

Title: *Kunyu Wanguo Quantu* 坤輿萬國全圖

Date: 1602

Author: Matteo Ricci

Description: Helen Wallis writes that the cartography of the European Renaissance reveals the stages by which men learnt over a short period of years to assimilate a new world of ideas. There followed a second, more dramatic, confrontation of old and new when European missionaries carried to the Far East the scientific learning of their age. Pre-eminent among these missionaries was Father Matteo Ricci, called by the Chinese *Hsi-ju*, the Wise Man from the West, or Western Scholar. In 1938, an exhaustive work by Pasquale d'Elia, edited by the Biblioteca Apostolica Vaticana, was published with comments, notes, and translation of the whole map. "In Ricci the civilization of the Far West was for the first time meeting that of the Far East", Father Pasquale d'Elia, S.J., wrote in his last article on Ricci, published two years before his death; he describes the encounter as a "happy meeting of minds". The maps carry plentiful instructions for use and detailed illustrations of the instruments that went into their production, as well as explanations regarding conceptions of "systems of the terrestrial and celestial world". There is a long preface by Matteo Ricci in the middle of the map, where it depicts the Pacific Ocean. D'Elia's translation reads:



Once I thought learning was a multifold experience and I would not refuse to travel [even] ten thousand Li to be able to question wise men and visit celebrated countries. But how long is a man's life? It is certain that many years are needed to acquire a complete science, based on a vast number of observations: and that's where one becomes old without the time to make use of this science. Is this not a painful thing? And this is why I put great store by [geographical] maps and history: history for fixing [these observations], and maps for handing them on [to future generations]. Respectfully written by the European Matteo Ricci on 17 August 1602.

It is well known that Ricci started to produce world maps as soon as he arrived in China, and he successively improved them through different editions. His aims, among other things, were to show the Chinese the exact location of Europe in relation to their own country, which he placed at the center, to indicate the location of places by means of circles of latitude and longitude, to provide descriptions of the five terrestrial continents surrounded by oceans, and to demonstrate the sphericity of the earth. Ricci's world map went through four editions: Zhaoqing (1584); Nanjing (1600), Peking (1602), and Peking (1603). The title of the first two editions was *Shanhai Yudi Quantu*, 山海輿地全圖 ["A complete geographical map of mountains and seas"]. This was changed in the 1602 edition to *Kunyu Wanguo Quantu* 坤輿萬國全圖, which literally translates as "Map of the Myriad Kingdoms of the World". The other maps he produced were reprints, not real editions. Most of these maps are now lost, although several original copies of the Peking editions (1602 and 1603) survive. Ricci sent copies of the first edition of his world map to Europe. They were made "in our own way" — *al nostro modo* — but the writing on them — *lettere* — measures of miles and names, was theirs.

Ricci made this series of world maps to show the Chinese what the world was really like and to disabuse them of the traditional belief still held by many Chinese that the world was a square plain mainly comprised of Chinese territories. Neither this first edition of Ricci's map, produced in 1584, nor a second edition, produced in 1600 in Nanjing, is extant. Although many thousands of impressions of the enormous third map, published in Beijing on 17 August 1602, and the even larger fourth map, published in Beijing in 1603, were said to have been printed, only a few survive, some of which are fragmentary. The third edition, *Complete Map of the Myriad Countries of the World* (*Kunyu wanguo quantu*), was divided into six parts and designed to be mounted on a folding screen, over 12 feet in total width. It was printed in ink from carved woodblocks (six per panel) onto paper made from bamboo fiber and layered together in two very thin sheets, using traditional Chinese processes. The projection of the map is European (albeit with China—the so-called *Middle Kingdom*, shifted to the center), but the abundant texts are all in Chinese, though from European as well as Chinese sources. Most of the descriptive material is fairly straightforward, but it also includes a few remarks about wondrous peoples of a type that had appeared in both European and Chinese texts for centuries. The map includes over a thousand place names, along with varied geographical and ethnographical information, as well as the signed texts (including one by Ricci) known as *Prefaces*. Corner roundels depict the Ptolemaic solar system, the nine spheres of heaven, and north and south polar projections. Further images show how the seasons are caused by the sun's distance from the earth, as well as solar and lunar eclipses.

