented. Each constellation carries its name, and stars in it are marked with numbers. The equator charts are barrel-shaped, and their orientation is east on the left, which facilitates southward observations.

Of all extant ancient astronomical charts, the *Sidereal Atlas* carries the largest number of stars. With scientific representation and reliable data, the atlas is of great academic and historical value.

127b Equator Chart
(Qianlong, 1736–1795)



127a North Sky Chart
(Qianlong, 1736–1795)

Two of eight charts from the Sidereal Atlas (Hengxing Tu) *in scroll form, painted on paper in red and black in 1745, 40cm by 438cm*

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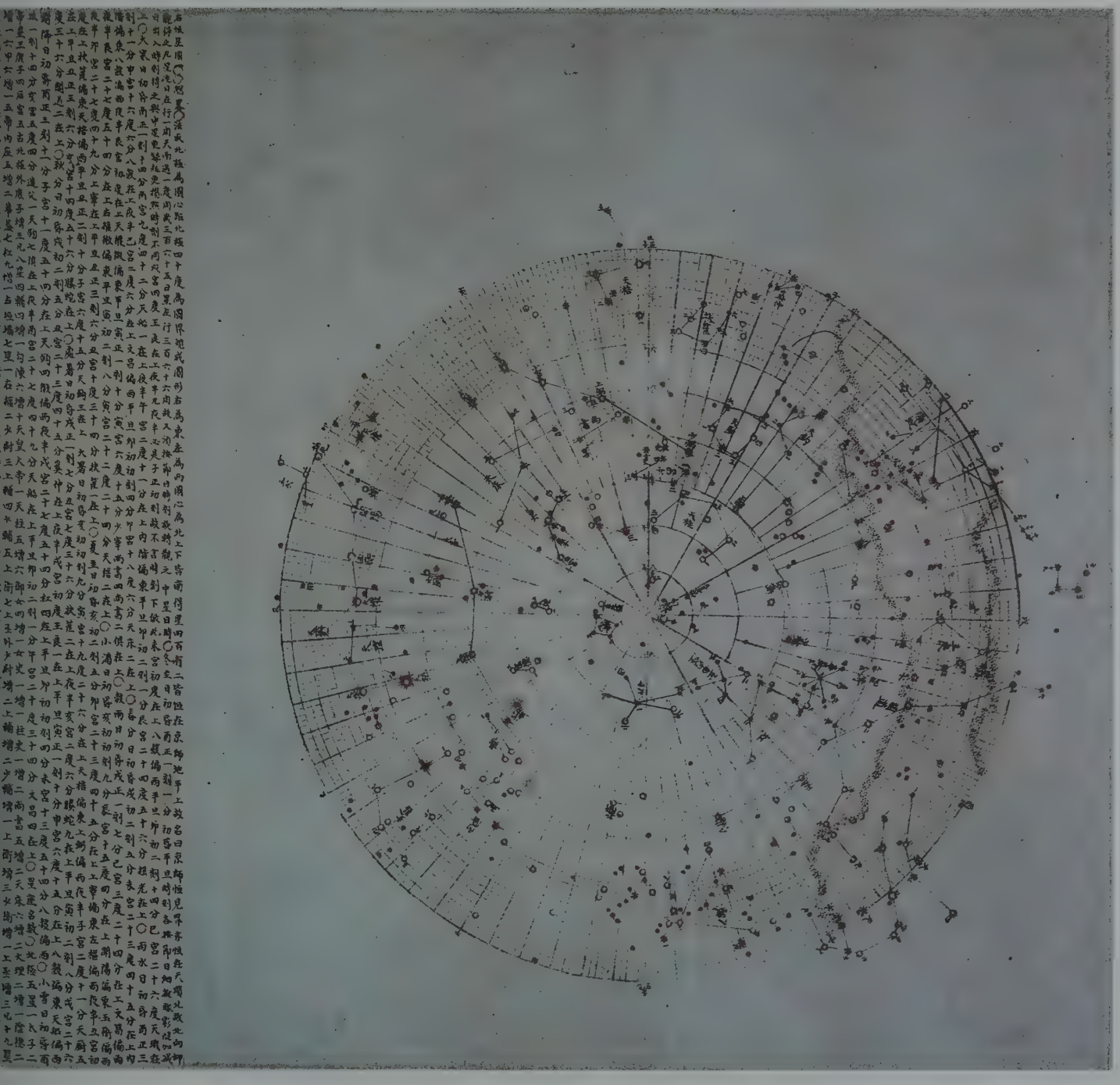


Complete Map of Beijing (128)

Jingcheng Quantu

The Complete Map of Beijing was the first large-scale map of urban Beijing prepared from field surveys. Supervised by Hai Wang, the project was carried out by a team of cartographers with the Jesuit Giuseppe Castiglione as the technical adviser and Shen Yuan in charge of technical training.

The immense map was cut into seventeen rows, and then folded into fifty-one volumes (each row in three volumes). Drawn in black, the map shows three-dimensional images of the city walls, gates, streets, lanes, palaces, government buildings, gardens, houses and ditches in their locations on the ground. Place names were given only to the city gates, palaces, gardens, government offices, residences of noble families, temples, memorial halls, and main streets, reflecting imperial interests.

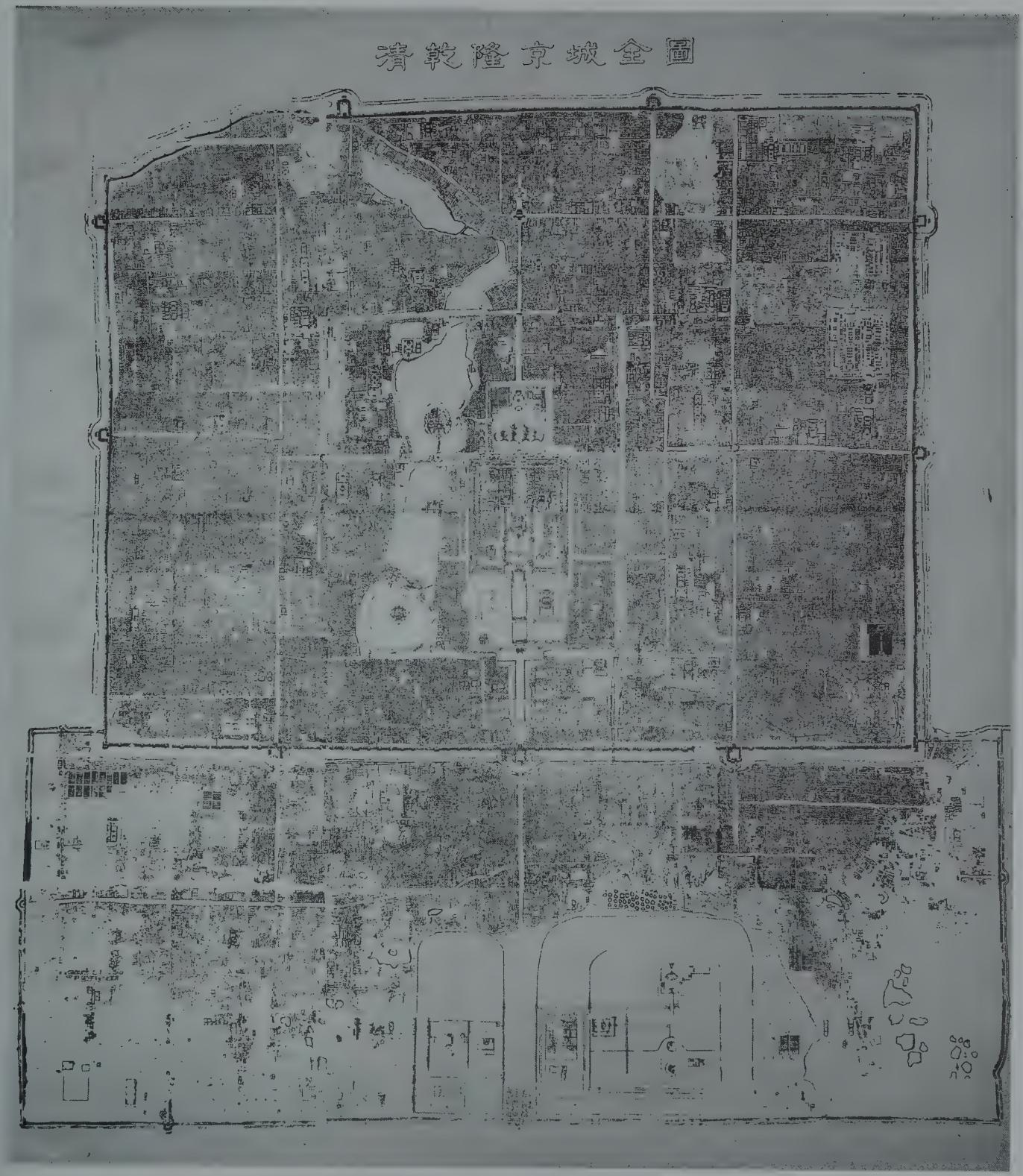
The map was kept confidentially in the Imperial Palace; it was discovered in the former imperial map library in 1935, and published in two versions, in reduced format, in 1940. Since then the map has been extensively quoted by historians, archaeologists, geographers and architectural scholars alike. It was the most authoritative map of Beijing in the mid eighteenth century, and the most valuable material for the study of Beijing's historical geography especially after 1949, when Beijing's town planners benefited a great deal from the information.

128 Complete Map of Beijing (Qianlong, 1736–1795)

Surveys began in 1745 and the map was completed in 1750. Drawn in black on paper, scale approximately 1:650, 1,414.4cm by 1,350.4cm, divided into seventeen rows and folded into book form

FIRST ARCHIVES OF CHINESE HISTORY, BEIJING

129 Details of the Complete Map of Beijing


清乾隆京城全圖

Sketch Map of Water Conservancy Projects in Henan (130)

Kaigui Chenru Sijun Zhihe Tu

Originally erected at Sanlidaokou village, Yongcheng county, Henan, the tablet records completed water conservancy projects in four Henan prefectures in the mid Qing period.

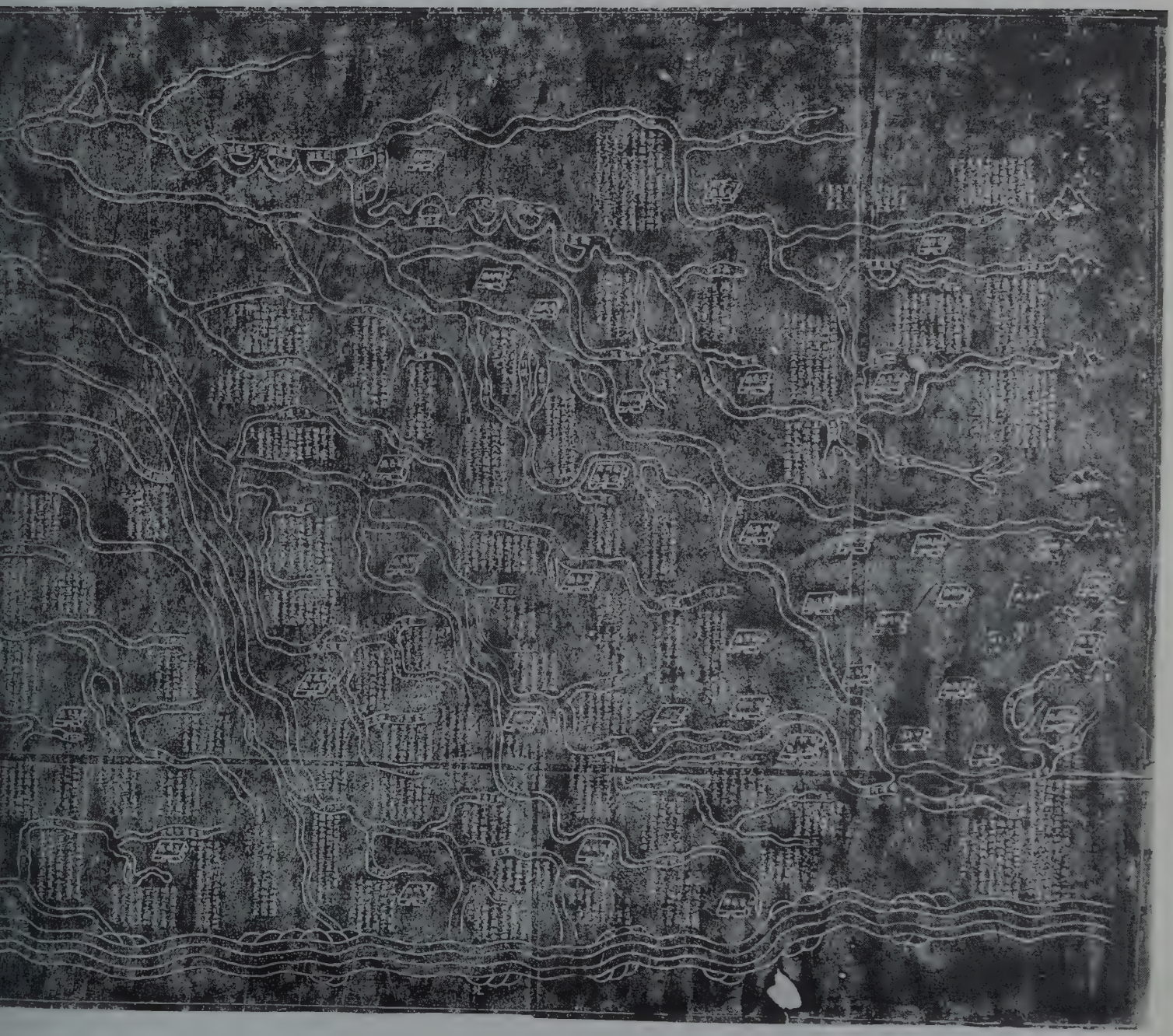
It carries an inscription by Hu Baoquan on the left and the sketch map on the right, and it orients south. The map covers forty-one counties in Henan, with the Ruhe and Qinhe rivers in the south, the Yellow river in the north, the provincial boundary in the east, and Mixian county (Zhenzhou) in the west. It shows the rivers in double lines, the dykes on the Yellow river in single thick lines, the hills in simple pictograms, and over forty seats of prefectures and counties. Explanatory notes on the map indicate places on the rivers, the width and depth of the ditches, and the civil engineering projects for harnessing each of the rivers. The map shows the situation of flooding due to the silting of the rivers in the prefectures of Kaifeng, Guide, Chenzhou and Runing, and the engineering programme for flood prevention.

The scales of various sections of the map are not identical, but the relative locations of the cities and rivers are correct. It is detailed with definite figures, which shows that the map was based on accurate surveys. Such a comprehensive sketch of water conservancy projects in the mid eighteenth century is rare.

130 Rubbing of the Sketch Map of Water Conservancy Projects in Henan (Qianlong, 1736–1795)

Taken from a stone tablet engraved in 1758 by Hu Baoquan, scale approximately 1:250,000, 88cm by 162cm

MUSEUM OF SHANGQIU CITY, HENAN



Qing Map of the Qianlong Era in Ten Rows (131)

Qianlong Shipai Huangyu Quantu

The map was prepared to show the changes of territory and political divisions in the Qing empire. It was printed in black from engraved plates in about 1759. Its area and nomenclature are roughly the same although it includes more geographic elements than the Yongzheng map (124), and its coordinate system, squaring and division into rows are identical, indicating that they are of the same series. Labels on the map carry Chinese translations of Manchu notes, affixed by later users.

131 Details of the Qing Map of the Qianlong Era in Ten Rows (Qianlong, 1736–1795)

Based on the Qing Map of the Yongzheng Era in Ten Rows (124), this map bears an identical squaring system. Printed in black circa 1759 from engraved plates. Illustrated here are two sheets showing Liaoning in the northeast and the Shanxi–Shaanxi–Gansu–Ningxia regions

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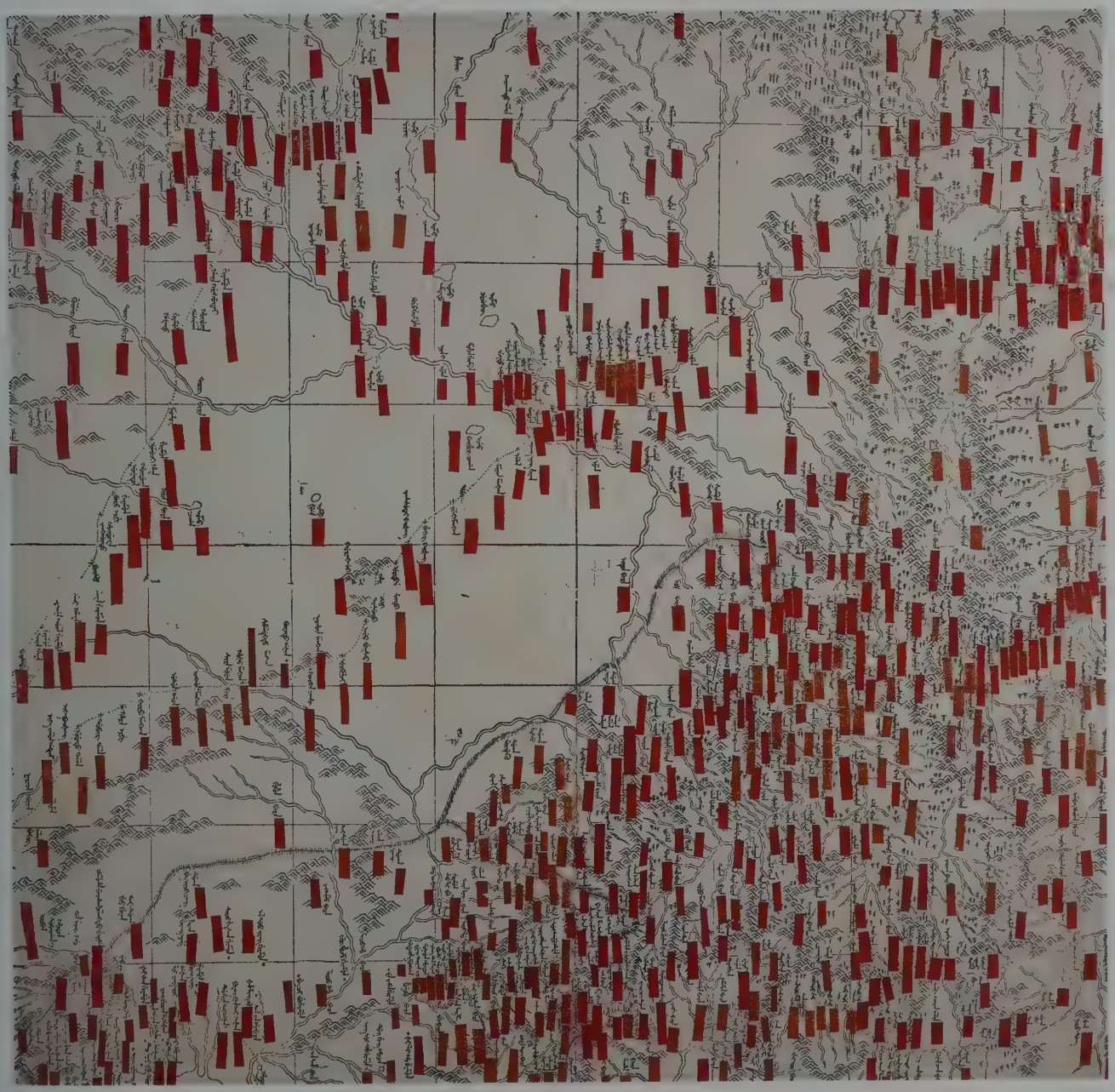

Qing Map of the Qianlong Era (132)

Qianlong Neifu Ditu

Completed after a survey was carried out in the region west of Hami in Xinjiang, and after the new map of Tibet. In 1775, copper plates for the map (104 in all) were made in France, and were kept confidentially at the Imperial Palace in Beijing. They were re-discovered by the Palace Museum in May 1925, and the map was reprinted in 1932.

Although based on the Kangxi Confidential Map of the Qing Empire (119), the Qianlong map covers twice its area, encompassing the Arctic Ocean in the north, Indian Ocean in the south, East China Sea in the east, and the Baltic, Mediterranean and Red Sea in the west. Though the coverage includes roughly the whole of Asia, the most detailed part is of Eastern China. The map is also divided into trapezial areas by meridians and parallels like the Kangxi map. The latitude lines are straight and parallel to the equator. The longitude lines, except for the prime meridian which crosses the parallels perpendicularly, slant towards the North Pole. The prime meridian runs through Beijing, but it was marked as one degree East and one degree West instead of zero degree; this was corrected in later editions. Compared with the Kangxi map, this is more detailed in content with somewhat different symbols.

The map was used by later cartographers as a base map in preparing maps of China and Asia.