In a marginal note on his map of 1602, he wrote: "I should have made a globe, but because it was an inconvenient form for a map I was obliged to convert the sphere into two dimensions and turn circles into lines". Before 1585 Ricci had made three terrestrial globes for a scholarly friend, Wang P'an, prefect of Chao-ch'ing, and two other Chinese "entirely in their language and script", claiming that these and the astronomical instruments which he had also made were absolutely new in China.

This claim was unjustified. In 1267 the Persian astronomer and geographer Jamal-ud-Din had presented Kublai Khan with a terrestrial globe and six other astronomical instruments. We learn from an accompanying description that the globe was a round ball made of wood, seven parts of which were colored green and represented water, and three parts of which were colored white and represented land. It is improbable that Ricci had heard about this globe. He may never have realized that his terrestrial globe was not the first in China. He did discover later that the Chinese had knowledge of astronomical instruments. At Nanking in 1600 he was shown at the College of Chinese Mathematicians various instruments, including a celestial globe dating from the Yuan dynasty in the 13th century; but, as Dr. Joseph Needham points out, Ricci, like others after him, underestimated Chinese scientific knowledge. Ricci was not aware that early in the 15th century the Chinese were producing world maps which surpassed those of western Europe, the most remarkable being the Korean world map of 1402 by Ch'uan Chin, based on the map of Li Tse-min, c. A.D. 1330 (see #236 *Kangnido*).

According to the historian Angelo Cattaneo, 'Ricci's maps' as such did not exist. What is actually possible to find is instead maps resulting from the combined actions of the Jesuit fathers and, equally important, of Chinese scholars and artisans. Ricci was certainly one of those Jesuits, but there were also others such as Michele Ruggieri (1543-1607), at least until he was sent back to Rome in 1588 by the Visitor of Missions in the Indies Alessandro Valignano, and

later Giulio Aleni (1582–1649). Their Chinese collaborators included the astronomer and mathematician 李之藻 Li Zhizao (1565–1630) and high-ranking officials such as the prefect of Zhaoqing, 王泮 Wang Pan, who advised Ricci to make the first map prepared by Ricci and Ruggieri in Zhaoqing in 1585 ‘speak Chinese’, as well as the woodcutters and printers who carved the woodblocks and actually printed the maps. Not only maps, but Ricci’s entire intellectual production would be unconceivable and unattainable without the direct involvement of several Chinese agents who actively collaborated with him in the Jesuit residences established at Zhaoqing (1583–89), in Shaoguan (1589–95), in Nanjing and Nanchang (1595–98), and finally at the Imperial Court of Beijing.

The works of Pasquale d’Elia, Marcel Destombes, Cordell D.K. Yee, Roderich Ptak, and Hui-Hung Chen, among others, have emphasized with different nuances not only the composite Chinese involvement in the production of ‘Ricci’s maps’, but also the consistent Chinese reception of the several cartographic works produced at the time of Matteo Ricci, independent of any form of Jesuit agency, as in encyclopedias such as the 方輿勝 Fangyu shenglu [Compendium of geography] published in 1612, or the 圖書編 Tushu bian [Compendium of illustrations and text descriptions] published in 1613.

Since their first editions in Chinese of 1584–85, the monumental ‘Ricci’s maps’ show that exchange, brokerage, mediation, and interdependence of the principal agents, processes and practices involved in the mutual emplacement of China and Europe are the main features of the cosmography produced in China, within and outside the context of the mission.

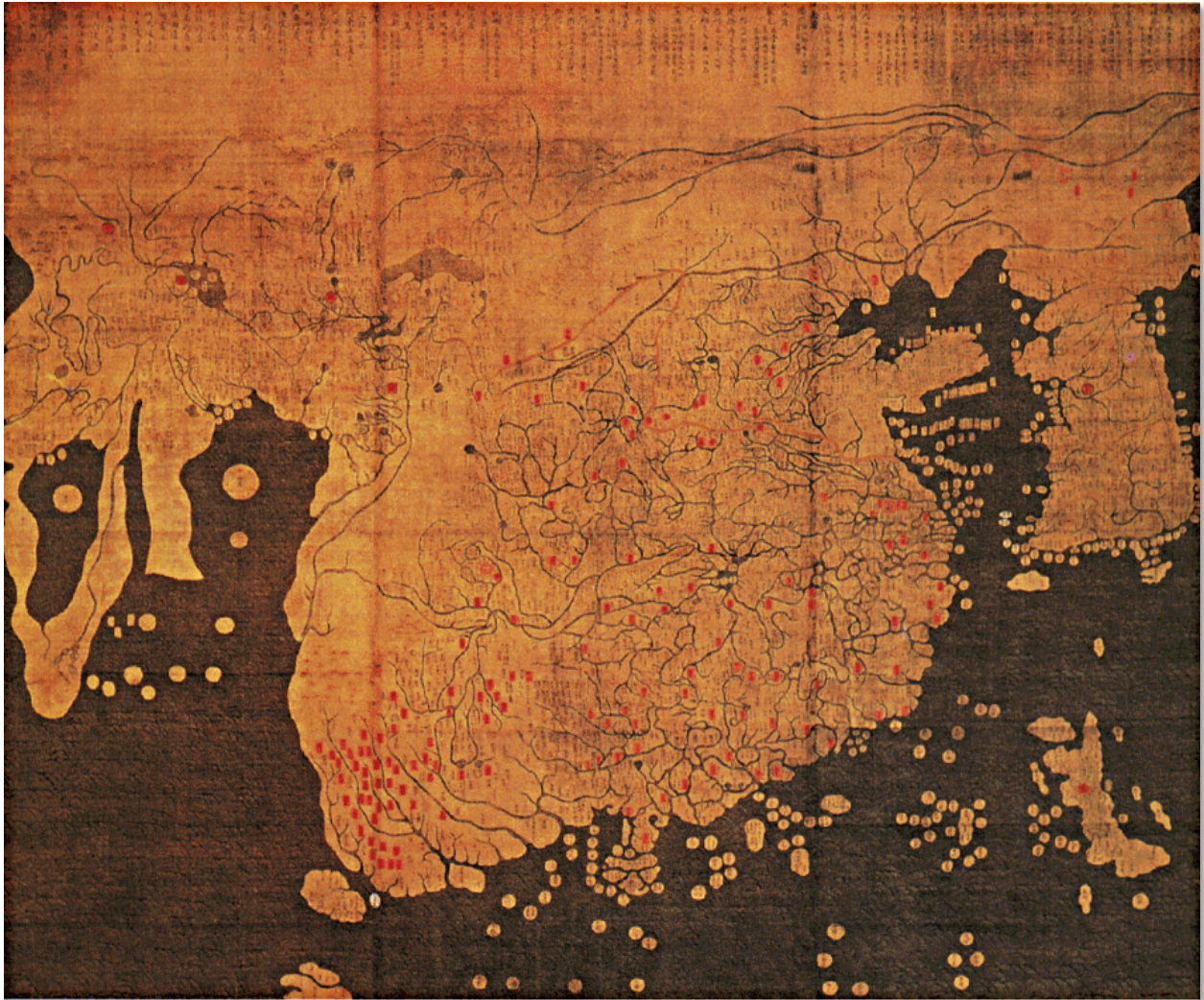
Many previous works on this topic allude to the ‘revelation’ that Ricci’s scientific cartographic and astronomic knowledge is said to have represented for Chinese culture. This disregards the very existence of the intense and independent Chinese reception of the world maps originally produced in the context of the Jesuit missions and also of the previously cited Chinese-Korean world map 疆理圖 Kangnido (#236) based on 14th century Chinese and Persian sources. We should limit or at least contextualize those interpretations that focus on Ricci’s alleged scientific and geographic ‘revelation’ to Chinese science.