132 Detail of the Qing Map of the Qianlong Era (Qianlong, 1736–1795)

Original map known as the Qing Map of the Qianlong Era in Thirteen Rows, each with a latitude difference of 5°; comprises 104 sheets printed from 104 copper plates made in 1775; reprinted in 1932, this map was completed in 1762, scale approximately 1:1,400,000

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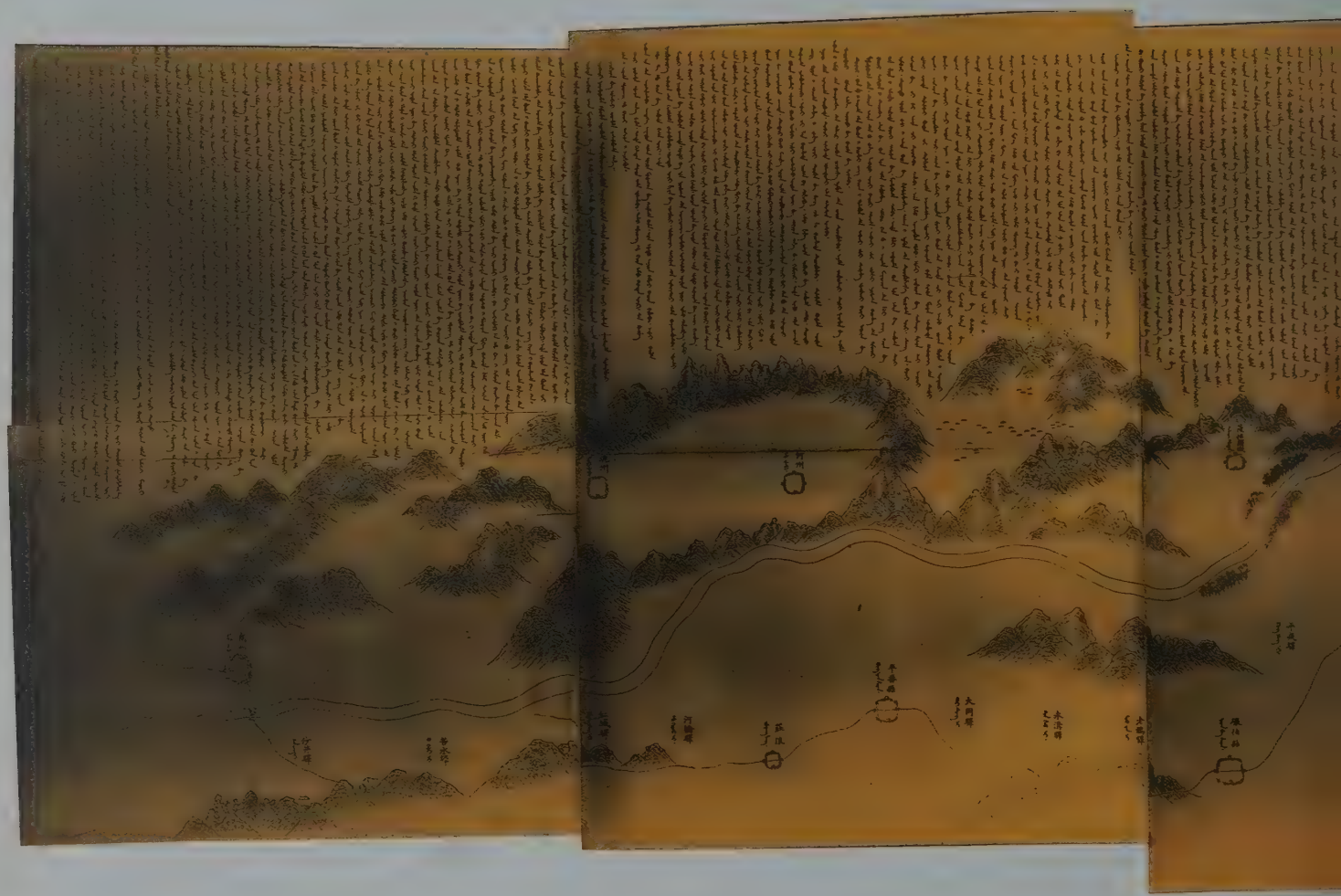
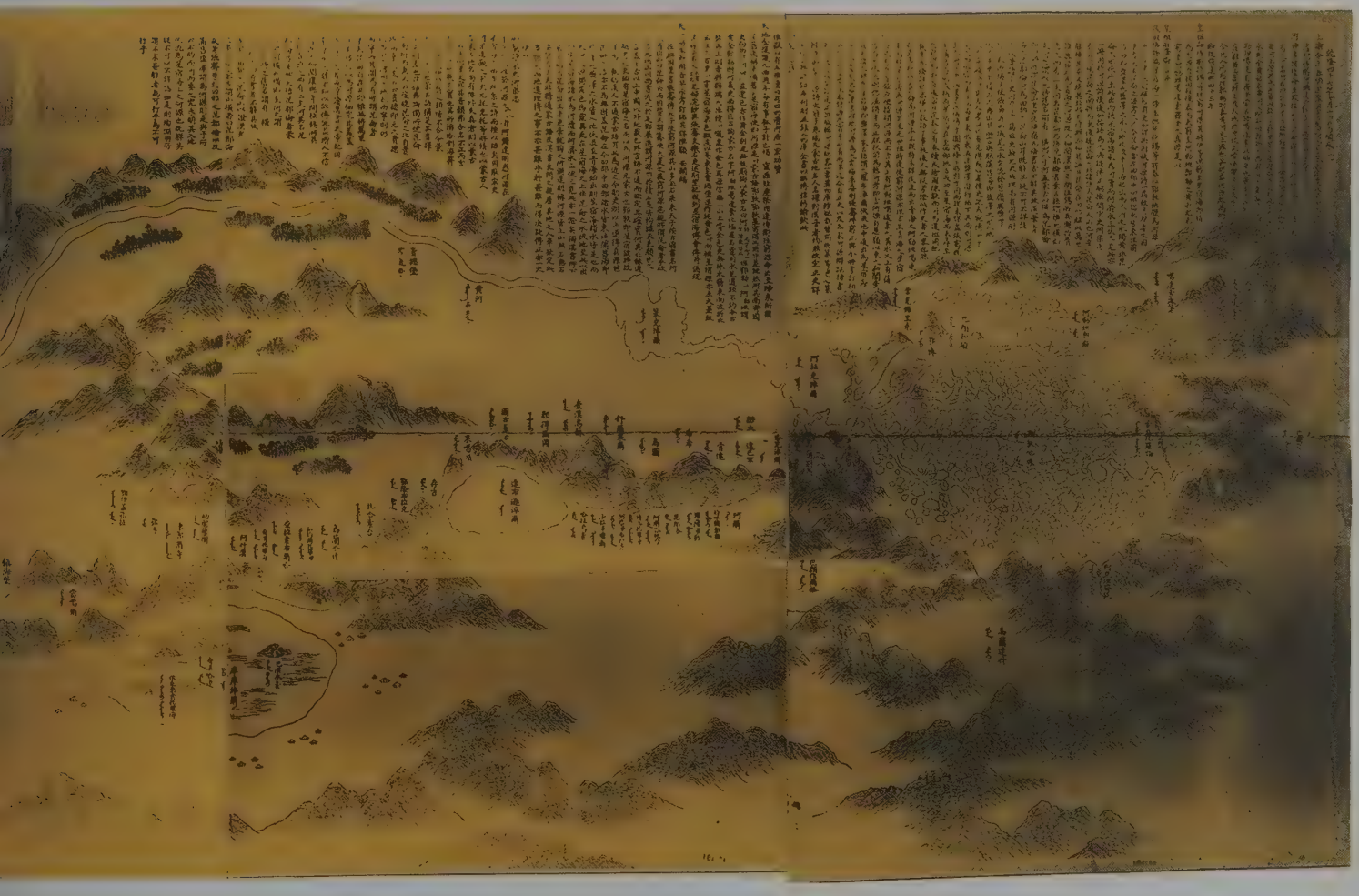
Chart of the Source of the Yellow River (133)

Huanghe Yuan Tu



This ancient chart gives a fairly accurate representation of the head of the Yellow river. In 1782 Ah Mida, an imperial officer, was ordered by Emperor Qianlong to 'find the River head and offer a sacrifice to the River God.' In the expedition he found that the head of the river was a tributary southwest of Xingxiuhai, a group of small lakes formed by the river. He recorded the findings and made this chart.

The chart is simple in content but shows the accurate locations of communities, lakes and posts for couriers, which are marked in Han and Manchu. There are quite a few place names west and southwest of Xingxiuhai, giving emphasis to the river head. On the upper part of the chart are words recording expeditions to the river head area and their findings in various dynasties.



133 Chart of the Source of the Yellow River (Qianlong, 1736–1795)

Chart drawn in black on paper by Ah Mida in 1782, 97cm by 250cm

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Complete Map of Taiwan (134)

Taiwan Dili Quantu

The prefecture of Taiwan was put under the administration of Fujian province by Emperor Kangxi in 1684. The map, therefore, is also known as the Complete Map of Taiwan in Fujian Province.

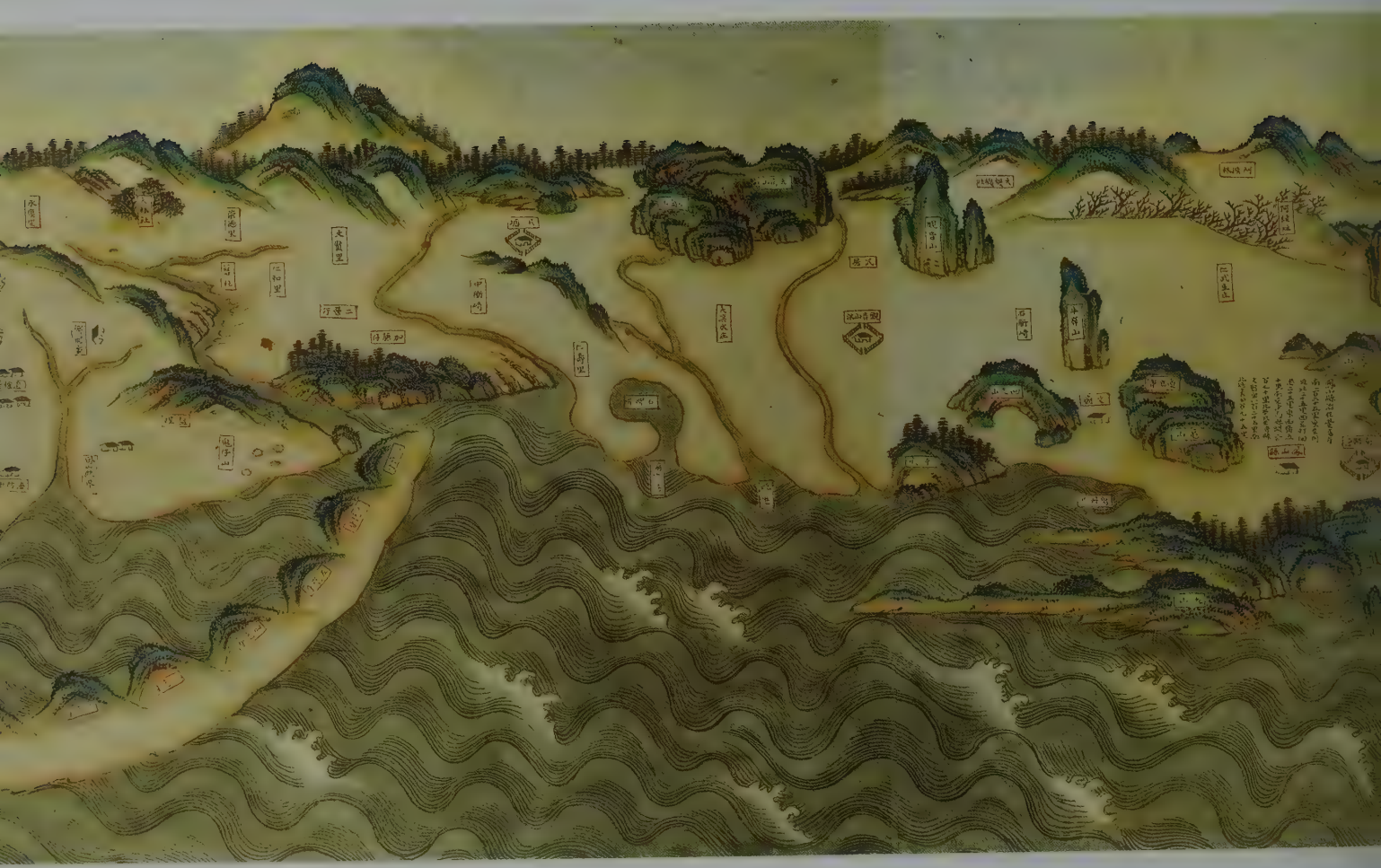
Following the traditional cartographic principle whereby land is depicted above sea, the map's top side represents east.

The map, extending from Jilongshan in the north to Hongtouyu and Xiao Liuqiushan in the south, focuses on geographic features in the western part of the island, including natural and man-made features, water systems, communities, the seats of the prefecture and its counties, ports, and areas inhabited by ethnic minority groups in the ▷

mountains. In addition, the map includes fortresses and other military installations, indicating that it must have served military purposes.

It has been proved that the map was compiled no later than 1787, making it one of the earliest extant hand-painted maps of Taiwan. ◁

◁



134 Complete Map of Taiwan
(Qianlong, 1736–1795)

Coloured map in scroll form, with an explanatory note dated 1763, painted before 1787, 39.5cm by 726cm

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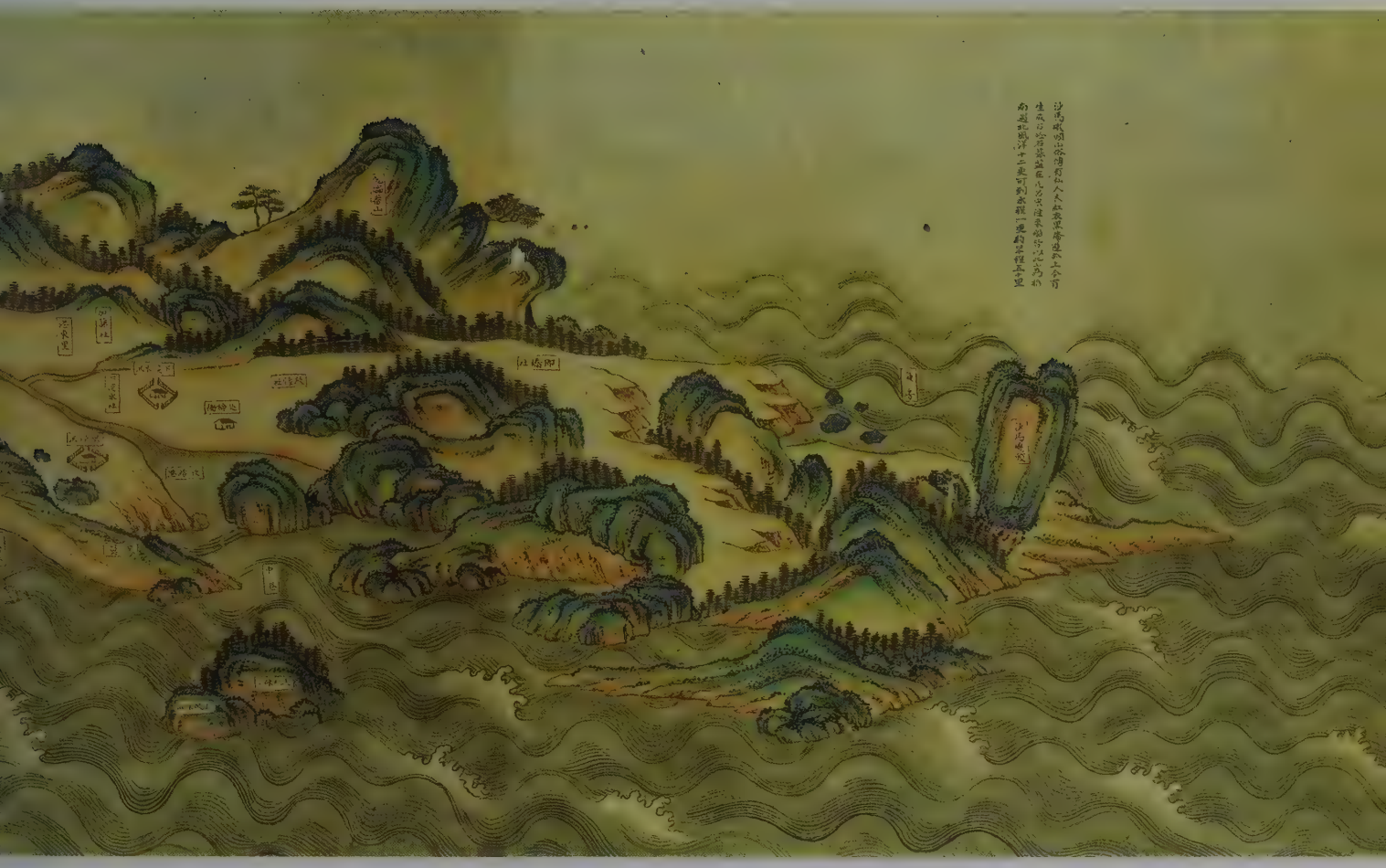

Complete Map of Shanxi Province (135)

Jin Sheng Yudi Quantu

Quite detailed in content, the map shows mountains, rivers, lakes, salt ponds, roads, posts, the Great Wall, passes, temples and other historic sites, seats of prefectural and county governments, and towns and villages. Mount Wutai (see 20), a sacred place of Buddhism in China, is prominently featured. In addition, the map also marks mileages from seats of county governments to the provincial capital, and carries notes on relevant major historical events.

135 Rubbing of the Complete Map of Shanxi Province (Qianlong, 1736–1795)

Taken from a stone tablet engraved by Li Baofu of Dingxiang in 1794, map 137cm by 62cm

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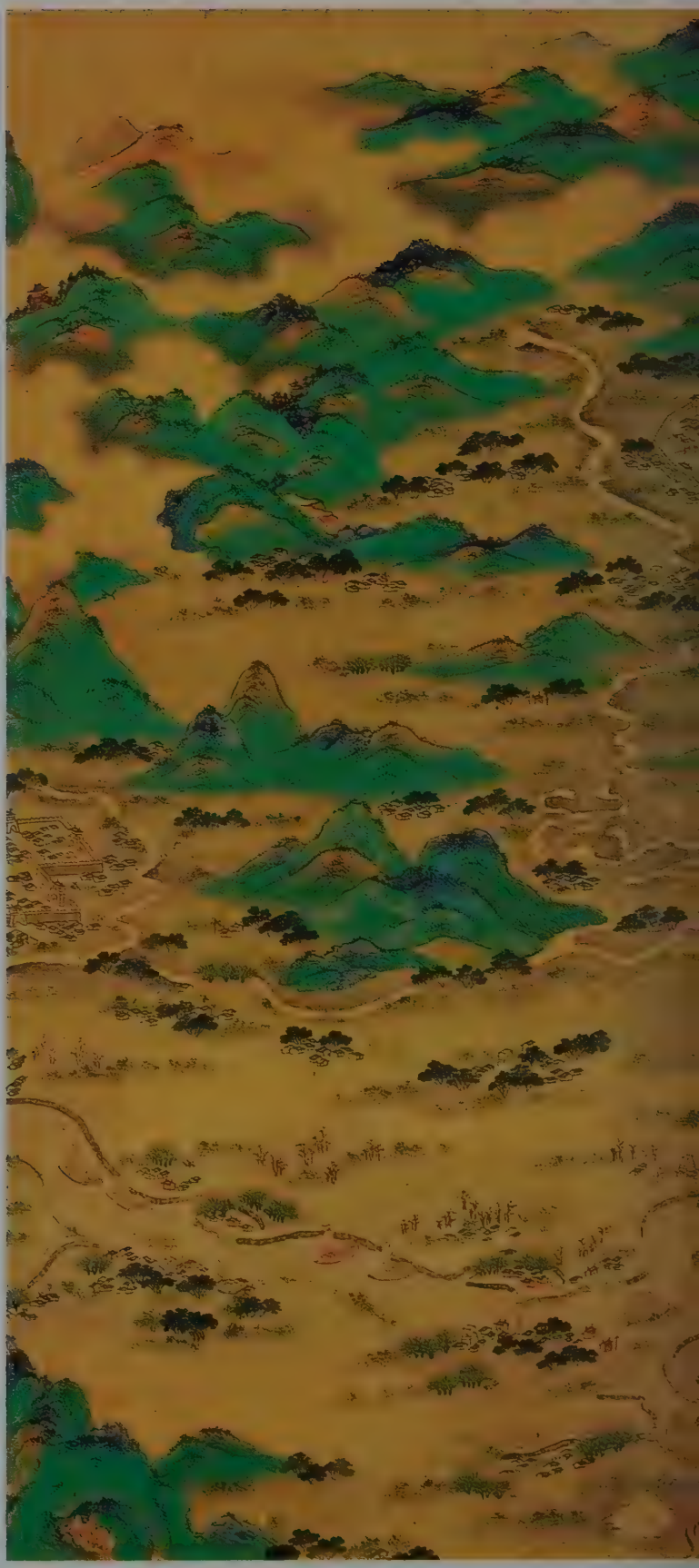
136 Detail of the rubbing of the Complete Map of Shanxi Province

Map of the Beijing-Hangzhou Grand Canal (137)

Jing-Hang Daoli Tu

The map is both a cartographic and a meticulous, detailed work of art. It accurately depicts geographic features and the scenery along the Grand Canal from Beijing to Hangzhou, and vividly portrays mountains, rivers, cities, bridges, boats on the canal, and people on its banks – boat trackers and passers-by. The names of cities, rivers and mountains are marked in gold.