A study of the cosmographic structure of the *Kangnido* map by Cattaneo shows how weak traditional, strict, ‘progressive’ geographic interpretations of Ricci’s cartographic endeavors and their impact on the Chinese civilization can be. The *Kangnido* map was produced in Korea around 1470 and was derived from a prototype made in 1402 under the supervision of the two Korean officials 李齊 Yi Hoe and 金士衡 Kim Sa-hy ng and the Confucian scholar 權近 Kwon Kun as part of a cultural project of the newly founded Choson dynasty that ruled Korea from 1392 to 1910. The great exaggeration of the size of Korea should be understood as belonging to this specific political and cultural function. According to Kwon Kun’s preface, written in the lower part of the *Kangnido*, the map was made by combining and editing two earlier Chinese maps designed by 李澤民 Li Zemin and 清浚 Qing Jun around 1330. These two maps came to Korea through the Korean ambassador Kim Sa-hy ng (1341–1407) in 1399.

This brief presentation of the Chinese-Korean *Kangnido* serves to highlight some relevant issues that help us to a better understanding of the cartography produced in the context of the Jesuit mission in China. The *Kangnido* represented a cosmography designed in Chinese on the basis of Chinese and Persian 14th century sources which were updated twice in Korea in the course of the 15th century and later on in Korea and Japan at the end of the 16th century. This

case shows that it was absolutely not the case that technologies of space representation were monopolized by Western culture; on the contrary, the *Kangnido* instead shows clearly that China, Korea and Japan had solid traditions of space representation that resulted from connections between several civilizations in the vast Eurasian continent within a multi-centric world: from the Mediterranean to Persia, Africa, the Indian Ocean.





*Yoktae chewang honil kangnido [Map of Historical Emperors and Kings and of Integrated Borders and Terrain] Korean world map, 1402, 135.5 x 174 cm (#236)
by Ch'üan Chin and Li Hui, 171x164 cm emphasizing the size of China and Korea and displaying the shape of Africa almost 100 years before the Europeans discovered its shape.*



The 1602 Ricci map is a very large, 5 ft high and 12 ft wide, woodcut using a pseudo-cylindrical map projection showing China at the center of the known world. It is the first map in Chinese to show the Americas. The map's mirror image originally was carved on six large blocks of wood and then printed in brownish ink on six mulberry paper panels, similar to the making of a folding screen.

It portrays both North and South America and the Pacific Ocean with reasonable accuracy. China appropriately is linked to Asia, India, and the Middle East. Europe, the Mediterranean, and Africa also are well delineated. The map includes images and annotations describing different regions of the world. Africa is noted to have the world's highest mountain and longest river. The brief description of North America mentions "humped oxen" or bison (駝峰牛 *tuófēngniú*), feral horses (野馬, *yěmǎ*), and names Canada (加拿大, *Jiānádá*). The map identifies Florida as *Huādì* (花地), the "Land of Flowers." Several Central and South American places are named, including Guatemala (哇的麻刺, *Wādemálá*), Yucatan (*Yǔgétáng*), and Chile (智里, *Zhīlǐ*).

Matteo Ricci, gives a brief description of the discovery of the Americas. "In olden days, nobody had ever known that there were such places as North and South America or *Magellanica* (using a name that early mapmakers gave to a supposed continent including Australia, Antarctica, and Tierra del Fuego), but a hundred years ago, Europeans came sailing in their ships to parts of the sea coast, and so discovered them."

The figure of the *Nove Cieli* [Nine Skies] is printed to the left of the title, illustrated as per 16th century conceptions. The accompanying inscription explains the movement of the planets. The right-hand section (panel 6) has other inscriptions giving general ideas on geography and oceanography. Another inscription records an extract of the *Storia dei Mongoli* regarding the motions of the Sun. In the top of the left-hand section (panel 1), there is an explanation of eclipses and the method for measuring the earth and the moon. Both sections carry the characteristic Jesuit seal, the IHS of the *Compagnia di Gesù*. At the bottom left, in the Southern Hemisphere, is the name of the Chinese publisher of the map and the date: one day of the first month of autumn in the year 1602.

The map also incorporates an explanation of parallels and meridians, a proof that the sun is larger than the moon, a table showing the distances of planets from the earth, an explanation of the varying lengths of days and nights, and polar projections of the earth that are unusually consistent with its main map.

Father Ricci entered China at Macao as a Jesuit missionary in 1582. Some time before the end of 1584 he made his first map of the world, named *Yudi Shanhai Quantu*, and made in Zhaoqing with Chinese collaborators, a Chinese version of the European world map hanging on the wall of the mission room. No example of this map, which Father Pasquale d'Elia calls the "first edition", is known to survive, although some idea of what it was like may perhaps be gained from the copy made by Ricci's friend Chang Tou-chin in 1623. Nor are any examples known of Ricci's second world map, which was made at Nanking in 1600 at the request of an important mandarin, and was twice the size of the first. Ricci's third world map, made to fit a folding screen twelve feet by six feet comprising six panels, and published at Peking in 1602, is preserved in the Vatican Library. It was reproduced by Father d'Elia in a magnificent facsimile edition in 1938. Two other examples are in Japan, and a fourth is in the possession of Mr. Philip Robinson in London. A later reprint, completed after 1644, hangs on the wall in the Royal Geographical Society, London. In 1603 Ricci made a fourth and still larger version of his map, printed on eight panels, instead of six, an example of which survived in Korea before the Second World War.

According to John D. Day, Matteo Ricci prepared four editions of Chinese world maps during his mission in China before 1603:

- a 1584 early woodblock print made in Zhaoqing, called *Yudi Shanhai Quantu*; (lost)
- a 1596 map carved on a stele, called *Shanhai Yudi Tu*; (lost)
- a 1600 revised version of the 1596, usually named *Shanhai Yudi Quantu*, engraved by Wu Zhongming in Beijing;
- a 1602 larger and much refined edition of the 1584 map, in six panels, printed in Beijing, called *Kunyu Wanguo Quantu*.

Before his death at Peking in 1610, Matteo Ricci prepared four more world maps after the 1602 one:

- a 1603 eight panel version of the 1602 map, usually named *Liangyi Xuanlan Tu* [Map for the far-reaching observation of heaven and earth]. The 1603 edition is larger than the 1602, but is less well known because of the fewer extant copies and versions based on it;
- a 1604 booklet based on the map of 1600, also named *Shanhai Yudi Quantu*;

- engraved by Guo Zizhang (郭子章);
- a new 1608 version, twelve copies presented to the emperor and
- a 1609 map in two hemispheres.

As mentioned above, most of these maps now are lost. Later copies of the 1602 edition of the *Kunyu Wanguo Quantu* may be found in China, Korea, London, Vienna and the James Ford Bell Library; one copy of the map recently was discovered in the storerooms of the Shenyang Museum in China.

Diane Neimann, a trustee of the James Ford Bell Trust, notes that: "There is some distortion, but what's on the map is the result of commerce, trade and exploration, so one has a good sense of what was known then." Ti Bin Zhang, first secretary for cultural affairs at the Chinese Embassy in Washington, D.C., said in 2009: "The map represents the momentous first meeting of East and West" and was the "catalyst for commerce."

Ricci's maps transformed the Chinese picture of the world. They illustrated the division of the earth into its five "celestial features", the Equatorial zone, the two Tropical and the two Polar zones. They displayed its terrestrial features as five continents, Europe, Africa, North and South America, Asia and *Magellanica* (the southern continent). By means of lines of latitude and longitude the position of each place could be exactly calculated, whereas the Chinese checker-board divisions represented distances (see #227 *Kuang Yü T'u*). Ricci's sources were the first and later editions (published from 1570) of Abraham Ortelius' *Theatrum Orbis Terrarum*, the maps of Gerard Mercator and, for the third version of the world map, the large world map by Peter Plancius, 1592. The projection follows that of Ortelius' *Typus Orbis Terrarum*, published in the *Theatrum* (1570), but Ricci centers his map on the meridian of 170° E, which passes east of New Guinea. By placing China and its surrounding territories towards the center of the map, he made a reasonable concession to his Chinese readers. This arrangement sets America on the eastern borders of the map, a fact that was later to confuse the Japanese, who saw America as one of the "western countries". Such a difficulty does not arise when the continents are displayed on a globe. To convey the idea of the sphericity of the earth on a flat map, Ricci included insets of the polar regions and diagrams of the armillary sphere, the celestial spheres and the seasons.