137 Map of the Beijing-Hangzhou Grand Canal

Coloured map on silk in scroll form, painted in the mid Qing Dynasty, 78.5cm by 1,783.6cm

ZHEJIANG PROVINCIAL MUSEUM

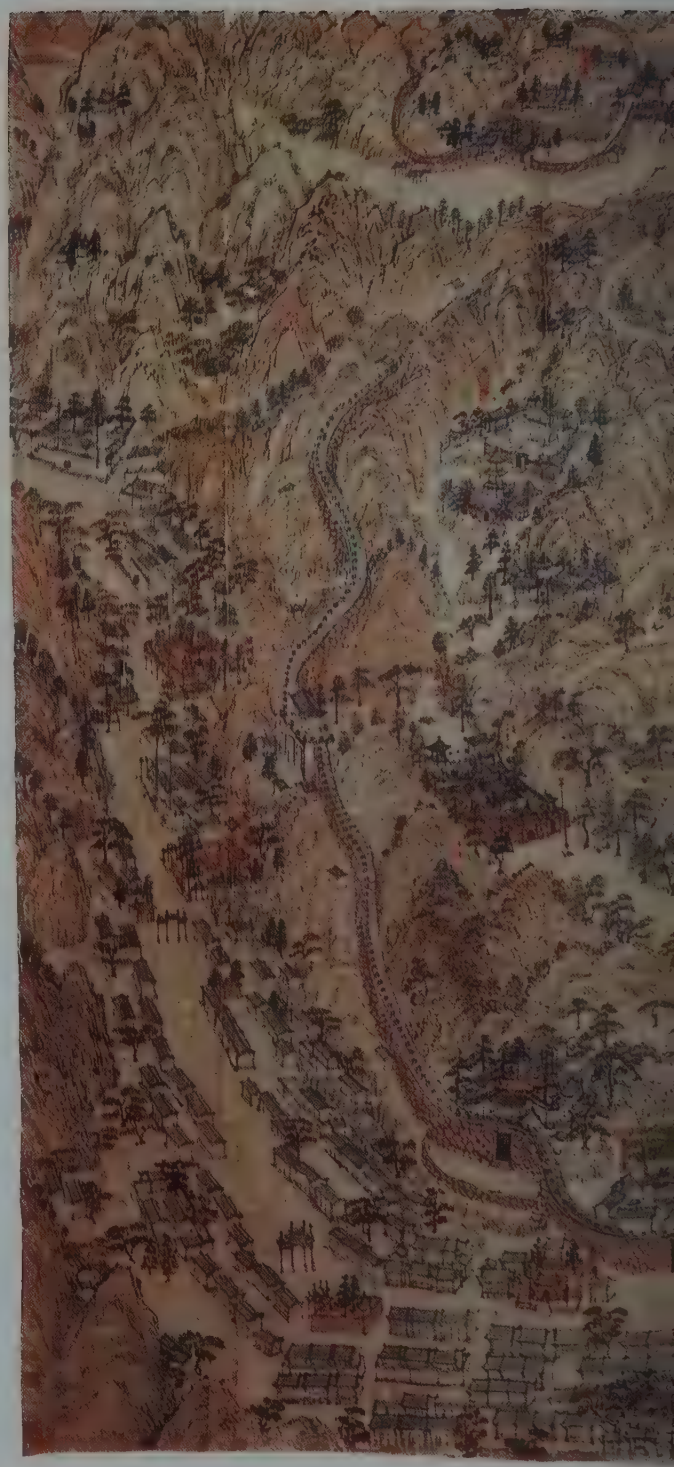
Complete Map of the Summer Resort (138)

Bishu Shanzhuang Quantu

The Complete Map of the Summer Resort is a thematic map of the Imperial Summer Palace.

Located in Chengde (a city in Hebei), the Summer Resort or the Imperial Summer Palace covers an area of 5.64 sq. km. Its construction began in 1703 during the reign of Emperor Kangxi and was completed in 1792. It claims excellent scenery, with peaks of various shapes and seventy-two scenic spots around it named by Emperors Kangxi and Qianlong. From the late Kangxi era to the Xianfeng era (1851–1861), the Qing emperors stayed and handled state affairs here in summer, turning the Summer Resort into the second political centre after the Imperial Palace in Beijing. Besides the Summer Resort, there used to be eleven temples and various pavilions in different architectural styles, which served as residences for leaders of ethnic minority groups when they came to be received in audience by Qing emperors. Although only eight temples are still standing, the Imperial Summer Palace is now one of the best tourist attractions in China, and as a site of cultural heritage is under State protection.

The map gives a panoramic view of the Summer Resort, the eight temples and other scenic places nearby. With vivid, brightly coloured graphic images printed in the traditional style, the artist successfully managed to represent all the features in a very limited space.



138 Complete Map of the Summer Resort (Qianlong, 1736–1795)

Coloured map on paper in scroll form, painted by Qian Weicheng of Wujin, 141.5cm by 224cm

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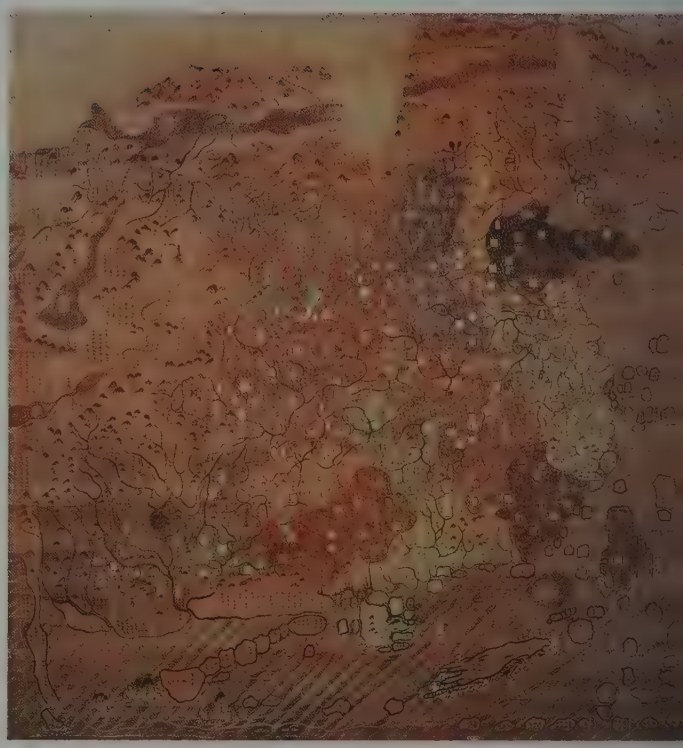
Map of the Everlasting Unified Qing Empire (139)

Da Qing Wannian Yitong Tianxia Tu

Huang Chengsun's original map of 1767 used a grid to show the scale. The style of this map is similar, including the symbols used, but it has no grid and there are some differences in political divisions such as prefectures and counties. The area covered by the map extends to the Yinshan mountain in the north, the Liaohe river valley in the northeast, the head of the Yellow river in the west, and the seas in the east and the south. The map uses vivid wave symbols for the sea area and bears more detailed explanatory notes than Huang's map. Provinces are tinted in different colours for the first time in the history of Chinese cartography; this exerted great influence over later political maps.



139 Map of the Everlasting Unified Qing Empire (Jiaqing, 1796–1820)

Based on a map prepared by Huang Zhengsun in 1767. Coloured map painted by Xiaofeng in 1800, 112.8cm by 108cm

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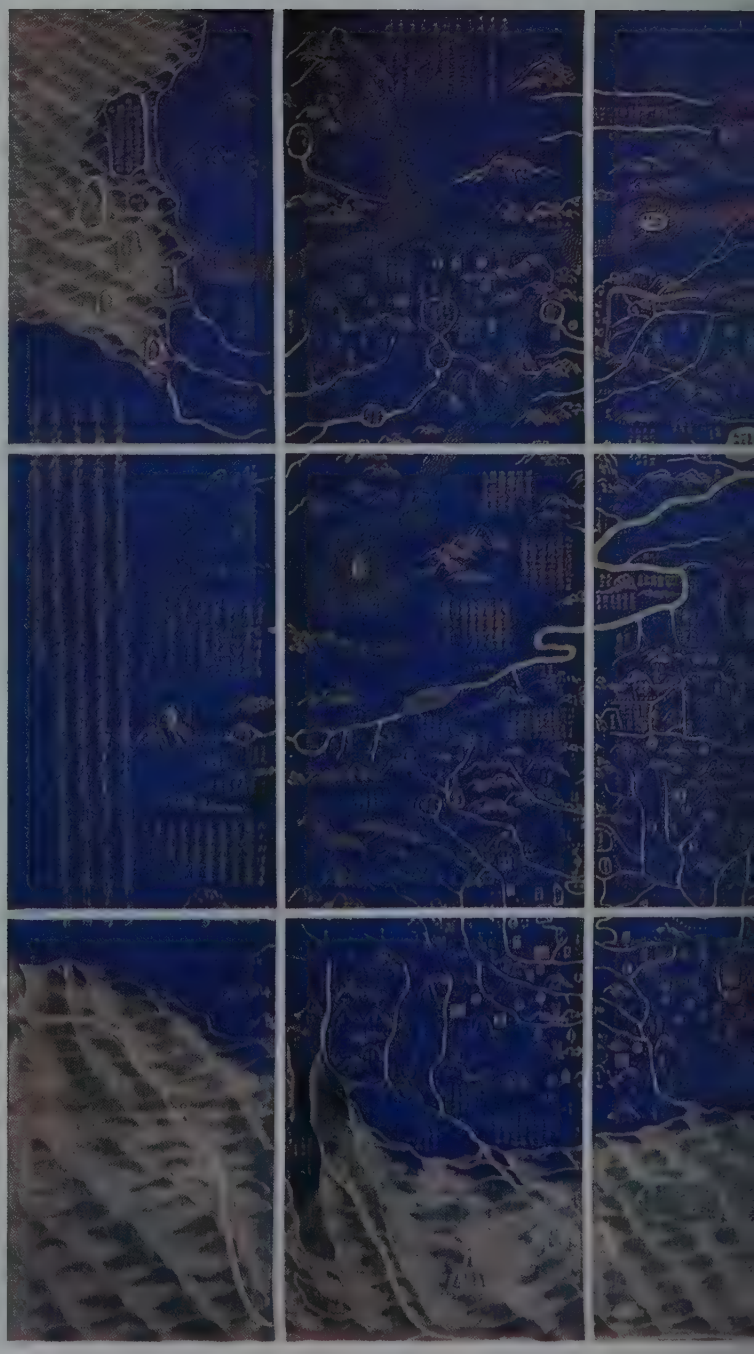
140 Detail of the Map of the Everlasting Unified Qing Empire ▷

Complete Map of the Everlasting Unified Qing Empire (141)

Da Qing Wannian Yitong Dili Quantu

The map was printed in two-colour process printing; the white squares seen on the map are the joining lines of the twenty-four sheets.

The map gives a prominent portrayal of the Yellow river, with the river's source located correctly. An explanatory note on the map says, 'The River comes from the Bayan Har mountain . . . There are numerous springs at its source, scattering like stars. The water flows together to form the two lakes of Gyaring and Ngoring'. The Minjiang river is taken as the source of the Yangtze. Islets in the South China Sea are marked as Wanlishitang. Also denoted in detail are the administrative divisions of the Qing empire, such as provinces, prefectures and counties, as well as natural and man-made features like the Great Wall and Dongting lake. On the borders of the map are marked Congling (a general name in ancient times for the Pamir plateau, the Kunlun, Karakorum and other mountains in the west), the sea in the west, Russia, India, Siam, Japan and Korea.



141 Complete Map of the Everlasting Unified Qing Empire (Jiaqing, 1796–1820)

Based on Huang *Zhengsun's* map of 1767 (139, 140), but enlarged in format. Prepared by Huang Qianren of Yuyao in Zhejiang in 1810. Printed in two-colour process printing, 24 sheets, 134cm by 236cm

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大清萬年一統地理全圖

Sketch Map of the Earthquake Aftermath in Shanxi (142)

He Dong Beizai ge Zhouxian Qingxing Tu

The map shows the consequences of an earthquake that hit Pinglu and neighbouring counties east of the Yellow river in 1815. It carries labels noting the consequences in various localities. A label note for Pinglu county states that the earthquake 'hit 252 villages. Deaths resulting from the quake totalled 8,793. The walls surrounding the county seat measure 1.25km, and ruined are one third respectively of the walls, crenels and watchtowers. Also destroyed in the quake are thirty-two of the eighty-four rooms of the Confucius Temple, seven of the ten rooms in the prison building, and seven of the forty-four rooms of the County Academy. Each of the county government departments lost seven or eight to twenty or thirty rooms in their buildings.' This note alone is enough to show the seriousness of the earthquake.

The counties and towns are represented by pictograms. The Zhongtiao mountain and the salt ponds in Xiezhou are depicted in the traditional graphic style. The Yellow river is tinted yellow, and roads between counties and towns are drawn in red dotted lines with mileages marked.

As China is frequently hit by earthquakes, there is a great amount of information about them but rarely in map form.

142 Sketch Map of the Earthquake Aftermath in Shanxi (Jiaqing, 1796–1820)

Prepared in 1815 as an appendix to a memorial submitted by Na Yanbao to Emperor Jiaqing, the map shows the consequences of the earthquake in Pinglu, Shanxi. Coloured map painted on paper, 48cm by 52cm

FIRST ARCHIVES OF CHINESE HISTORY, BEIJING


南
河南陝州界
河南靈寶縣界
河南閿鄉縣界
黃河
陌底鎮
芮城縣
陝西潼關界
平陸縣
茅津渡
中條山
至芮城縣四十里
至平陸縣二十里
解州
安邑縣
運城
蒲州府永濟縣
大慶關
夏縣
猗氏縣
聞喜縣
西

Map of Mulan Hunting Field (143)

Mulan Tu Shi

The Mulan hunting field was set up in 1681. Enclosed by fences made of willow branches, the field was 650km in perimeter – about 100km north to south and 150km east to west. The field was divided into seventy-two sections according to topographic features and had two gates, Dongyakou and Xiyakou. From the Kangxi to the Jiaqing era, Qing emperors went hunting in the field in August each year. After the reign of Emperor Daoguang (1821–1850), hunting trips were abandoned as the Qing empire was in decline. In 1876, during the reign of Emperor Guangxu (1875–1908), the area was designated Weichang subprefecture and in the early years of the Republic, it became Weichang county.

The map shows the hunting field in its prime, covering its hills, roads, palaces, temples, sentry posts, barracks, residential areas and headquarters; place names are all in Manchu.

143 Map of Mulan Hunting Field (Jiaqing, 1796–1820)

Coloured map on paper, painted by Qing Xing, circa 1820, 52.4cm by 56.6cm

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Map of Luoyang County (144)

Henan Fu Shiyi Tu

The *Atlas of Henan Prefecture* (Henan Fu Shiyi Tu, 1796–1820) contains ten maps brightly painted on silk depicting the counties under Henan prefecture namely, Luoyang, Yanshi, Yiyang, Xin'an, Gongxian, Mengjin, Dengfeng, Yongning, Mianchi and Songxian, all clearly marked.

In the Qing Dynasty, Luoyang city was the seat of Henan prefectural government, and Luoyang county occupied the area around the city. The map shows Luoyang city in the centre, giving prominence to the city walls, prefectural and county government buildings, and important temples. The Luoshui river runs from west to east to the south of the city, with its tributaries such as the Jianshui and Chanshui joining it. Parallel to the Luoshui in the south is the Yishui river. Also shown with delicate, vivid images are a dozen hills, including the Mangshan, Gucheng, Qinshan, Fenghuang, Yuquan, Qingfeng and Xiangshan, marked with their directions and distances in miles to the seat of the county government, and important temples and ancient tombs in the county. All major features on the map are accompanied by notes. Of most interest is the area of 'ancient Luoyang city.'

144 Map of Luoyang County (Jiaqing, 1796–1820)

One of ten coloured maps painted on silk, depicting each of the ten counties under Henan prefecture from the Atlas of Henan Prefecture (Henan Fu Shiyi Tu), *each map* 50cm by 57.5cm

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Complete Map of the Unified Qing Empire (145)

Huangchao Yitong Yudi Quantu

The map comprises sixty-four sheets, divided into eight rows each covering a latitutde of 5°30′. Engraved and printed by two-colour process printing, the map shows longitude and latitude lines and symbols for communities in red, and other elements in black.

The map was compiled from two maps of the Qing empire made in the Kangxi era (119) and in the Qianlong era (132), with new data added. A comparison of the area between Qingyuan and Jinghai in the north and Anping and Nanpi in the south shows that this map includes only communities at and above the county level, and adds Wen'an county in Shuntian, which is missing on the Qianlong map. There are also some differences in the water systems: there are twenty-three rivers and tributaries on the Qianlong map, while there are only fifteen on this map. Xidian lake remains much the same, while Dongdian lake shows major changes in shape and size, with the northern Grand Canal separated from it, and the Yongding river, which used to flow into the lake, directly linked with the northern Grand Canal.

The map uses both a grid and the longitude and latitude system. An explanatory note by Li Zhaoluo says, 'The base map adopts the celestial longitude and latitude, with one degree representing 100km on the ground. However, as the parallels are straight but the meridians slant towards the North Pole, they cannot be used to measure distance conveniently and accurately . . . Now the grid system is also adopted on the map, with each side of the squares representing 50km, so that distance can be easily measured.

The parallels and meridians are rendered in dotted lines so as to facilitate astronomical observations. The latitude difference is half a degree, which represents 50km on the ground . . .' In adopting such a dual division system, the cartographers took into consideration the making and use of the map as well as the requirements of both astronomical observations and geodetic surveys. Such a practice marked a new development in Chinese cartography, and it was widely adopted until the early years of the Republic.

Illustrated here are two sheets representing Shandong peninsula and Central China.

145 Details of the Complete Map of the Unified Qing Empire (Daoguang, 1821–1850)

Compiled by Dong Fangli and Li Zhaoluo in 1832, comprising sixty-four sheets. Illustrated here are details from two sheets, printed in two-colour process printing from engraved plates, scale approximately 1:2,700,000, with each square representing 2500 sq. km, each sheet 27.7cm by 20.3cm

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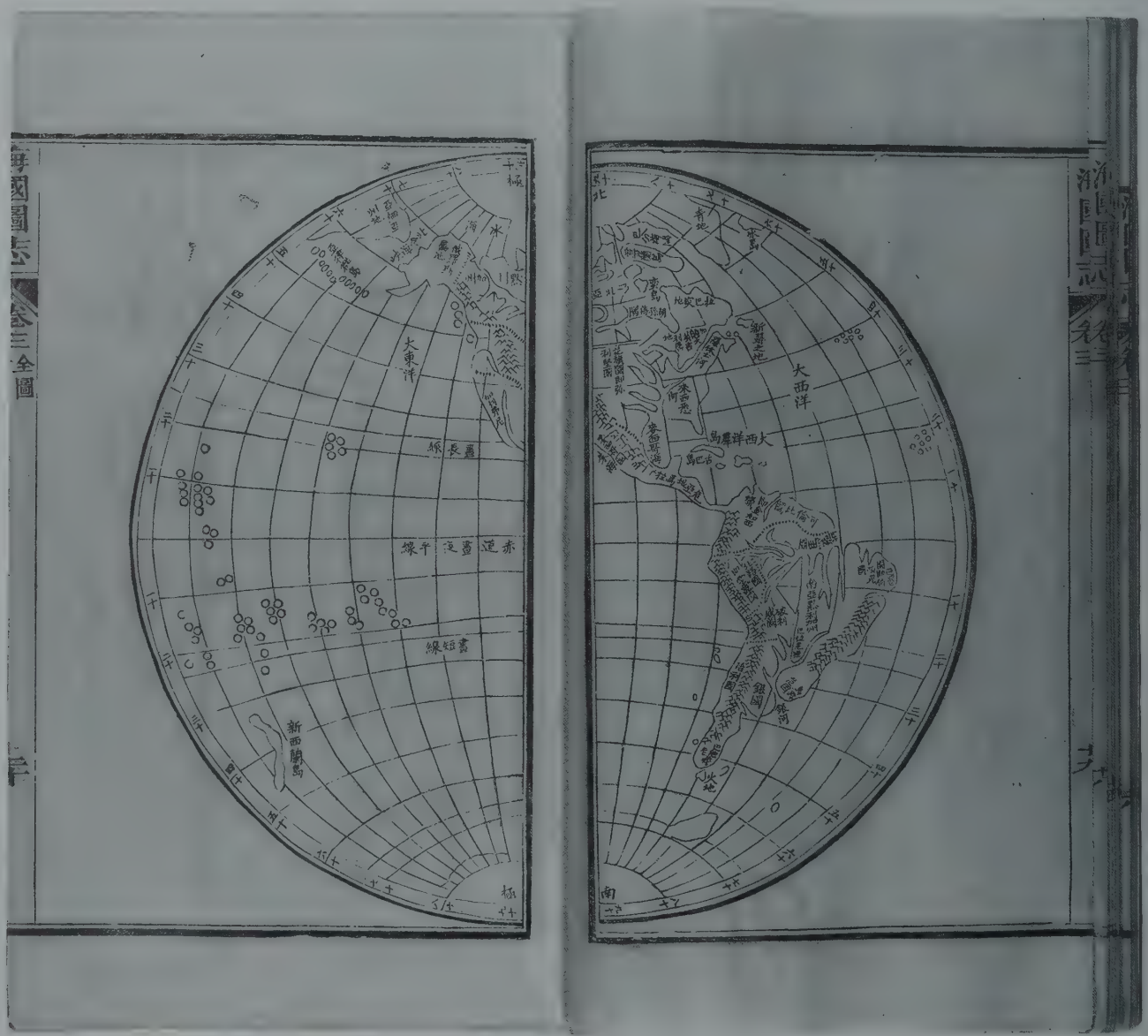
Map of the World in Two Hemispheres (146)

Diqiu Zheng Bei Mian Quantu

The *Illustrated Geography of the World* (Haiguo Tu Zhi, 1842) gives a systematic description of various countries – their geographic locations, historical evolution, climates, products, communications, trade, folk customs, culture, education, foreign relations, advanced production technology, warships and weapons. Volumes 3 and 4 contain a large number of maps. They include: eight comparative historical maps – four of foreign countries, three of the Western Regions in the Han, Wei and Tang Dynasties, and one of the northwestern boundary of the Yuan Dynasty; two maps of the world in two hemispheres, and sixty maps of the oceans and continents. The compilation of the maps is similar to that of present-day world maps. The conic, Mercator and other projections are used in accordance with the location and size of the area involved and the purpose of the map. The contour and location of major features on the maps are quite accurate. Many of the place names are still in use.