Map historian M. Marcel Destombes pointed out that the records of native Chinese globes show that they comprised only the top half of the earth, and that, curiously enough, in the work of the Persian astronomer al-Biruni the 11th century (#214.3) there is a reference to the fact that he had constructed a globe which comprised only one hemisphere. The globe which was made in 1623 by Nicolo Longobardi, Ricci's successor as Superior General of the China Mission, in collaboration with Manuel Dias, can be regarded as the completion of Ricci's work (#458). Chinese astronomers were writing of the sphericity of the earth in the second century B.C., and that they must have known of it as early as the fourth century B.C. Ricci promoted the theory of the five zones of latitude, and described the five continents.

The traditional Chinese concepts of *Yin* and *Yang* made the force of opposites an overwhelming feature in daily life and every ritual observance. In the Chinese mind *Yang* was associated with hot and south and *Yin* with cold and north. It would, therefore, be very difficult for the Chinese to accept the fact stated on the globe that "the south can also be cold".

Ricci also expounded their theory of the earth's place in the universe writing in terms of an earth-centered universe, and making use of a traditional Chinese idea in his explanation: "The earth is like the heavy turbid yolk of an egg concentrating in one place". As Joseph Needham in his multi-volume *Science and Civilization in China*, has shown, the analogy of the yolk in a hen's egg and that of the spherical cross-bow bullet were the two oldest expressions in Chinese cosmological thought for the shape of the earth floating in the midst of the vast heavens. We find it in the *Commentary on the Armillary Sphere* by the great first century astronomer Chang Heng. This metaphor of the egg had also appeared in the cosmological ideas of the Orphic philosophers of ancient Greece, and in earlier Greek writings near the end of the fifth century B.C.

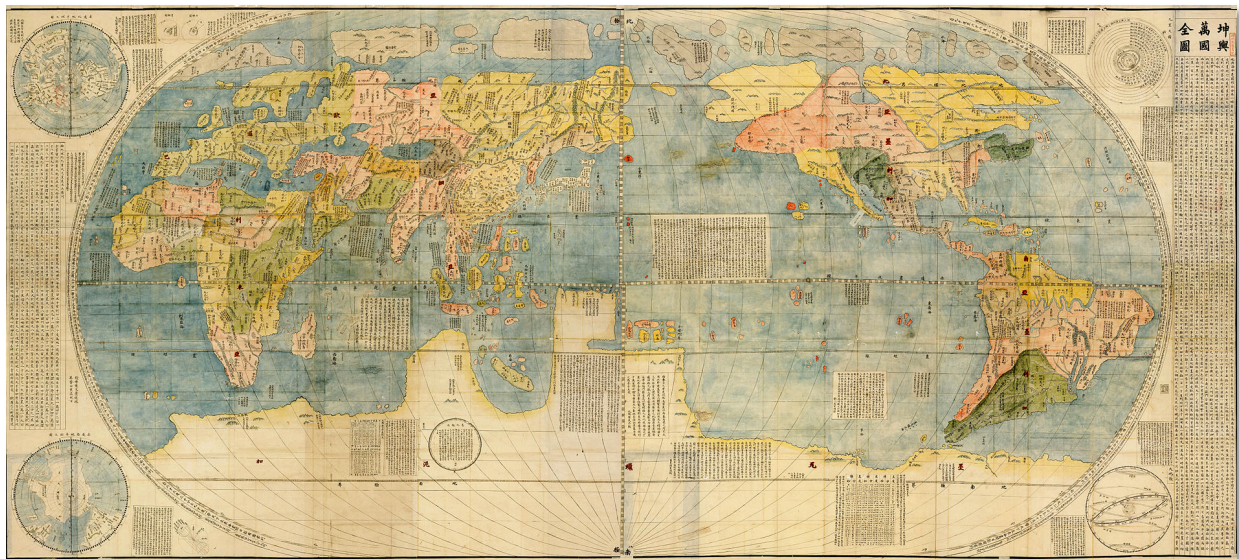
The assimilation of the 'new' knowledge provided by Ricci to the Chinese demanded some intellectual flexibility, and also a motive for accepting the new ideas. The Chinese gained no practical advantage from Ricci's geographical teachings, which became increasingly misunderstood and distorted. How little was the influence which his maps exerted on Chinese cartography can be seen from a map called the *Complete Map of the Comprehensive Great Qing Empire*, from 1818 (see illustration below, p. 16). It shows the Indian Ocean as the *Little West Sea* in the extreme southwest corner, and the Atlantic Ocean, including the island of America, in the *Great West Sea* in the extreme northwest corner. With its distortions it conveys a true psychological picture of the world as it impinged on the Chinese, a self-sufficient people living in isolation. That it is difficult to tell whether Chinese maps were intended to be maps of China, maps of the Chinese empire, or maps of the world, is significant. Ricci's report of the five continents was described by official Chinese historians of the 17th and 18th centuries as "vague and fictitious", and a "wild fabulous story". The *Rites Controversy*, which led to the missionaries' loss of imperial favors, had contributed to the declining interest in western science. The Friars, who formed the rival sect of missionaries, contested the Jesuits' sympathetic approach to Chinese culture, and to their use of science for the propagation of Christianity. "I, for my part, would prefer to see our Friars in China with crosses around their necks, rather than with maps and clocks in their hands", Friar Navarrete declared before the Royal Judge in Manila, 1656-57. It is fortunate that, despite this Chinese revulsion from western science, persons in high places should have considered the globe made by Ricci's successors Dias and Longobardi to be worthy of preservation.