The Map of the World in Two Hemispheres shows the



Eastern and Western Hemispheres. Such a format for the map of the world was introduced to China in the mid Ming Dynasty, and progressed over the following 200 years.

The *Illustrated Geography of the World* was commissioned by Lin Zexu, governor of Huguang (now Hunan and Hubei provinces). It contains the first comprehensive world atlas prepared by the Chinese, based on translations. The work boosted Chinese people's understanding of world history and geography, and enhanced their desire to 'check foreign aggression' (according to official Qing instructions) and invigorate the country.

146 Map of the World in Two Hemispheres

From the Illustrated Geography of the World (Haiguo Tu Zhi), *compiled by Wei Yuan, printed in three editions in 1842, 1847 and 1852, in fifty, sixty and 100 volumes respectively*

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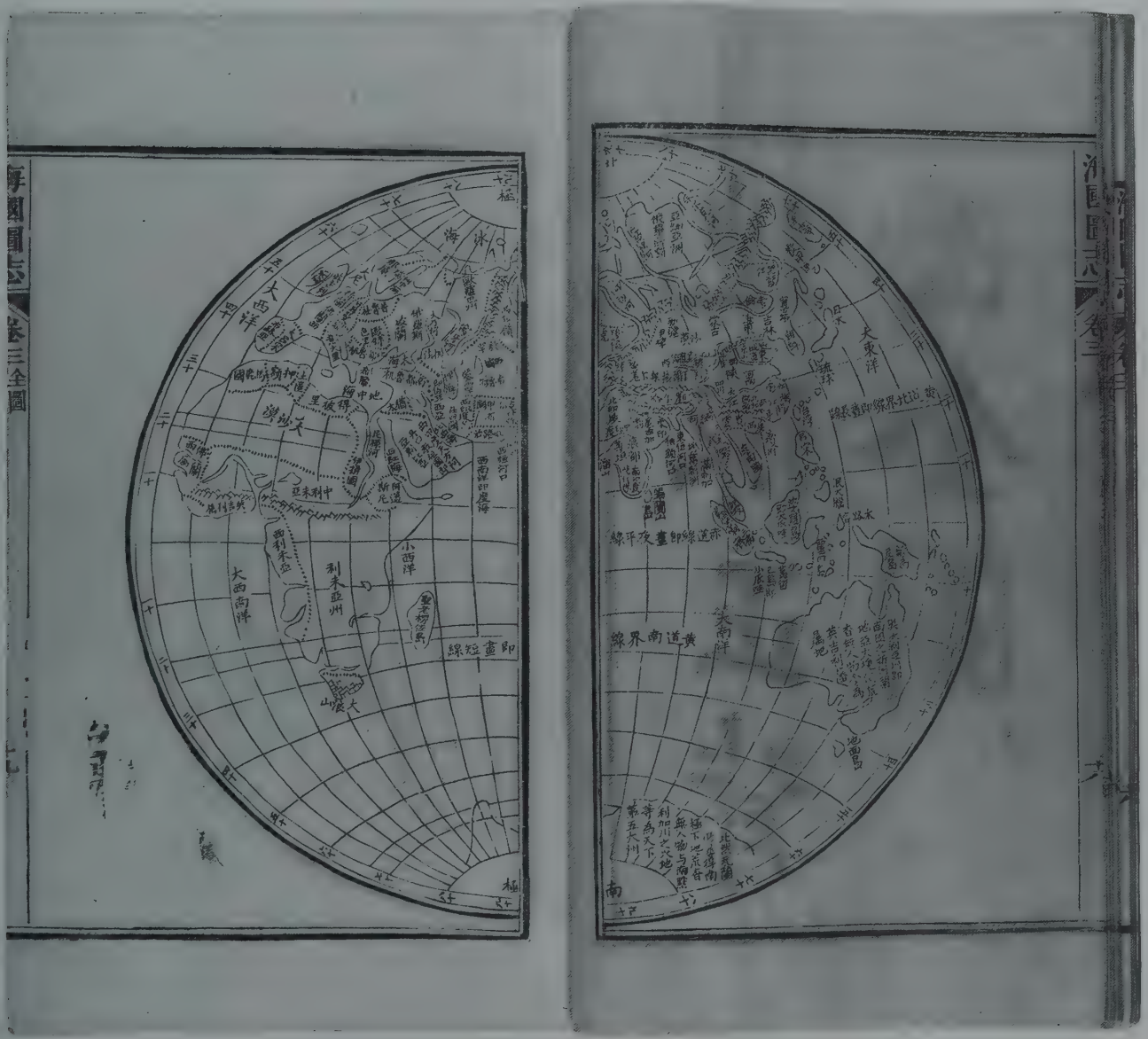
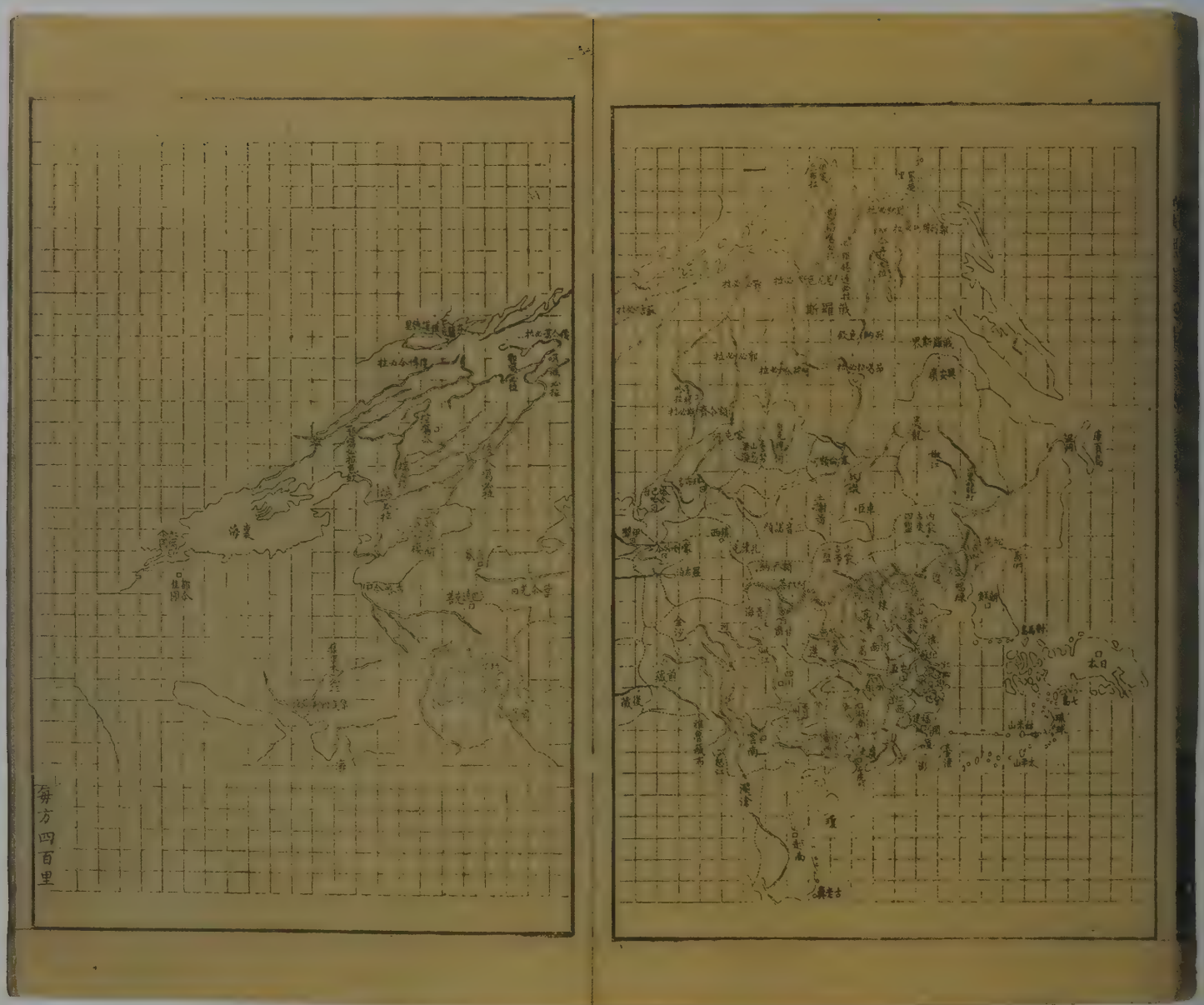


Map of the Qing Empire and Neighbouring Regions (147)

Huangchao Zhongwai Yitong Yu Tu

Preparation of the map followed a method invented by Li Zhaoluo (see 145), which uses both the longitude and latitude system and a grid. The map was cut into thirty-one rolls, each covering a latitude of two degrees, representing 200km on the ground. Each side of the squares on the map represents 50km.

The area shown extends to the Pacific in the east, the Mediterranean in the west, the Arctic in the north, and the South China Sea in the south, but represented in detail is the



territory of China. Included on the map are the eighteen provinces of the country, their prefectures and counties, major rivers, distances between couriers' posts, and other accurate data. Denoted according to local usage are place names in frontier areas and neighbouring regions. The map was widely distributed after publication, and it laid a foundation for later maps of China.

147 Map of the Qing Empire and Neighbouring Regions (Tongzhi, 1862–1874)

First prepared by Hu Linyi, later revised by Yan Shusen etc. Printed by the Governor's Office, Hubei in 1863. Here are the General Map and the Jiangsu, Zhejiang.

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Map of the East Imperial Tombs (148)

Dongling Tu

Located to the west of Malanyu in Zunhua county, Hebei and 125km from Beijing, the site now accommodates tombs of five Qing emperors.

Construction of the magnificent buildings first began in 1663. By 1866, when the map was completed, there were tombs of only three emperors – that of Shunzhi, the first Qing emperor, was built on the southern slope of the highest peak of the Changrui mountain, and on either side were built the tombs of Emperors Kangxi and Qianlong, and tombs of empresses and imperial concubines.

The map shows the geographic features of the burial site – the locations of the tombs, mountain ranges, with the winding Great Wall shown on the ridges, branching rivers and tributaries, walls, roads and communities. Although there is no grid on the map, its scale is fairly accurate compared with present-day versions.

148 Map of the East Imperial Tombs (Tongzhì, 1862–1874)

Coloured map on paper, painted before 1864, 135.7*cm by* 97.5*cm*

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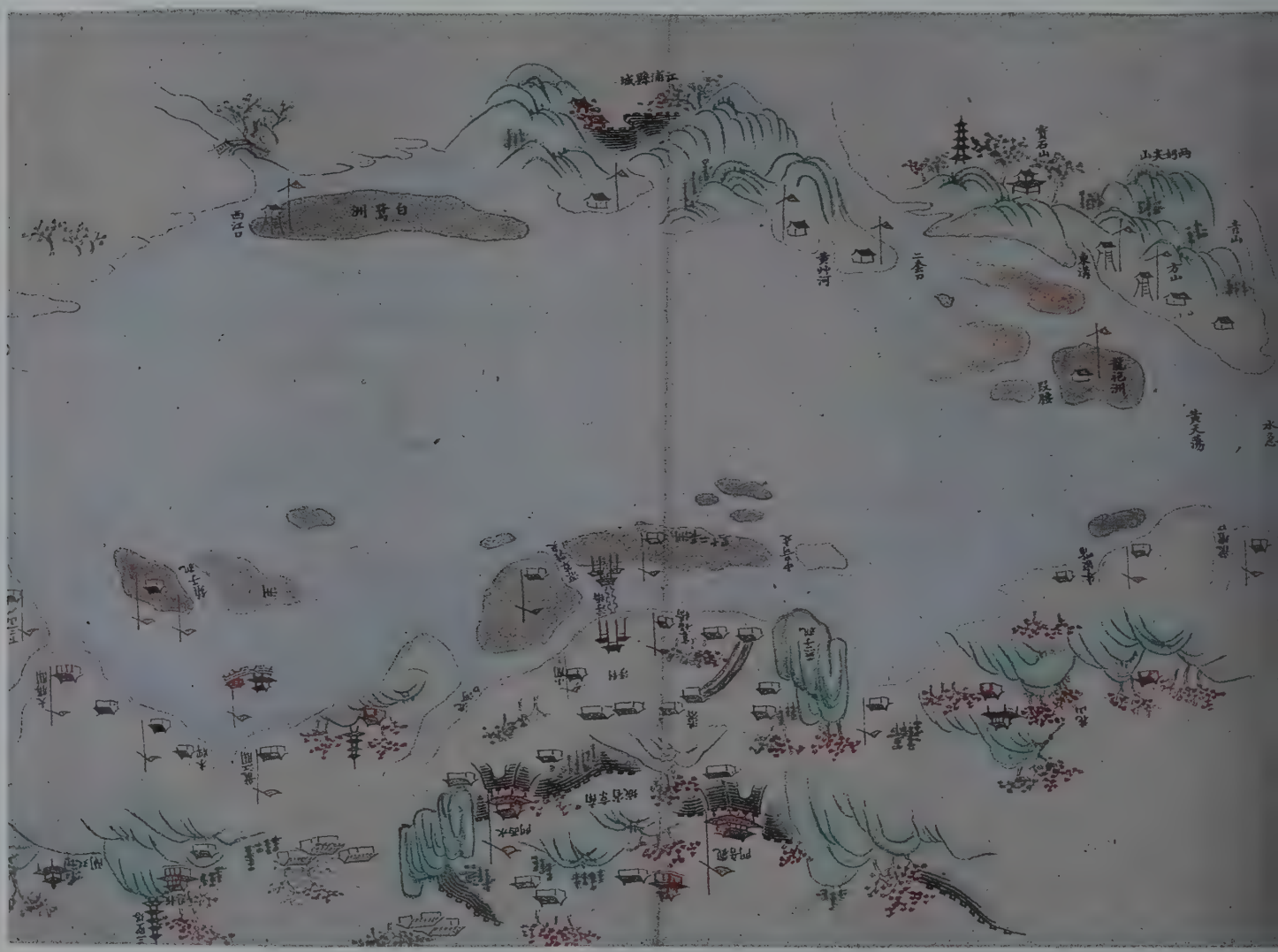
霧靈山東北自紅松峪化皮店二處
水源出黑峪關曹家路古北口南天門
大河由密雲縣入通州大河
霧靈山自清涼界水東台黑龍潭
三處水源由兩河歸古北口南天門大
河由密雲縣入通州大河
霧靈山西北自三岔口南横嶺二處水
源出吉家營古北口南天門大河
由密雲縣入通州大河
霧靈山正東自黃木溝大黃溝
板谷嶺三處水源通柴河
入白河出潘家口入灤河
霧靈山正西自双洞子景家溝好
地石砌三處水源出大小黃崖口由
密雲縣入通州大河
霧靈山東南自分水嶺冰涼
溝二處通蜂窩坑流河
迤東出潘家口入灤河
霧靈山前自蓮花池說法台牯牛素三
處水源由興隆山金扇子蜂窩坑流河
迤東出潘家口入灤河
霧靈山西南自石門子冰水泉
二處水源歸石底河出墻子路口
由密雲縣入通州大河

Tourist Map of the Yangtze River (149)

Changjiang Mingsheng Tu

The map features scenic spots and historic sites along the section of the Yangtze between Shishou county, Hubei in the west and Jiangyin county, Jiangsu in the east. Major features are vividly shown with traditional landscape-style perspective symbols. All topographic and man-made features on both banks of the river face the main channel, which makes the reader feel as if he were travelling on the river. Such a rendition was often used in ancient Chinese nautical maps. With its harmonious colouring and delicate representation, the map is a work of art.



149 Detail of the Tourist Map of the Yangtze River (Tongzhi, 1862–1874)

Coloured map on paper, painted by Bai Fu in 1867, 25.2cm by 1,119cm. Illustrated here is the Nanjing–Zhenjiang section

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Map of Sea Transportation (150)

Haiyun Quantu

The thematic map features coastal navigation and related geographic conditions from Huangpu port in Shanghai to Dongguan in Tianjin, with detailed explanatory notes. The orientation of the map is with east at the top. The scale is shown with squares each representing 100 sq. km. Natural phenomena on the map are marked by symbols except for geomorphologic features, which are rendered in the traditional artistic style. Symbols for communities are in four different styles to show their relative importance. Lines of big red dots indicate coastal shipping routes, and small red dots, ancient ocean-shipping routes. The coastal routes are divided into six sections, with detailed notes showing the mileage and surrounding geographic conditions, especially danger zones.

150 Map of Sea Transportation (Tongzhi, 1862–1874)

Map shows the shipping route between Huangpu port in Shanghai and Dongguan in Tianjin. Coloured map on paper, painted by Hu Zhenxin of Wuyuan in 1867, as a facsimile of a map prepared by his father during the reign of Emperor Daoguang (1821–1850), 141cm by 47.4cm

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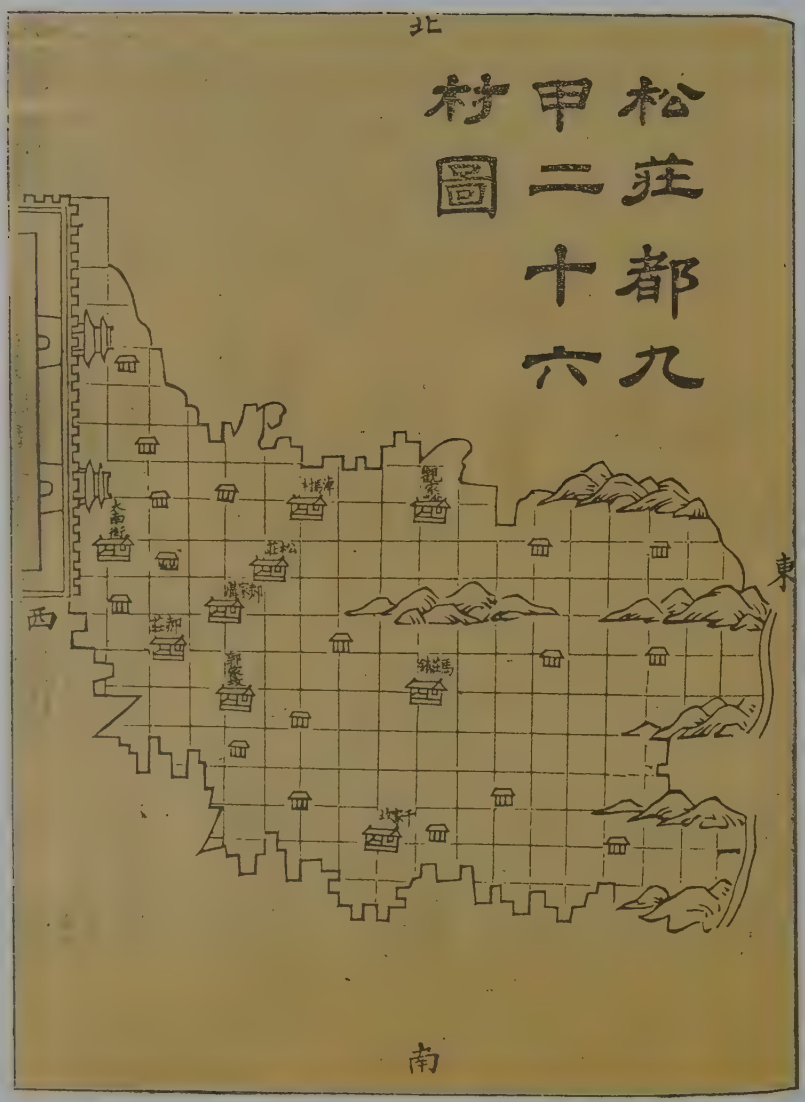
Map of Yangqu County (151)

Yangqu Xian Tu

Map of Songzhuang District (152)

Songzhuang Du Jiujia Ershiliu Cun Tu



The four volume *Yangqu County Atlas of Land Surveys for Grain Levies* (*Yangqu Xian Zhangqing Diliang Tuce*) comprises one map of Yangqu county and forty maps of its forty districts, with an explanatory article for each of the district maps. It tells how the land survey was implemented, data registered and grain levied in Yangqu in Taiyuan (now part of Shanxi).

Each map shows the boundary of the district, its topographic features and locations of villages. Symbols for the districts and villages are standardized. Rivers are shown with double lines, and mountains with pictograms. The maps use grids to facilitate the measurement of fields. Each explanatory article describes the extent of each district, the area of various fields, the amount of grain to be levied, and the silver equivalent of levies.

The atlas was prepared for the local authorities to implement land registration and grain levies. According to records in the atlas, its compilation began in the Tongzhi era (1862–1874), and it was revised every three years.

151 Map of Yangqu County
(Guangxu, 1875–1908)

152 Map of Songzhuang District
(Guangxu, 1875–1908)

Two of forty-one maps from the Yangqu County Atlas of Land Surveys for Grain Levies (Yangqu Xian Zhangqing Diliang Tuce), *compiled by Li Yongqing in 1892. Yangqu used to be one of the forty counties under Taiyuan prefecture. Printed in black from engraved plates*

SHANXI PROVINCIAL LIBRARY


西北界靜樂縣
西界交城縣
西南界交城縣清源鄉
北界忻州
東北界定襄孟縣兩縣
東界孟縣
東南界壽陽榆次兩縣
南界太原縣
汾河
汾河

Map of Mineral Resources in Chengde (153)

Chengde Fu shu Jinyin Meitie deng Kuang Quantu

The map carrying a coordinate system with a longitude-latitude difference of one degree shows Chengde prefecture and bordering areas – latitude 9°41′ to 42°27′ North, and longitude 117°38′ to 120°31′ East.

The map features locations of mineral resources on the basis of a topographic map. Minerals are marked with different colours – green for copper, black for coal, red for iron, yellow for gold, and white for silver. The topographic base map shows water systems, roads, communities, the Great Wall, and geomorphologic features depicted in brown contours.

The elements on the map are delicately and neatly rendered, possibly with special map making instruments. The contour of the coastline and locations of rivers, mountains, roads and communities on the map are similar to those on present-day maps, evidence that the map may be based on an original survey. Most remarkable is the use of contours for geomorphologic features; this map is proof that the contour was introduced to China during the Guangxu era.

153 Map of Mineral Resources in Chengde (Guangxu, 1875–1908)

Coloured map on paper, painted in 1896, scale 1:350,000, 80cm by 63.8cm

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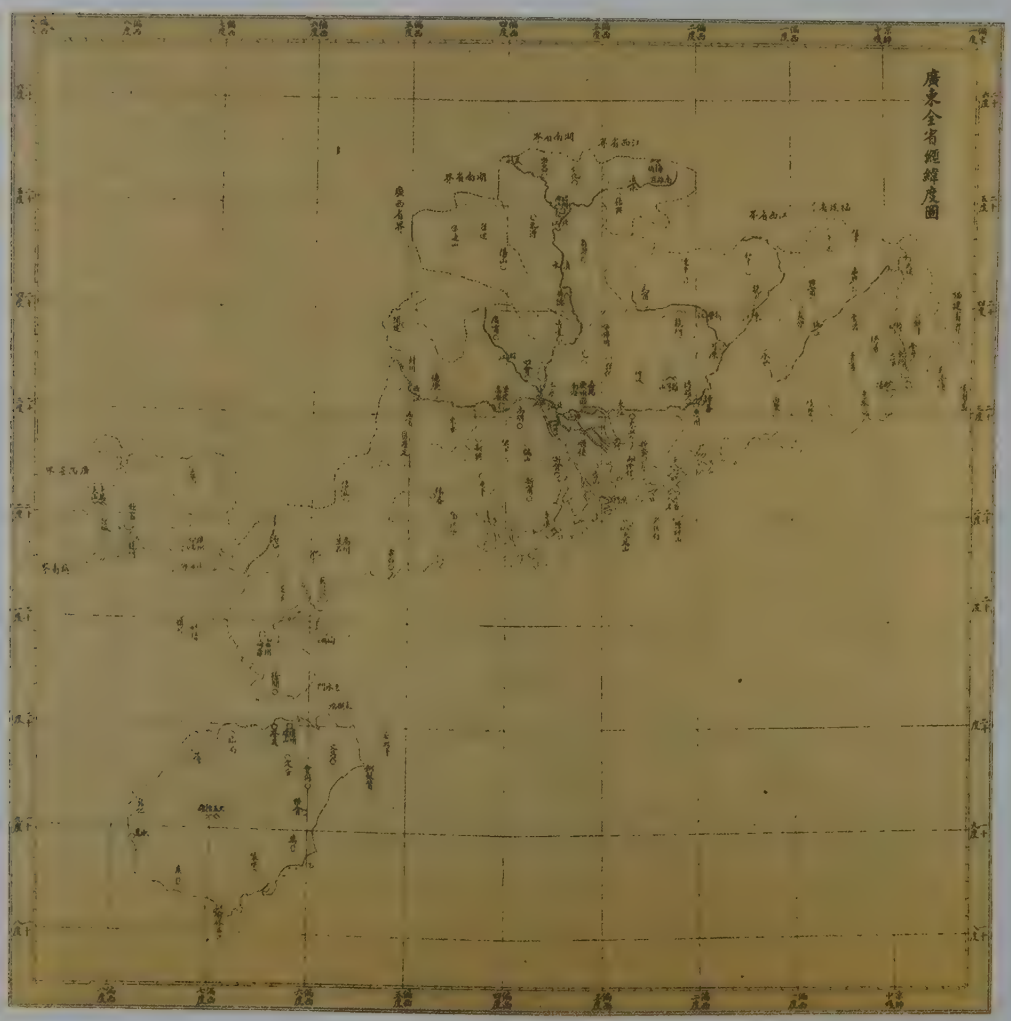
屬府德承
圖全礦等鐵煤銀金

Map of Guangdong with Parallels and Meridians (154)

Guangdong Quansheng Jingwei Du Tu

Map of Guangdong with a Grid (155)

Guangdong Quansheng Yudi Zong Tu



154 *Map of Guangdong with Parallels and Meridians (Guangxu, 1875–1908)*

During the reign of Emperor Guangxu (1875–1908), all provinces were ordered to carry out geodetic surveys and prepare maps of the province and its prefectures and counties to be presented to the central government department in charge of the record of laws and systems.

The *Atlas of Guangdong* (*Guangdong Yudi Quantu*) was compiled in accordance with instructions from the central government department. The maps all adopt the same orientation with north at the top; they carry unified legends and explanatory notes. In the grid, each side of the square on the provincial maps represents 50km, on the prefectural maps, 25km, and on the county maps, 5km. To follow the instruction that if possible, provincial maps should adopt the longitude and latitude coordinate system, the atlas carried two identical provincial maps, one with parallels and meridians, and the other with a grid.

155 Map of Guangdong with a Grid (Guangxu, 1875–1908)

Two maps from the Atlas of Guangdong (Guangdong Yudi Quantu), compiled in 1897. Printed in black from engraved plates

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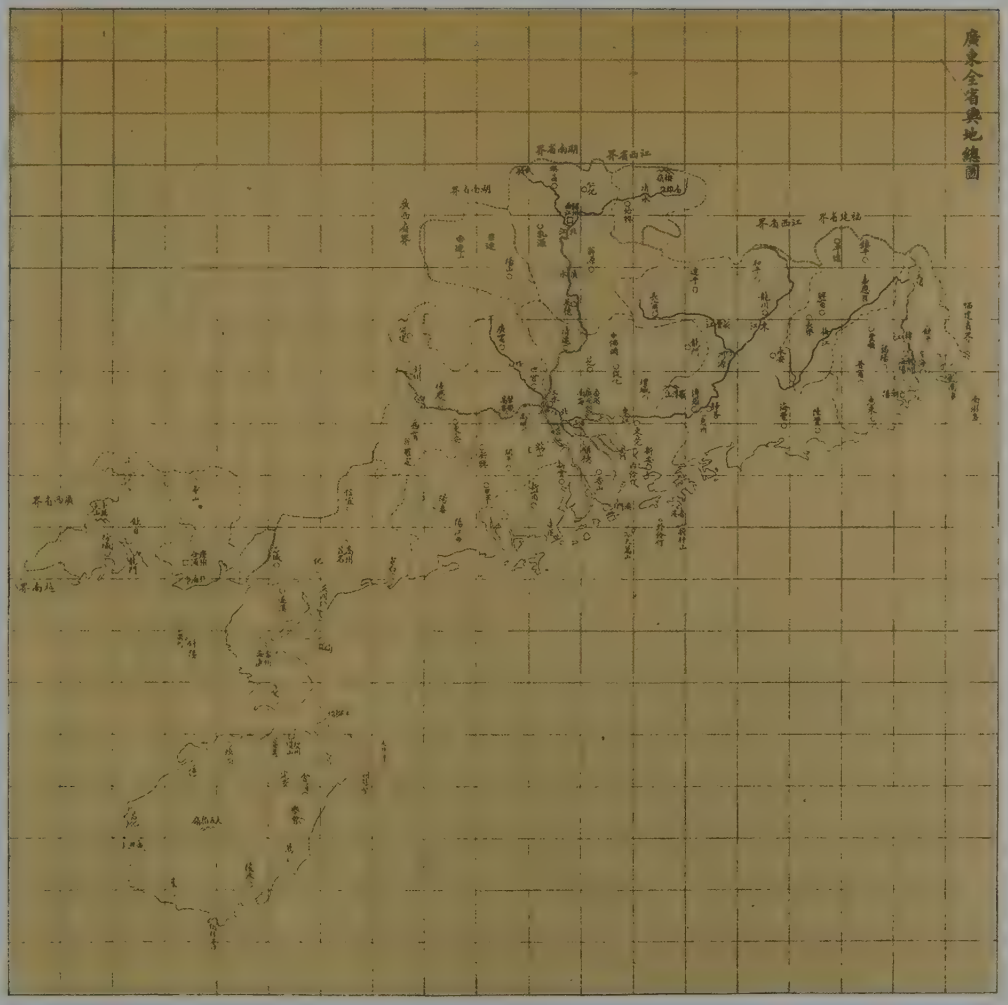
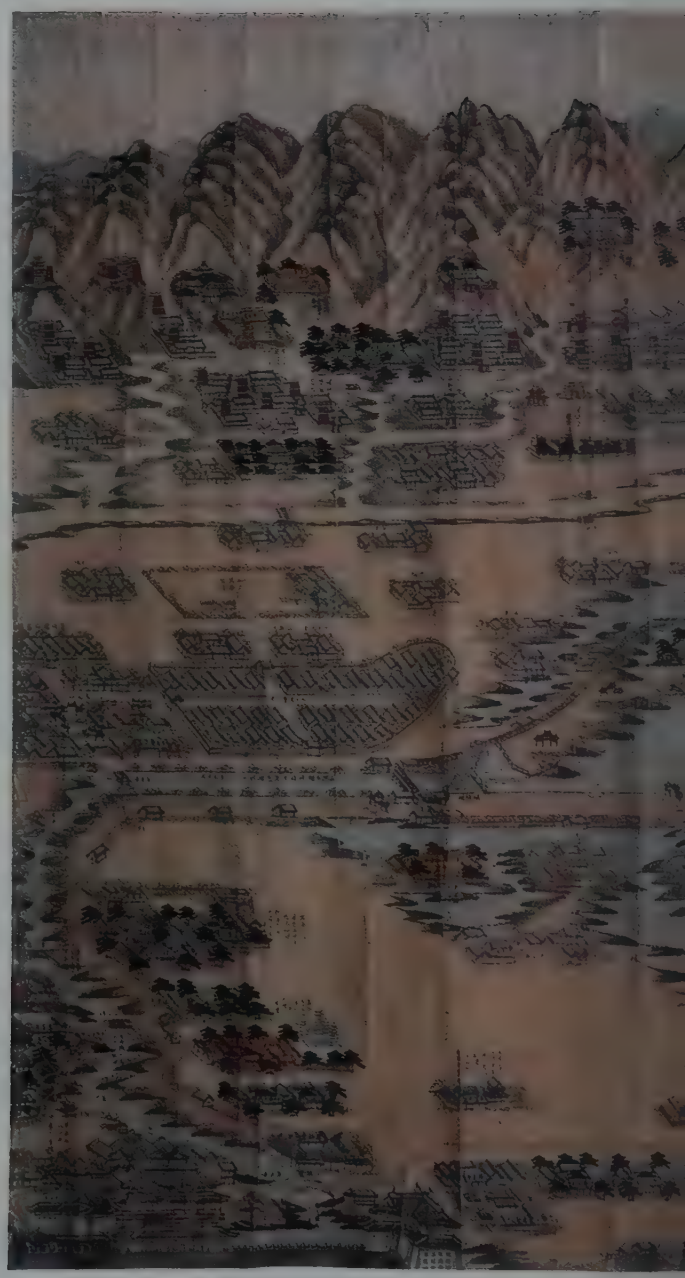


Map of Five Imperial Gardens (156)

Wuyuan Tu

The thematic map features imperial gardens in the western suburbs of Beijing. Painted on paper after 1897, the coloured map depicts the five imperial gardens referred to as Changchunyuan, Yuanmingyuan, Qingyiyuan, Jingmingyuan and Jingyiyuan. Together with the three hills of Wanshoushan, Yuquanshan and Xiangshan, they are known as the 'Three Hills and Five Gardens'. Construction of this scenic area, based on established gardens and temples, meant huge investment over more than 150 years from the Kangxi (1662–1722) to the Qianlong era (1736–1795). It was a paragon of ancient Chinese garden architecture. The area was seriously destroyed in the looting and burning by the Anglo-French allied forces in 1860, and only the garden of Qingyiyuan was later renovated and renamed Yiheyuan (the New Summer Palace) in 1895.

The map gives a general representation of the area, including renovated buildings, and surrounding landscape with waters, woods, villages and roads. The colours are quite bright, but the images of the gardens are not vivid due to the poor painting skills.



156 Map of Five Imperial Gardens
(Guangxu, 1875–1908)

Coloured map on paper, painted by Chang Mao
after 1897, 93cm by 170.5cm

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Map of the Yellow River Banks (157)

Da He Liangan Nanbei Diyu Tu

This was a military map submitted by the Henan authorities to the imperial government, showing the military situation along the Yellow river in the southwestern part of the province, as well as relevant defence plans. The coloured map painted on paper is folded into one volume; it shows the southern bank of the river from Shaanzhou to Tongguan,

and the northern bank from Pinglu county to Fenglingdu on the reverse. Portrayed in the traditional graphic style of ancient Chinese cartography are topographic features, cities, towns, passes, historic sites, roads, military camps, and locations of batteries and gunboats. The map carries detailed explanatory notes, with affixed labels explaining the topographic features of strategic positions and relevant defence plans. The map carries a lengthy note on the military situation along the river and the defence plan, which denotes the nature of the map. ▷

◁


河南盤頭鎮依岸北對永樂
渡汝灘擬請於北岸添安砲位
盤頭鎮東去三十里閔鄉
縣係大路北對永樂渡

157, Detail of the Map of the Yellow River Banks (Guangxu, 1875–1908)

Coloured map on paper, painted in 1900, 36.1cm by 591.8cm. Area represented includes the south bank from Shaanzhou (east) to Tongguan (west), and the north bank from Pinglu (east) to Fenglingdu (west)

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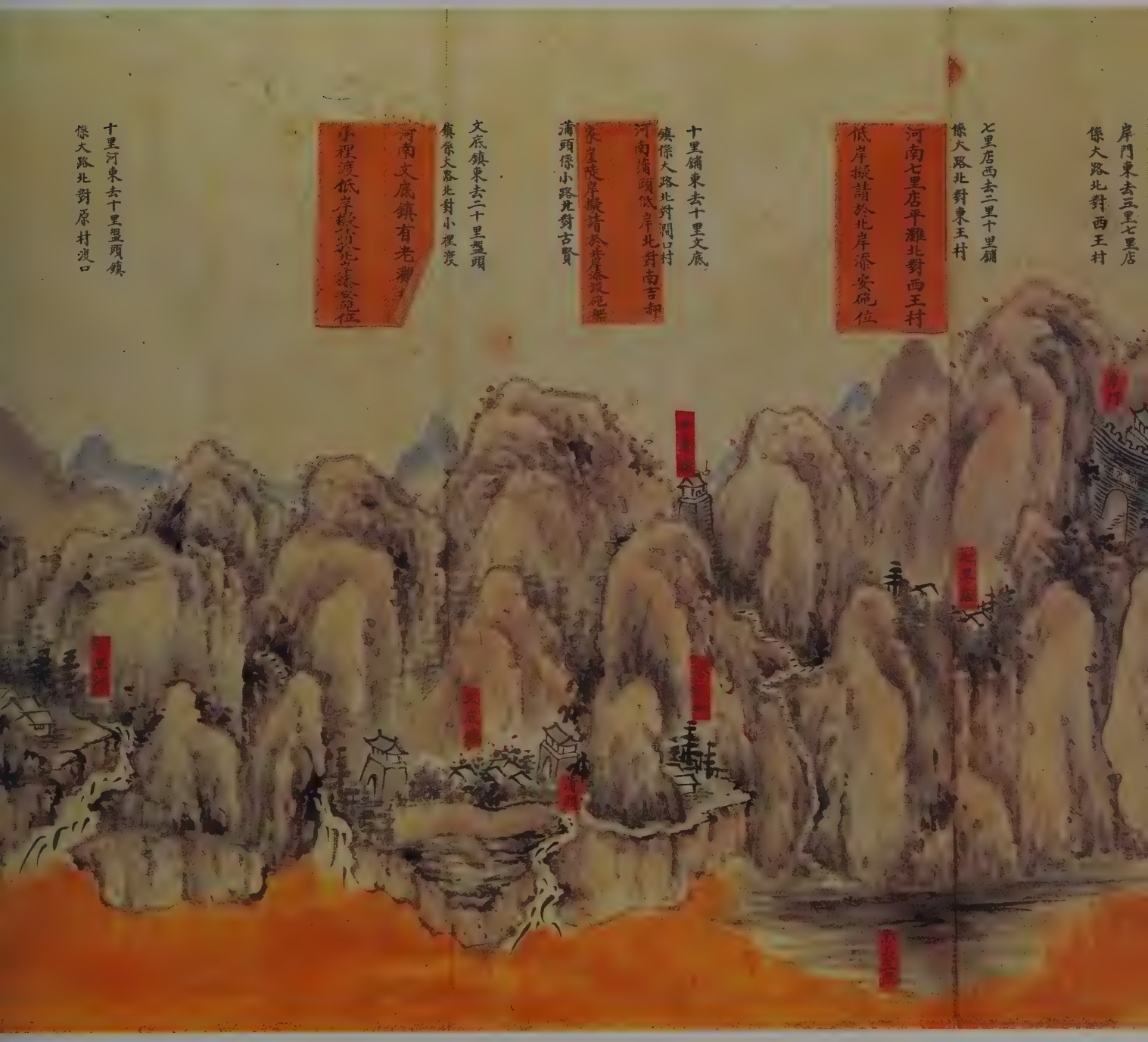

Map of the Postal Service of the Qing Empire (158)

Da Qing Youzheng Gongshu Beiyong Yu Tu

This is a bilingual (Chinese-English) thematic map on the postal service of the Qing empire (1644–1911). The first edition of the map, printed in black and red through process printing, came out in 1903.

Apart from showing the administrative divisions of the empire such as provinces, prefectures and counties, the map features various aspects of the postal service – postal zones, express mail routes, postal rail routes and marine shipping, as well as locations of telegraph offices.

The most salient feature of the map is in the printing – the use of red for the thematic (postal service) elements and black for the elements of the base map. Such an arrangement makes the thematic elements stand out from the base, which is similar to the practice of modern cartography. Also similar to modern maps is the symbolized rendition of various elements. The map is crowded and therefore not satisfactorily clear; it marks an advance however, in the making of thematic maps in China.