Ricci's map exerted a greater influence on Japanese cartography than on Chinese because, being exempted from the prohibitions directed against works of Christian propaganda, it was available to be copied, and so came to be transmitted in a simplified form through the publication of the *Shoho* map of 1645 (see below) and that map's many derivatives. Various European maps and atlases were introduced into Japan in the late 16th and early 17th centuries, among them Ricci's map. According to J. F. Baddeley, examples of the map of 1600 were sent to Japan by the Jesuit Fathers in China; and it is probable that one was in use at the Academy of Mathematicians founded in the Church at Kyoto in 1605 by Father Carlo Spinola, S.J. Ricci's map achieved the widest circulation because its place-names and legends were written in Chinese characters, which could be read by the educated Japanese. After the prohibition of Christianity and the exclusion of all foreigners except Dutch and Chinese by the Shogunate Government in 1638, works such as Aleni's *Chih-fang wai-chi* of 1623 and Ricci's religious writings were on the list of prohibited books, but no restriction was placed on world maps

because of their usefulness. This included Ricci's map, which was considered to have no direct connection with Christianity. When, for example, a restrictive order on imports was issued at Nagasaki in 1668, world maps could still be imported because they were "convenient and useful". In later years Ricci was often mistakenly regarded as an Asian, but this misconception had its origin in *Sairan Igen*, a book on world geography written in 1713 by the celebrated scholar and high Shogunate Government official Arai Hakuseki. It is perhaps significant that the Jesuit sign IHS on Ricci's map at Kyoto University has been rubbed off.



The Japanese Soho map of 1645



Father Matteo Ricci's 1604 world map Kunyu Wanguo Quantu 坤輿萬國全圖

In choosing Chinese characters to render place-names, Ricci, like a new Adam, was given the opportunity to rename the world. It is not clear that his choices had something to do with their meanings as well as their sounds. He relied upon his Chinese collaborators to decide on the actual characters to be used in the “reverse Romanization” rendering. Some examples of English place-names and their translations into Pinyin include Europe [*Ouluopa*], Italy [*Yidaliya*], Libya [*Liweiya*], Nile River [*Niluo*], America [*Yamoyijia*], Canada [*Ganatuorh*], and Mexico [*Moshike*]. His colleagues in turn often employed earlier conventions used in Buddhist texts to choose characters to represent the sounds of foreign terms. Many of these place-names are still in use today. For example *Li-wei-ya* for Libya, a name on the map given to all of Africa, and *Ni-le* for the Nile River. The map was also much in debt to Chinese materials for details on Southeast and Northern Asia. These sources were largely identified by Ricci's scholarly friend, Li Zhizao.