158 Map of the Postal Service of the Qing Empire (Guangxu, 1875–1908)

First published in 1903, printed in black and red, 96.5cm by 101.7cm

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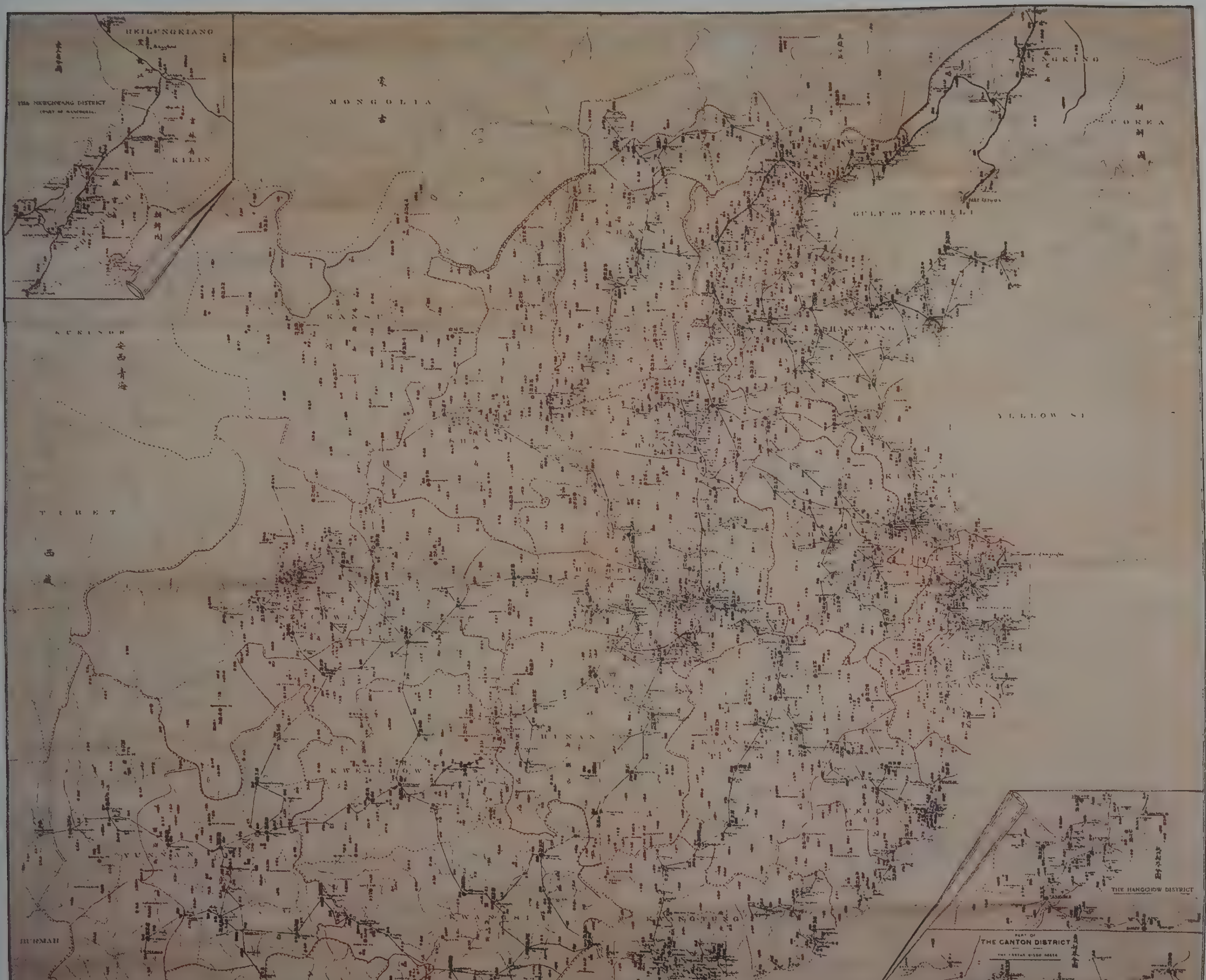
MONGOLIA
KOREA
GULF OF PECHILI
YELLOW SEA
TIBET
KWEICHOW
YUNNAN
GULF OF TONKIN
HAINAN STRAITS
HAINAN
KILIN
THE HANGCHOW DISTRICT
THE CANTON DISTRICT
INSPECTORATE GENERAL OF CUSTOMS AND POST

Map of the Yellow River Mouth (159)

Shui Jing Zhu Tu

The *Atlas of Ancient Waterways* is a companion to Shui Jing Zhu Shu, a book annotating *Commentaries on the Waterways Classic* compiled by Yang Shoujing and others based on their study of the *Commentaries*, a comprehensive geographic work by Li Daoyuan of the Northern Wei Dynasty (AD 386–534). Published in 1905, the atlas is divided into forty sections in four volumes.

As a collection of historical maps, the atlas shows waterways and related geographic conditions recorded in the *Commentaries*, especially the water systems of the Yellow and Yangtze rivers. Prepared by process printing, the maps use black for the ancient features and red for contemporary. The scale is shown with a grid; most squares represent 25 sq. km. Sections 1 to 5 cover the Yellow river; sections 6 to 32, the Fenhe, Weihe, Luohe, Huaihé, Jishui and other rivers; sections 33 to 35, the Yangtze river; and sections 36 to 40, the Xiangjiang, Ganjiang and other rivers. In addition, the atlas carries thirteen maps of Luoyang, Chang'an and other cities, and a map of the locations of mountains, rivers and lakes recorded in the *Book of Yu Gong*. Natural features shown on the maps include rivers, lakes and valleys as well as administrative divisions of the Northern Wei and Qing Dynasties.

The map shows ancient features (before AD 420) such as the river course, Lujiaojin ferry, Luoling prefecture and Yangxin county in comparison with the new river course and the counties of Lijin and Boxing in the Qing Dynasty. It is clear that in ancient times the land of Lijin had not been formed in the river mouth.

159 Map of the Yellow River Mouth (Guangxu, 1875–1908)

From the Atlas of Ancient Waterways (Shui Jing Zhu Tu), volume 2, prepared by Yang Shoujing et al., and printed in 1905, 33cm by 21.5cm

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Tourist Map of Wutai Mountain (160)

Wutai Shan Mingsheng Tu

The Wutai mountain is one of the four sacred places of Chinese Buddhism. Construction of Buddhist temples on the mountain began in the Yongping era (AD 58–75) of the Eastern Han Dynasty, and more temples were built in the following dynasties to make it a tourist attraction featuring ancient architecture (see 20).

This tourist map shows the natural beauty of and historic sites on the Wutai mountain through a combination of traditional landscape painting and cartographic skills. Geographic features are represented in geometric or perspective symbols. Locations of the various features are fairly accurate, and the nomenclature is roughly contemporary.

The combination of artistic and cartographic principles was later widely used in the preparation of tourist maps.

160 Tourist Map of *Wutai* Mountain (Guangxu, 1875–1908)

Coloured map on silk, painted in 1905, 139cm by 89cm

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Map of the Qing Empire (161)

Da Qing Diguo

The *Atlas of the Qing Empire* (*Da Qing Diguo Quantu*) comprises twenty-five maps – one of the Qing Empire, and one for each of the provinces (except for Outer and Inner Mongolia, Qinghai and Tibet, which are shown together on a single map), all preceded by a guide to their compilation.

Latest data used in the compilation were derived from surveys conducted before April 1905. Two longitude systems are used. One is based on the meridian passing through Greenwich and the other passing through Beijing. The map uses fifteen types of symbols for communities of different importance. Also marked are leased territories, commercial ports and concessions (all related to foreign powers), as well as railways. Each map carries a legend to facilitate reading.

The maps were printed from copper plates and in five colours – red, green, blue, brown and black, and their fine rendering was in sharp contrast with that of previous Chinese maps. The sheets, printed on one side, were bound in a fly-leaf format.

161 Detail of the Map of the Qing Empire (Guangxu, 1875–1908)

One of twenty-five maps from the Atlas of the Qing Empire (Da Qing Diguo Quantu), compiled and published by the Commercial Press in Shanghai in 1905, book 38cm by 28cm. Printed in five colours from copper plates, scale 1:12,000,000, map 32cm by 43cm

BEIJING LIBRARY


大清帝國
100
108
116
124
132

Map of Mineral Resources in China (162)

Zhongguo Kuangchan Quantu

This map was included in *Mineral Resources Annals in China* (*Zhongguo Kuangchan Zhi*), co-authored by Gu Lang and Zhou Shuren (Lu Xun, a Well-known author), a landmark work in Chinese geology.

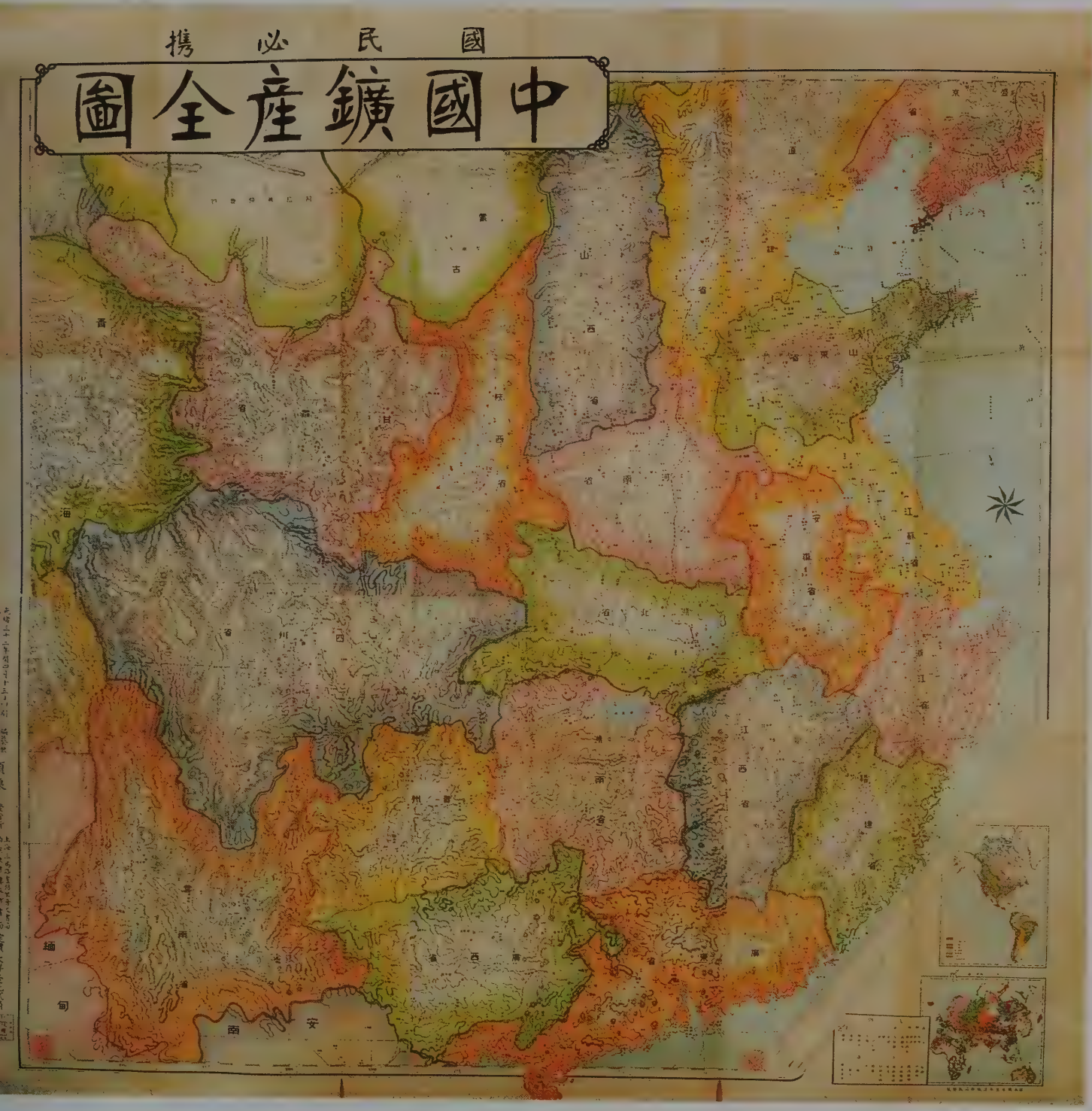
The Map of Mineral Resources in China was based on a confidential map prepared by the Bureau of Geology and Mineral Resources under the Japanese Ministry of Commerce. Gu and Zhou, who were then Chinese students in Japan, had a chance to borrow the confidential map and made a copy of it. The map was printed in an enlarged format in Tokyo in 1906 and distributed in Nanjiang, Shanghai and Tokyo.

Prepared by modern cartographers, it shows the locations of about a dozen kinds of mineral resources in eighteen provinces in China. Mountains are represented by a 'caterpillar' symbol. The map was printed from copper plates in seven colours.

162 Map of Mineral Resources in China (Guangxu, 1875–1908)

From Mineral Resources Annals in China (Zhongguo Kuangchan Zhi), *co-authored by Gu Lang and Zhou Shuren. Published in* 1906, *printed in seven colours from copper plates, map* 107 *cm by* 107 *cm*

LU XUN MEMORIAL HALL, SHANGHAI


國民必攜
中國鑛產全圖

Map of Prepared Railways in China (163)

Chouhua Zhongguo Tielu Guixian Quantu

The map features various railway lines – red for lines run by the government, green for lines run by Chinese businesses, and black for lines run by foreigners. Different symbols are used to show railways that have been completed, those under construction and those planned to be built. Communities relevant to the railways are classified into ten groups according to their importance. Also shown on the map are rivers, lakes, canals, the Great Wall, deserts, and boundary lines between provinces and countries. Altogether twenty-six types of symbol are used on the map.

The Qing government attached great importance to the construction of railways as the map shows. This was a reflection of the rise of capitalism in China.

163 Detail of the Map of Prepared Railways in China (Guangxu, 1875–1908)

Coloured map, printed in 1907, 100cm by 83cm

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黑龍江
吉林
奉天
直隸
山西
山東
河南
陝西
甘肅
湖北
安徽
江蘇
車臣汗
土謝圖汗
三音諾顏
札薩克圖汗
科布多
東四盟
黃海
渤海
東海
青海
四川

Map of the Qing Empire (164)

Huangchao Yitong Tu

The *Atlas of Qing Provinces* (Huangchao Zhisheng Ditu) was compiled by the Chinese Geographic Society with approval from the relevant central government departments of the Qing empire. It was one of the best atlases prepared by non-governmental academic institutions during this period.

The atlas includes one map of the Qing empire and twenty-five provincial maps (with Qinghai and Tibet sharing one map and Outer and Inner Mongolia sharing another). Its compilation was based on a map of China prepared by Zou Daijun in 1903, which was an authentic work with data derived from maps prepared by various provinces and maps of China published in Japan, Britain, Germany and Russia. Printed from etched copper plates, the atlas is clear and detailed. As it is printed in four colours – red, yellow, blue and black – and bound in a fly-leaf format, the atlas stands out from traditional Chinese atlases and reflects, in a comprehensive way, map making skills in the late Qing Dynasty.

The coordinate system on the map takes the meridian running through Shuntian (the capital) as the prime meridian for longitude reference and the equator as latitude zero degrees; each division represents five degrees of longitude and latitude. Neighbouring provinces are differentiated by colour and water is marked in light blue.

164 Detail of the Map of the Qing Empire (Guangxu, 1875–1908)

One of twenty-six maps from the Atlas of Qing Provinces (Huangchao Zhisheng Ditu), compiled by the Geographic Society. First edition, 1903. Illustrated here is a map from the fifth edition published in 1908, 34.3cm by 25cm. Printed in four colours from etched copper plates, scale 1:12,590,000, map 29.6cm by 41.6cm

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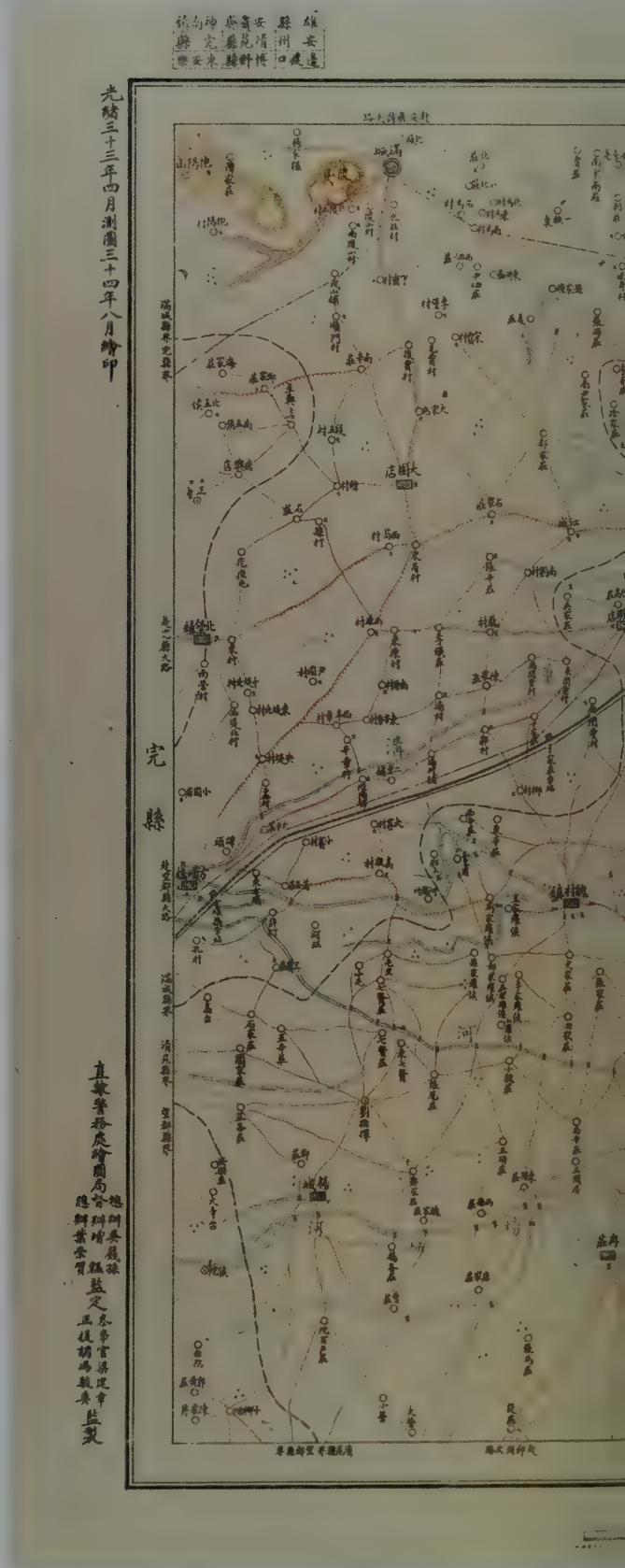
皇朝壹統圖

Map of Zhili Province (165)

Qingyuan Xian

The area covered by the surveys extends from Chifeng in the north to Kaifeng in the south. The provincial map is divided into 364 sheets and was printed in three colours – red, blue and black.

Despite an absence of both longitude–latitude and grid systems, the geodetic surveys make it very accurate. The map is rich in content – it uses fifty-eight kinds of symbol to represent natural and man-made features in various classes such as water systems, landforms, communities, communications systems, boundary lines, soil conditions, vegetation and mineral resources. In its portrayal of communities, the map shows not only their administrative importance and populations, but also the locations of army barracks and police stations.



165 Detail of the Map of Zhili Province (Guangxu, 1875–1908)

One sheet from the Map of Zhili Province (present-day Beijing and part of Hebei and Inner Mongolia). Surveys conducted in April 1907 and map prepared in August 1908, supervised by the Cartography Bureau of Zhili Police Department. Printed in three colours, scale 1:100,000, map comprises 364 sheets, each sheet 39.8cm by 50.9cm

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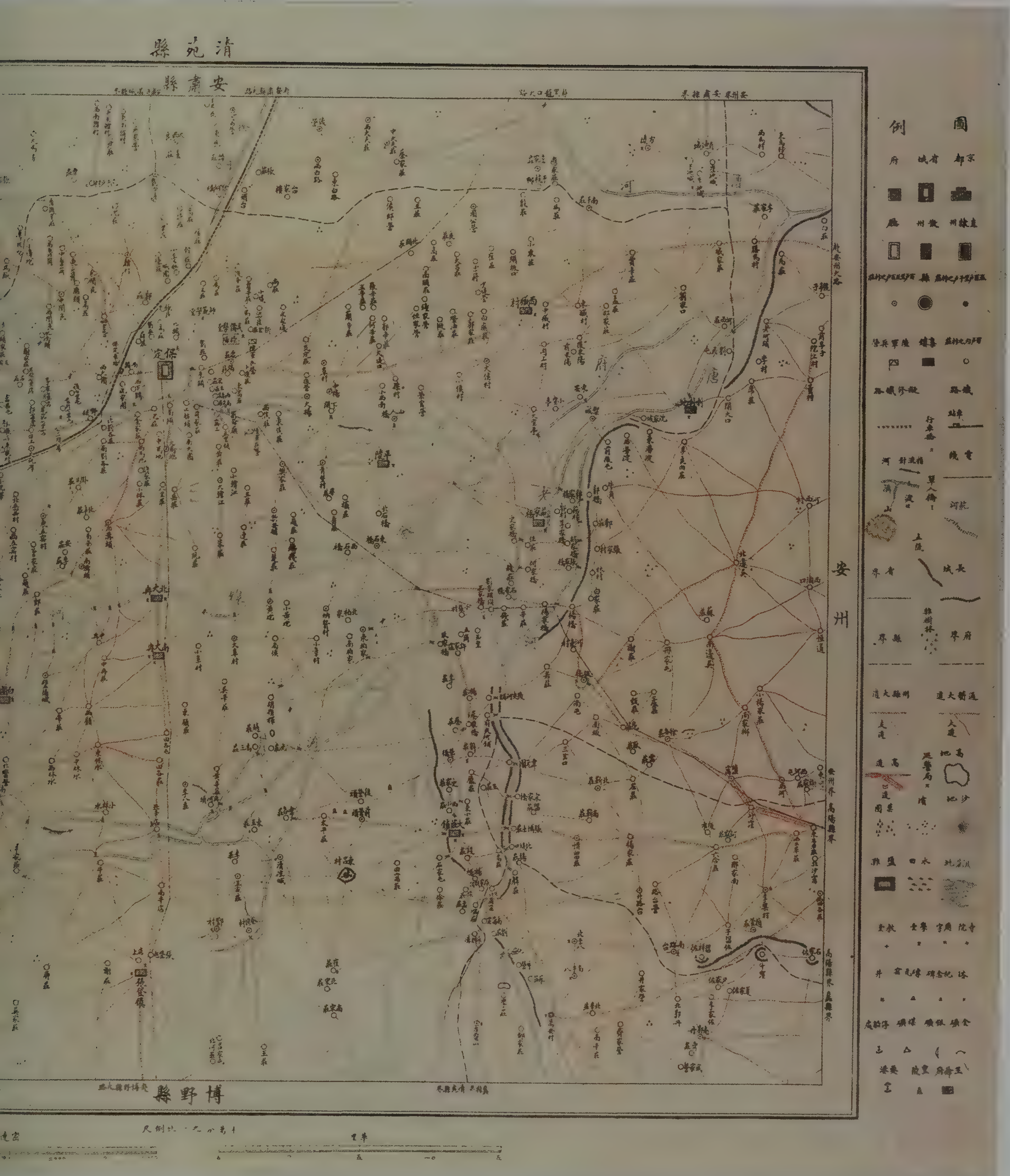

清苑縣
安肅縣
保定
安州
博野縣
圖例

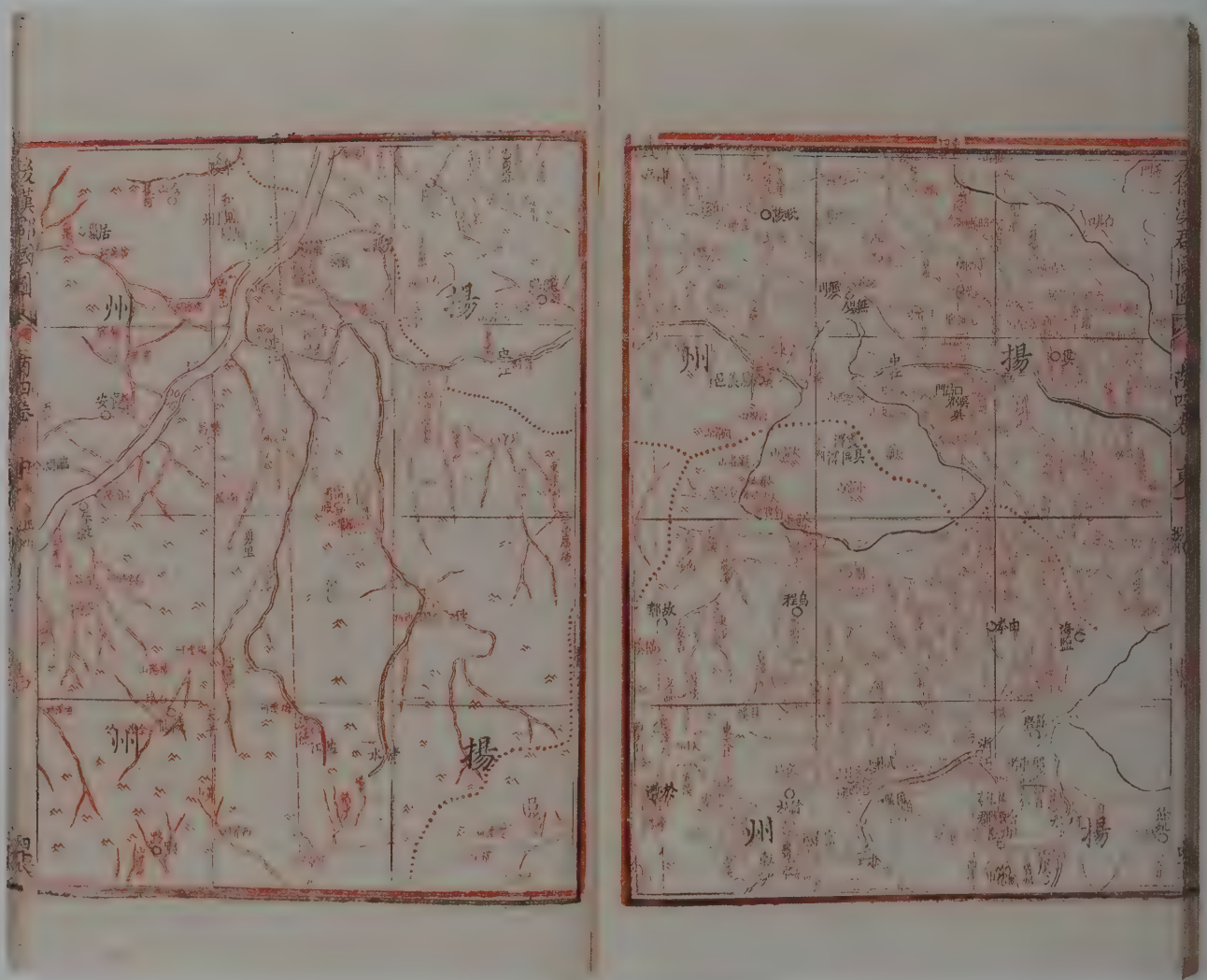
Map of Yangzhou from the Map of Prefectures and Principalities of the Eastern Han Dynasty (166a)

Hou Han Junguo Tu

Map of Yangzhou from the Map of Prefectures and Principalities of the Southern Song Dynasty (166b)

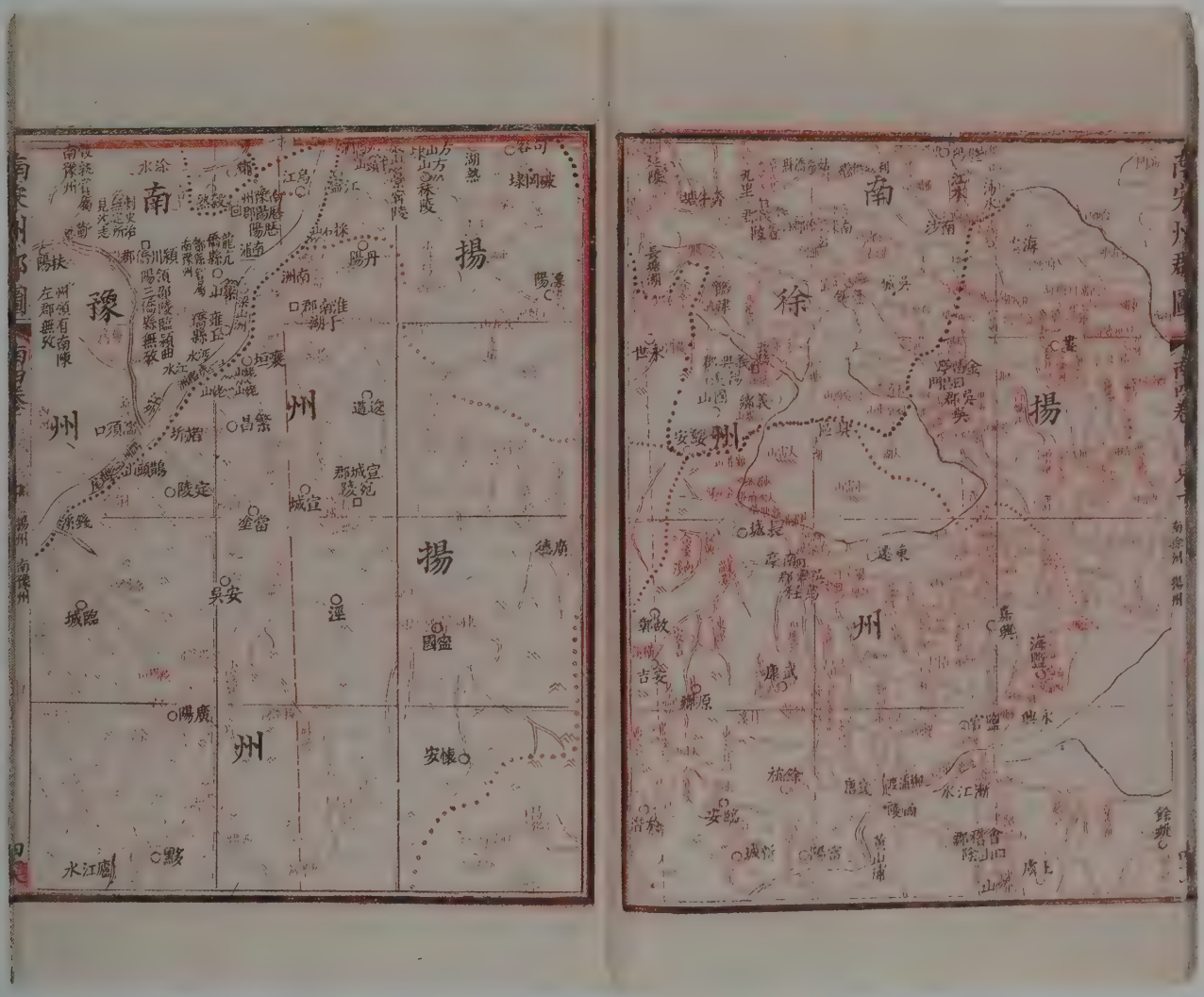
Nan Song Zhoujun Tu

Compiled in the late Qing Dynasty, under Yang Shoujing, a noted scholar, the *Historical Atlas of Various Dynasties* (*Lidai Yudi Tu*) is also known as 'Yang's Atlas'. Printed in red and black the atlas, in thirty-four volumes, was published between 1906 and 1911. The first volume contains seventy-one generalized maps of various dynasties with explanatory notes quoted from relevant historical records, such as the Map of Nine Regions as Recorded in the *Book of Yu Gong* (see 39, 58), the Map of Warring States, the Map of Seven States, the Map of Qin's Thirty-Six Prefectures, and further maps of the Han, Jin, Sui, Tang, Song, Yuan and Ming Dynasties. The other thirty-three volumes comprise specific maps of various dynasties arranged in historical sequence. For instance, volume 24 – *Geography of the Sui Dynasty*



(AD 581–618) – consists of eighty-two maps featuring Sui's territory, mountains and rivers, strategic positions and other features.

As the compilers took a Qing map prepared from geodetic surveys as the base map and derived data from official historical records of various dynasties, the atlas is more accurate and comprehensive than any earlier historical maps, with detailed representation of the territories, administrative divisions, cities and towns of the dynasties. The atlas was published in Shanghai, Hubei and Sichuan, and widely distributed in China and abroad. However, it is not free from errors due to some inaccuracies in the historical records.



166a Map of Yangzhou from the Map of Prefectures and Principalities of the Eastern Han Dynasty

166b Map of Yangzhou from the Map of Prefectures and Principalities of the Southern Song Dynasty

Two maps from the Historical Atlas of Various Dynasties (Lidai Yudi Tu), *compiled by Yang Shoujing, published 1906–11, thirty-four volumes, printed in red and black through process printing, book 29cm by 19.5cm*

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Select chronology of cartography in China

CARTOGRAPHIC STAGE	EVENTS
No maps found so far	**Circa 18,000 BC** Primitive people, in their struggle for survival, developed an understanding of their surroundings and gave names to parts of their environment. These constituted the most primitive geographical knowledge. As the area of his activity broadened, primitive man gained a better understanding of geographical phenomena. Such accumulation of knowledge provided the necessary conditions for the birth of maps. **Circa 7,000–6,000 BC** In the New Stone Age, with the improvement of mankind's material life and the development of human thinking, primitive pictures appeared recording tribal surroundings and typical life scenes. Along with social, economic and cultural progress, such primitive pictures developed into three interrelated but independent branches: drawing, pictography and primitive cartography. **Circa 5,000–3,000 BC** Large numbers of Yangshao painted pottery articles, bearing vivid pictures of human heads and fish as well as flower patterns, were unearthed at Banpo Village near Xi'an city. Some pieces were engraved with symbols now understood to be the precursors of Chinese characters. This proves that, as early as 5,000–6,000 years ago, not only had pictures appeared in China, but drawing techniques had developed to a fairly advanced level.
Primitive maps (2,800–475 BC)	**Circa 2,800–2,300 BC** A New Stone Age wine jar was unearthed at Longshan in Juxian county, Shandong. Engraved with pictures showing the sun and moon as well as local geographical features such as mountains, it provides a geographical pictorial basis for the origins of primitive maps. The process of recording simple geographical features in picture form was in itself a primitive form of map making. **Circa 2,100 BC** *Records of the Historian* (Shi Ji)[1], 104–91 BC, recounts tribal leader Yu (who led people in launching water-control projects) using compasses, a carpenter's square, a level,

a carpenter's ink marker and marking stakes for surveying purposes.

Yu's grand undertaking has left many intriguing legends. A story in *Zhuangzi*[2] tells of a river god offering Yu a map to assist in his flood-prevention efforts. After he succeeded in controlling the flood, Yu had nine tripods cast and painted with the Nine Regions. The *History of the Han Dynasty* (*Han Shu*)[3] says, 'Yu collected metal from the Nine Regions and cast nine tripods representing the Nine Regions.'

Nine-tripod pictures are a form of primitive map and they are important evidence of the early divergence of mapping away from drawing.

Circa 1,100 BC

In the early years of the Western Zhou Dynasty, according to *Records of Past Dynasties* (*Shang Shu*)[4] Princes Zhou and Zhao had a map of Luoyi drawn when they built the city. It is the earliest blueprint for city construction mentioned in historical documents.

Various official posts were established during this period to take care of different types of map. *The Zhou Book of Rites* (*Zhou Li*)[5] was written by a scholar of the Zhou Dynasty (1100 – 771 BC).

Geographical maps
(475 BC–*circa* AD 265)

475–221 BC

During the Warring States Period, *The Book of Guanzi*[6] was written by a State of Qi scholar. It is the earliest written account in China to deal with the nature, content and military use of mapping. Military maps of the State of Eastern Zhou described in *Guanzi* contain close to twenty geographical factors and certain of their features resemble geographical maps. From the point of view of cartographic development, the scientific and technical level of the Xia–Shang–Zhou period and the nature of the maps themselves, indicates that maps of this period still fall within the primitive category.

During the Warring States Period, Shi Shen, a State of Wei astronomer, drew up a map catalogue recording positions of twenty-eight constellations and 121 stars. It is the world's earliest star catalogue.

The Book of Mountains and Rivers (*Shanhai Jing*)[7], a geographic classic, was written consisting of three parts on, respectively, mountains, seas and wasteland. It records geographical knowledge passed down from generation to generation on mountains and rivers, roads, nationalities, produce, sacrificial rites and primordial legends. The original book is said to have an attached sketch called the Map of Mountains and Rivers regarded by academic circles without dissent as the earliest primitive map in China.

Yu Gong[8], another geographic classic, was born. Describing geographical features, soil, produce, tribute and taxes, and transport conditions in areas along the Yellow river and the Yangtze. It is the earliest Chinese geographic work with scientific importance.

Circa 300 BC

A bronze plate bearing a plan of a mausoleum was unearthed between 1974 and 1978 from a Warring States Period tomb (for King Zhongshan) in Pingshan county, Hebei (1). Gold and silver threads were inlaid on the plate to form outlines of the underground rooms. It is the earliest extant map showing the size of a mausoleum and is based on mausoleum maps in *The Zhou Book of Rites (Zhou Li)*[5], a record of political systems in the State of Zhou.

The Qin–Han period witnessed a leap forward in ancient Chinese cartography, from primitive map drawing to the making of 'Yu Di Tu', or geographical maps, rich in content, including land taxes, household registers, administrative divisions, numbers of carriages, mountains and rivers.

Four wooden boards painted with seven maps were unearthed in 1986 from No.1 Qin tomb in Tianshui, Gansu (3). The maps show rivers, hills, roads, villages and trees. They are the only maps of the late Warring States Period found so far.

280–233 BC

In his essay 'Five Pests' ('Wu Du')[9], Han Fei, a well-known thinker of the late Warring States Period, first used a map to refer to territories, saying 'Offer the map, and you lose land; offer your seal, and you admit inferiority.'

In another piece of his writing entitled 'On Measurement' ('You Du')[10], Han Fei mentioned 'Si Nan', which is the earliest instrument for direction determination. The period of the Han Dynasty saw the appearance of the Si Nan instrument as well as the Zhinanche, a vehicle with a wooden figure always pointing southward. The compass was one of four major inventions of ancient China and found its way to the West during the Yuan and Ming periods after being improved in the Tang and Song Dynasties. Modern compasses are similar to the Si Nan instrument in both operation and structure.

200–170 BC

The earliest map repository in China, called the Shi Qu Pavilion, was constructed during the Han Dynasty in Chang'an (present-day Xi'an) for the safekeeping of Qin maps.

168 BC

Geographical maps of the Han period were not only richer in content than previous maps, but mapping method was developing from imitating picture drawing to using abstract concepts and was gradually becoming more comprehensive. Maps were drawn on the basis of mathematical knowledge and began to have a concept of measurement. Historical records mention many geographical maps, but almost all of them have been lost.

Three maps drawn on silk were discovered in 1973 during the excavation of No.3 Han tomb at Mawangdui near Changsha, Hunan: the Topographic Map (4), Garrison Map (6) and City Map. They are earliest silk maps and military maps found so far. Detailed and reliable in content and based on field surveys, they represented the best in world cartography at the time. Painted with exquisite skill

in three colours, the cartographer followed traditional drawing principles including the use of an approximate scale. These maps are proof of the high cartographic level attained by the Chinese more than 2,100 years ago.

100 BC

Astronomical Arithmetic (*Zhoubi Suan Jing*)[11], China's first mathematical work on astronomical-calendar computation, was written. It puts forward 'Gou Gu' (Pythagorean) theorem and introduces a method for calculating the height and distance of the sun on the basis of the 'Gou Gu' theorem. This is the earliest record of survey arithmetic.

Nine-Chapter Arithmetic (*Jiuzhang Suan Shu*) annotated by Liu Hui of the Wei–Jin period (AD 220–420) is one of the world's best-known ancient mathematical works. It summarizes, in a systematic way, advances made in mathematics from the early Qin to the early Eastern Han Dynasty, including negative numbers, fraction computation, and simultaneous first-order equation.

206 BC–AD 24

A distance-measuring carriage was invented in the Western Han Dynasty. With a gear-transmission device, it gave accurate mileage, and copies were made in later periods. Its method of manufacture is recorded in the *Book of the Song Dynasty* (*Song Shu*)[12].

Circa 50 BC

Two celestial maps engraved on wooden boards (10) were discovered during an excavation of a Western Han tomb at Dongyang township in Xuyi county, Jiangsu. They not only contain numerous stars and celestial phenomena but also indicate graphically the interrelated movements of the moon, comet, sun, constellations and Milky Way as observed by the cartographer. They are the earliest extant star maps.

AD 25–220

Eastern Han bricks bearing pictures of marketplaces (see 12), which were unearthed from Xinfan and other places in Sichuan, are the earliest extant maps of city models.

In AD 32, Ma Yuan made topographic models with heaps of rice.

AD 117–132

Zhang Heng of the Eastern Han period was an outstanding astronomer. In his writings he repeatedly put forward the concept of ascertaining position by reference to a network of squares – this exerted influence on future cartographic methods. In AD 117, he made a water-powered armillary sphere capable of showing accurately the movement of heavenly bodies. It is the predecessor of the planetarium and the world's earliest timing device. In AD 125, he improved his water-powered sphere, turning it into one through which celestial phenomena could be observed. In AD 132, he created a high-precision seismograph, the world's earliest of its kind.

According to *Notes in Dream-Pool Garden (Mengxi Bitan)*[13] written by Shen Kuo in the last years of the eleventh century, the sighting devices on arrow-shooting machines of the Han period are based on the Pythagorean proposition. Archers used the pattern formed by three vertical ropes crossed by three horizontal ropes to determine the position and distance of targets. This later inspired cartographers to use a grid.

AD 263

Liu Hui of the Wei and Jin Dynasties wrote *Sea Island Arithmetic (Haidao Suan Jing)*[14] consisting of nine formulas for determining the height, depth, width and distance of distant objects, based on statistics obtained from more than two surveys and observations. The volume, named after the first formula to deal with surveying the height and distance of sea islands, was originally an appendix to the author's *Nine-Chapter Arithmetic*, and was published separately in the early Tang period.

Maps using grids (*jili huafang*) (AD 265–*circa* 1600)

AD 265

Pei Xiu, a cartographer of the Western Jin period, drew the Maps of Areas as Described in the *Book of Yu Gong* and the Topographic Map (both now lost). Pei also wrote *Six Principles of Map Making (Zhi Tu Liu Fa)* as part of his preface for the first map, in which he sets out basic mapping principles of scale, bearing and distance, and their interactions; he also discusses errors in distance determination arising from various topographic uncertainties such as undulation, slanting and winding, and the means to correct them. *Six Principles of Map Making* is a theoretical summarization of map making in the Han and Wei Dynasties, it establishes the science and mathematics of ancient cartography.

Consequently maps began to have measurability, and Chinese cartography took its second great leap in quality and drawing method. The *Six Principles* led to the establishment of *jili huafang*, or the use of grids. A combination of mathematical application as represented by *jili huafang* and the use of mainly graphic symbols constitutes the basis of traditional Chinese cartography.

Beginning in the Tang Dynasty, the Chinese court set up a system of having new maps made and presented regularly. This set a precedent for regular map renewal on a nationwide scale, a practice unprecedented in world cartographic history.

AD 724

Yi Xing (Zhang Sui), a Tang Dynasty monk and Nan Gongshuo, for the first time measured the length of the sun's shadow at various places in Henan to determine the length of one degree of the meridian. The result was approximately 132.03km.

AD 801

Jia Dan of the Tang Dynasty drew the Map of Hans and Distant Tribes (see 27) measuring 1,000cm by 1,100cm. The map was drawn to a scale of 1:1,800,000. It

marks administrative change with black ink for the former administrative regions and red for the contemporary. This set a precedent for drawing multi-colour historical maps. The map is now lost but a reduced copy of the original still exists.

1027
Yan Su of the Northern Song Dynasty improved a vehicle with a wooden figure always pointing to the south. It is a simple surveying tool for direction determination.

1044
The *Compendium of Military Affairs* (*Wujing Zongyao*)[15] written by Zeng Gongliang of the Northern Song Dynasty contains a detailed description of the surveyor's level and an attached illustration. In theory and application, this Song level is the same as present-day levelling instruments.

1072–1088
According to *Notes in Dream-Pool Garden*, Shen Kuo in 1072 organized the dredging of Bianqu river at Bian Liang, the Northern Song capital. He had dams constructed at different sections of the 840 li (420km) river, drops between neighbouring sections recorded and total height difference of the river obtained by adding all drops. This is the earliest account of level surveying.

In 1075 Shen Kuo engraved a wooden map – a three-dimensional geographical model.

1076
Shen Kuo drew the Map of Prefectures and Counties (now lost) with the 'bird's-eye' method, equivalent to today's polar coordinates. The map reflected mountains, rivers, topography, changes in administrative division, and changes in rivers and ditches, to a scale of about 1:900,000.

Shen Kuo also discovered magnetic declination and an improved device for the compass.

1098–1100
A Map Guide to the Geography of Past Dynasties (*Lidai Dili Zhi Zhang Tu*, see 35, 36) was compiled, containing forty-four maps showing geographical changes from the prehistoric Huangdi period to the Northern Song Dynasty. It is the earliest extant collection of historical maps in China.

1121
A stone tablet bearing the Map of the Nine Regions or the Nine-Region Administrative Map (24) was re-erected. Marking more than 1,400 places of the Song period, the picture is the earliest extant administrative map in China.

1136
A stone tablet bearing on each side the Map of Water Systems (Yu Ji Tu) and Map of China and Distant Tribes (Huayi Tu) was made (25, 27). The former with 5,110

carved squares is the earliest extant squared map in China. The latter is a reduced copy, one tenth of the size of the Tang map of the same name by Jia Dan. The tablet is now kept in Shaanxi Provincial Museum of Stone Tablets.

1142

Another Map of Water Systems (Yu Ji Tu) (29, 30) was cut on stone. This tablet is now kept in Zhenjiang Municipal Museum, Jiangsu. Similar to the map of the same name in Shaanxi Provincial Museum of Stone Tablets (25) in content and method of portrayal. A note on the map says 'copied from the Chang'an edition in the first month of the third year of Yuanfu's reign', evidence that the original for both maps was drawn before 1100, possibly during 1081–82.

1165

The Map of fifteen States (now lost) contained in *Pictures of Six Arts* (*Liujing Tu*) compiled by Yang Jia of the Southern Song period is the earliest block-printed map in China. It was made 200 years earlier than the first European woodcut map.

1177

Maps of Mountains and Rivers as Described in the 'Book of Yu Gong' (see 33, 34) by Cheng Dachang of Southern Song period is the earliest extant collection of block printed maps in China.

1229

The Map of Pingjiang (45, 46), engraved on stone under the direction of Li Shoupeng of the Southern Song period, accurately portrays the outline, layout and buildings of Pingjiang city (present-day Suzhou). It is the largest extant stone-engraved map in China. The tablet bearing the map is 277cm by 142cm.

1272

The Map of Jingjiang City (55, 56) engraved on hanging rock under the direction of Hu Ying of the Southern Song period is the largest stone-engraved city map in China and the only map cut on hanging rock. The original map is 321cm by 298cm.

1276

Guo Shoujing of the Yuan period, for first time in Chinese history, surveyed the East China Plain with the sea level as datum. This represents a milestone in world surveying and mapping history.

Guo also organized and made instruments for astronomical surveys at twenty-seven observation posts across the country.

1311–1320

Zhu Siben of the Yuan period spent ten years (1311–20) drawing the Geographic Map (now lost), using the method of area representation by squares ('Ji Li Hua Fang'). The map measuring 231cm by 231cm was based on data obtained from

actual investigations and surpassed all earlier extant maps in content and reliability. The map was once engraved on stone placed in Guixi County's Shangqing Palace, Jiangxi, and later edited into book format by Luo Hongxian.

1433

Ming navigator Zheng He sailed to the East African coast seven times. Zheng He's Nautical Chart (96, 97) was drawn according to data collected on his last voyage of 1433. The original map was in scroll form and later included by Mao Yuanyi in the *Book of Military Affairs* (*Wubei Zhi*), 1621. The map bears the original name of Map of the Voyage of the Precious Ship Fleet from its Departure from Port Longjiang to Foreign Countries.

1512–1513

The Map with Postscript by Yang Ziqi was drawn (now lost). A copy, made in 1526 (68), is available today. It is the earliest and largest extant coloured map on silk in China. The drawing method had a great influence on subsequent map making. The map measures 165cm by 180cm.

1536

A stone tablet bearing the Map of the Yellow River (69) was erected by Liu Tianhe of the Ming Dynasty. The map portrays geographical conditions and changes in the river systems along a section of the Yellow river from Tongguan to the sea. Written notes record the efforts made to harness the river. It is the earliest extant blueprint for flood-prevention projects along the Yellow river.

1538

The Map of the Nine Frontier Regions (80) by Xu Lun contains one general map and nine regional maps. They portray geographical features, communication routes, communities and activities of tribes in Northern China. It is the earliest Ming military map to show northern frontier defence. During the reign of the Ming Emperor Longqing (1567–1572), Huo Ji compiled *Notes on the Map of the Nine Frontier Regions* (*Jiubian Tu Lun*), updating Xu Lun's earlier work.

1541

The *Ming Atlas* (*Guangyu Tu*, see 72–75) compiled by Luo Hongxian on the basis of Zhu Siben's *Maps* is the earliest extant atlas in China. Luo used grids. The Foreword contains a list of twenty-four symbols in the form of a legend, a first in Chinese cartographic history. The atlas was compiled in 1541 and first printed around 1555. Seven later editions were made.

Rich in content, the atlas reflects the advanced level of Ming geography, cartography and printing techniques. The cartographer inherited the method of area representation by squares (*jili huafang*) and made a giant step forward in the systematic and scientific use of symbols. As a model, the atlas exerted great influence on the compilation of national and local atlases in the Ming and Qing periods, giving rise to China's national atlas series.

1562

The Map of Beijing Palaces (79) was drawn between 1531 and 1562 and printed in Wanli's reign (1573–1620). It is the earliest extant map of Beijing.

The *Atlas of Coastal Defence* (*Chouhai Tubian*, see 76, 77, 78) by Zheng Ruozeng et al. is the most representative of Ming coastal defence maps and exerted great influence over similar later maps in terms of content and method of drawing.

1590

Pan Jixun wrote the fourteen volume book *Flood Prevention Work on the Yellow River* (*Hefang Yilan*) and drew the map of the same title (83, 84), summarizing his experience in flood prevention over the previous 200 years as 'restraining flood water by building dykes and eliminating sand deposits with flood water.' The map covers the entire Yellow river and Grand Canal, showing local communities, the location of embankments, and the location and date of past breaches, as well as the time of the embankment construction and repair, and breach-prone sections.

Longitude–latitude coordinate maps (*circa* 1600–1911)

1602

Italian missionary Matteo Ricci came to China in 1582, died in Beijing in 1610 and was buried in the Three-Pagoda Temple there. He introduced transit survey skills and the longitude–latitude coordinate system to China, which helped Chinese cartography enter a new period of development. Between 1584 and 1608, the world map translated by Ricci was reproduced by others and reproductions were widely distributed in China. Now extant include the Complete Map of the World, a coloured reproduction kept in Nanjing Museum (92), an ink-printed copy of the same title now kept in Museum of Chinese History, and two reproductions now kept in Liaoning Museum.

1629

Scientist Xu Guangqi introduced the Western concept of longitude and latitude and other relevant surveying and computing skills when revising the Chinese calendar. He directed the survey of longitude and latitude in Beijing, Nanjing, Nanchang and Guangzhou, and determined the longitude and latitude of eleven places including Jinan and Taiyuan through computation. Xu's longitude–latitude coordinate system, with the meridian running through Beijing as the prime, was used in early Qing maps based on field surveys. Its influence lasted until the early years of the Republic of China.

1638

The *Historical Atlas of China* (*Jingu Yu Ditu*, see 101, 102) compiled by Wu Guofu and others was printed, with Ming elements marked in black and those of previous dynasties in red. The atlas is the earliest extant cartographic work in China made by process printing.

1684–1686

The Map of Fujian (111–114) was prepared and presented by Fujian provincial authorities to the Qing government. The largest coloured map painted on silk now extant in China, the whole sheet measures 750cm by 750cm, with the map measuring 640cm by 640cm.

1708–1718

Modern cartography based on transit surveys was more advanced than traditional Chinese methods; the new method, however, was not extensively applied in map making during late Ming and early Qing periods due to the court's lack of attention. This changed in the reigns of the Qing Emperors Kangxi, Yongzheng and Qianlong, when modern surveying and mapping flourished.

Emperor Kangxi ordered a surveying team composed of Chinese officials and Western missionaries to carry out nationwide field surveys. The longitudes and latitudes of 641 locations were determined through triangulation surveys. This project marked the beginning of longitude–latitude surveys in China for cartographic purposes.

Surveys began in 1708 and were completed in 1717, and the Confidential Map of the Qing Empire (119), the first national map based on field surveys, was compiled in 1718.

1710

Field surveys were carried out in Beijing and Heilongjiang to determine the length of arc within one degree of longitude. It was discovered that the length of arc varies at different latitudes, proving Issac Newton's theory that the terrestial globe is oblate.

Emperor Kangxi personally decided that the length of arc within one degree of longitude equals 200 *li* on the ground and that one *li* equals 1,800 *chi*. Official *chi* were thus established as basic measures. They were the first length measures in the world derived from longitude surveys.

1717

Emperor Kangxi ordered lama Churqin Zangbu et al. to carry out field surveys and prepare a map of Tibet. They found Mount Qomolangma was the world's highest peak and marked it on the map.

1717–1721

Emperor Kangxi's Confidential Map of the Qing Empire had three editions: a woodblock version (119), a copper plate version and a version that contained separate maps of Qing provinces and prefectures (122). The first, made in 1718, contains one general and twenty-eight provincial and regional maps (omitting Tibet and Western Mongolia). In the second printing in 1721, the number of provincial and regional maps increased to thirty-two, this time including Tibet and Western Mongolia. On the maps are the meridians and parallels with all meridians meeting at the North Pole and with that passing through Beijing as the prime.

Maps from this edition are rare today. The copper plate edition, made in 1719 by missionary Mattee Jartoux, contains forty-one maps. Its reproductions bearing Jin Liang's title 'Manchu-Han Confidential Map of the Qing Empire' (see 119) were made in 1929 and widely distributed. The edition of separate provincial and prefectural maps was a derivative of the Confidential Map of the Qing Empire. Reproductions of maps from this edition were made in 1934 by Peiping's Minshe Publishing House under title 'Court Map of the Qing Empire'.

1725–1730

Several editions of the Qing Map of the Yongzheng Era in Ten Rows were published (see 124). 'Row' refers to parallel. The squaring system was used, hence its other name, Qing Map with Square Divisions. Based on the Confidential Map of the Qing Empire prepared in 1718 (see 119) and with new data added, the map was a landmark in Chinese cartography. Completed works were kept confidentially in the Qing Cabinet and little known to the public.

1737

The *New Altas of China* (*Zhongguo Xin Tuji*), derived from the Confidential Map of the Qing Empire prepared in 1718 (see 119), was compiled and published in France. The atlas was widely circulated in Europe.

1750

The Complete Map of Beijing (128, 129), the first large-scale (1:650) map of urban Beijing based on field surveys, was completed. The map is the most authoritative for studying Beijing's history in the mid eighteenth century.

1761

Qing Emperor Qianlong twice sent He Guozong and Ming Antu to the Western Regions on surveying missions. They obtained data from over ninety survey points in the vast area west of Xinjiang's Hami and east and south of Lake Balkhash, completing work left undone from the reign of Emperor Kangxi. On this basis was drawn the 1761 Map of the Western Regions, which served as the blueprint for all later maps of Xinjiang. While surveying relied mainly on missionaries from the West during the reign of Kangxi, surveying and mapping of Xinjiang was mainly done by the Chinese during the reign of Qianlong.

Under the order of Emperor Qianlong, the Qing Map of the Qianlong Era was made (see 131, 132). It was based on the Confidential Map of the Qing Empire (119), the Qing Map of the Yongzheng Era in Ten Rows (124) and the Map of the Western Regions. Added to the map are data on Xinjiang and Tibet and on the geographical content of Southwest Asia, the Indian subcontinent and the Arabian Peninsula. The map was printed from 104 copper plates and divided into thirteen rows as parallels. Hence another name, the Qing Map of the Qianlong Era in Thirteen Rows. In 1932 the Palace Museum in Beijing had the map reprinted from the original copper plates.

Copies of the Confidential Map of the Qing Empire, made during the reigns of

Kangxi, Yongzheng and Qianlong, were unprecedented in ancient Chinese cartography in reliability, minuteness of detail, scope of surveying and area coverage.

1782
Imperial officer Ah Mida was ordered by Emperor Qianlong to 'find the source of the Yellow river and offer a sacrifice to the river god.' In an expedition Ah Mida found the source to be a tributary southwest of Xingxiuhai, and prepared the Chart of the Source of the Yellow River (133). The chart is still extant and shows fairly correctly the location of the source.

1787
The Complete Map of Taiwan (134), the earliest extant coloured map of Taiwan, was prepared before 1787.

1832
Li Zhaoluo compiled and published the Complete Map of the Unified Qing Empire (see 145), making public the court's confidential maps for the first time. The main feature of the map is the overlapping of the meridian-parallel network and the grid (*jili huafang*). Li rendered parallels and meridians in red dotted lines and square divisions in black lines, beginning a new practice in mapping. The use of two reference systems resulted from the dual considerations of draughtsmanship and function, and from the need to portray heaven and earth. The interaction of two coordinate systems, represented scientific progress, as proved by later developments. The map spread far and wide and had considerable influence. The practice of using both the meridian-parallel network and square division was widely adopted by cartographers in China until about 1910.

1842–1852
The *Illustrated Geography of the World* (*Haiguo Tu Zhi*, see 146) compiled by Wei Yuan was published in three editions between 1842 and 1852, first in fifty volumes and then expanded to sixty and 100 volumes. The work covers history, geography, customs and advanced science and technology in the West. It also contain the first comprehensive world atlas prepared by the Chinese based on translations. With separate maps of countries in addition to those of continents, the atlas is more detailed than Matteo Ricci's world map.

1863
Hu Linyi and others compiled the Map of the Qing Empire and Neighbouring Regions (147), based on confidential maps prepared during the Kangxi and Qianlong eras and following Li Zhaoluo's practice of using both the longitude–latitude coordinate system and squaring system. The map helped to publicize confidential maps prepared during the early Qing Dynasty.

1866–1891
The compilation of laws and decrees during the Qing period began under the reign of Emperor Kangxi (1662–1722), but map compilation was not given much importance until the reign of Qianlong (1736–1795). In 1886 the Department for the Record of Laws and Decrees was re-established in Beijing for the compilation of Qing laws and decrees. One of its most important tasks was to compile maps. In 1889 it notified all provinces to 'prepare within one year maps of the province and its prefectures and counties accompanied by commentaries and submit them to this department.' In 1890 the Cartographic Section was set up under the same department, the first ever administration in China in charge of map making. In 1891 the department sent out a second notice, promulgating mapping standards. The provinces thereafter submitted their maps to the department in accordance with the regulations.

1895
The Surveying Section was established under the Military Training Centre in Beijing to take charge of field surveys.

1895–1898
Kang Youwei, Liang Qichao et al. set up a surveying society in Nanjing; Zou Shike, Zou Daijun et al. founded a map society in Wuchang, which was renamed the Geographic Society in 1898. They were the earliest surveying and geographic organizations in China.

1897
The Northern Army Academy was set up in Tianjin. The academy opened China's first training centre for Western surveying skills.

1903
Zou Daijun compiled *Maps of China and the Rest of the World* (*Huangchao Zhongwai Yudi Quantu*), an influential educational atlas published in the last years of the Qing Dynasty. It served as the main reference source for later world atlases. The cartographer uses both cylindrical and conic projections, and mathematically converts meridians on foreign maps to conform to the line passing through Beijing's Wumen gate tower as the prime meridian.

1904
The Capital Army Academy of Geodesy and Cartography, China's first educational institution for their study, was established in Beijing. The academy opened three specialities – triangulation surveying, topographic surveying and map making.

1905–1906
During the reign of Emperor Guangxu, with the introduction into China of Western cartographic and printing technology, Chinese maps improved in quality. Made on a more scientific basis, they had greater reliability and accuracy. Both

hatching and layer-tinting were used to depict landforms and topography. Maps owed their good quality to the lithographic and copper plate printing processes and to the use of imported offset printing paper and art paper. Representative works of quality were the *Atlas of the Qing Empire* (*Da Qing Diguo Quantu*, see 161), compiled and published by the Commercial Press in Shanghai, and *Maps of China and the Rest of the World in the Twentieth Century* compiled by Zhou Shitang et al.

1906–1911

The *Historical Atlas of Various Dynasties* (*Lidai Yu Ditu*, see 166) was compiled by Yang Shoujing in co-operation with Xiong Huizhen. With elements of Qing and previous dynasties shown for comparison, this thirty-four volume atlas was printed in red and black through process printing. Based on past official geographic works and survey-based maps of the early Qing period, the atlas surpassed all similar works in fact authentication. With details of territorial boundaries, administrative divisions and cities of past dynasties, it was the most complete historical atlas of its time.

Notes

1 *Records of the Historian* (*Shi Ji*), written in 104–91 BC by Sima Qian of the Western Han Dynasty (206 BC–AD 25), consists of 130 articles. China's first general history in biographical form covering about 3,000 years from the period of the legendary tribal leader Huangdi (now regarded as the ancestor of all Chinese people) to the reign of Emperor Wudi (140–87 BC) of the Han Dynasty.

2 *Zhuangzi* is a Taoist classic written by Zhuangzi (*circa* 369–286 BC), a Warring States Period philosopher, and his followers. The book originally consisted of fifty-two essays, of which thirty-two still survive. Chuang Tzu is believed to be the author of seven of them.

3 The *History of the Han Dynasty* (*Han Shu*) is a book of history written by Ban Gu (AD 32–92) of the Eastern Han Dynasty (AD 25–220). It consists of 100 sections bound in 120 volumes and covers the entire Western Han Dynasty (206 BC–AD 25).

4 See note 8.

5 *The Zhou Book of Rites* (*Zhou Li*), one of the Confucian classics, is a record of political systems of the State of Zhou and other states during Warring States Period (475–221 BC), together with Confucian exhortations on the correct form of political system. Experts on ancient classics differ in opinion about the book's author, giving credit to Ji Dan, the younger brother of the King of Zhou State (who remains anonymous) or Liu Xin of the Western Han Dynasty (206 BC–AD 25).

6 *The Book of Guanzi* was written by a state of Qi scholar during the Warring States Period (475–221 BC) under the name of the famous thinker Guan Zhong, alias Guanzi. The book, which consists of twenty-four volumes, covers a motley collection of subjects including various schools of thought and astronomy, calendar computation, geography, economy and agriculture.

7 *The Book of Mountains and Rivers* (*Shanhai Jing*), an ancient geographical work consisting of eighteen pieces of writing by unknown authors. fourteen pieces were written during the Warring States Period (475–221 BC) and four during the Western Han Dynasty (206 BC–AD 25). The book consists mainly of popular legends based on geographical features including mountains, rivers, communities, nationalities, produce, medicine, sacrificial rites and witchcraft.

8 *Yu Gong* is a section of *Records of Past Dynasties* (*Shang Shu*), a Confucian classic believed to have been compiled by Confucius himself. *Yu Gong* is believed to have been written by an anonymous author during the Warring States Period (475–221 BC). *Yu Gong* records China as being divided into nine regions based on the assumed administrative division of China after Yu, a Xia Dynasty (*circa* 2,100–1,600 BC) tribal leader, who was believed to have led people to successfully launch massive flood-control projects. The section contains detailed descriptions of mountains, rivers, marshlands, soil, produce, tributes, taxes and communications in the Yellow river valley, and sketchy, rough descriptions of conditions along the Yangtze and Huai rivers. *Yu Gong* is a precious record of China's ancient geography based on primeval legends on flood control. It is China's earliest geographic work with high scientific value (see 33, 34).

9 'Five Pests' ('Wu Du') is from a collection of essays entitled *Han Fei Zi* by Han Fei (*circa* 280–233 BC); a philosopher of the late Warring States Period (475–221 BC) and a representative of the Legalist school of thought of his time, which advocated the rule of law.

10 Also from *Han Fei Zi*, see note 9 .

11 *Astronomical Arithmetic* (*Zhoubi Suan Jing*), is part of a ten volume book, *Arithmetic* (*Suan Jing*), written during the Western Han Dynasty (206–25 BC) or earlier. It deals with astronomical-calendar computation.

12 The *Book of the Song Dynasty* (*Song Shu*), a 100 volume book written by Shen Yue of the Southern and Northern Dynasties (AD 420–589), covers history from the Xia–Shang–Zhou period (2,100–771 BC) to the time of its writing, with particular focus on the Wei–Jin period (AD 265–420).

13 *Notes in Dream-Pool Garden* (*Mengxi Bitan*), a book written by Shen Kuo in the last years of the eleventh century, was completed at the author's residence 'Dream-Pool Garden' in Runzhou (present-day Zhenjiang city, Jiangsu), hence the title. The book covers astronomy, mathematics, physics, chemistry, biology, geology, geography, meteorology, agriculture, engineering, literature, history, music and the fine arts.

14 *Sea Island Arithmetic* (*Haidao Suan Jing*) is also from the ten volume *Arithmetic* (*Suan Jing*, see note 12). This part is written by Liu Hui of the Wei–Jin period (AD 265–420) and deals with determining the height, depth, width and distance of distant objects on the basis of data obtained through multiple surveys and observations.

15 *Compendium of Military Affairs* (*Wujing Zongyao*); is a forty volume illustrated book on military affairs, edited by Zeng Gongliang of the Northern Song Dynasty (960–1127) under official direction.