In his cartouche captions to the “ten thousand countries”, Ricci is not averse to including a little of the bizarre. In *kuei kuo* [the land of the spirits], the people are described as nocturnal with mouths in their necks. This detail harkens to the European medieval notion of Eastern tribes who have heads beneath their shoulders. Ricci also mentions the land of the dwarfs:

In this country the men and women are only a foot tall. At five they bear children, and at eight they become old. Cranes often eat them and so they live in caves to avoid them. Every year in the third month of summer they go out riding on goats to destroy the eggs of the cranes.

Several prints of the *Kunyu Wanguo Quantu* were made in 1602. Most of the original maps now are lost. Only six original copies of the map are known to exist, and only two are in good condition. Known copies are in the Vatican Apostolic Library Collection I and at the James Ford Bell Library at the University of Minnesota. The Vatican's 1602 copy was reproduced by Pasquale d'Elia in the beautifully arranged book, *Il mappamondo cinese del P Matteo Ricci, S.I.* in 1938. This modern work also contains Italian translations of the colophons on the map, a catalogue of all toponyms, plus detailed notes regarding their identification.

Other copies of the 1602 map are located at: Japan, Kyoto University Collection; collection of Japan Miyagi Prefecture Library; Collection of the Library of the Japanese Cabinet; and a private collection in Paris, France. No original examples of the map are known to exist in China, where Ricci was revered and buried.

The maps received widespread attention and circulation. The governor General of Guizhou reproduced a copy of the map in a book about Guizhou published in Guiyang in 1604. Ricci estimated that more than 1,000 copies of the 1602 edition were reprinted.[]

Various versions of the map were exported to Japan, and later Korea. An unattributed and very detailed two page colored edition of the map, known in Japanese as *Konyo Bankoku Zenzu*, was made in Japan circa 1604. Within this Japanese export copy, Japanese Katakana is utilized for foreign location names throughout the Western world.

The *Shanhai Yudi Quantu*, 1607 or 1609, is a Chinese map which was published in the geographical treatise *Sancai Tuhui* (see below, p. 17). The *Shanhai Yudi Quantu* was influenced highly by the work of Matteo Ricci. Matteo Ricci had several of his own maps entitled *Shanhai Yudi Quantu*. The locations in the map have been identified and translated by Roderich Ptak in his work, *The Sino-European Map* (“Shanhai yudi quantu”), in the Encyclopedia *Sancai tuhui*.

A small library has already been written on missionary cartography in the 16th, 17th and 18th centuries. The contribution of the Jesuits to the mapping of the world in a Sino-European manner has caught the attention of many scholars. The tendency, however, has been to focus on the best-known cartographers and scientists such as Matteo Ricci, Martino Martini and Ferdinand Verbiest, although in recent decades, the cartographical work of less notable Jesuit missionaries in the Far East has been revealed. The map of the Shanghai region designed by Francesco Brancati and the geographical contributions of Antoine Thomas have been thoroughly analyzed, and Paolo De Troia has focused his doctoral dissertation on the geographical works of Giulio Aleni. In the wake of this last research the cartographical publications of one of Aleni's colleagues came to the attention of Ann Heirman, Paolo De Troia and Jan Parmentier: those of Francesco Sambiasi (#442).

About 1620 Giulio Aleni made a world map entitled *Wanguo Quantu* [Complete map of all the countries], putting China at the center of the world map, following Ricci's format and contents, but in a much smaller size (49 cm x 24 cm). This map was included in some editions of Aleni's geographical work, *Zhifang waiji* [Descriptions of Foreign Land]. His 1623 preface states that another Jesuit, Diego de Pantoja (1571–1618), on the command of the emperor, had translated a different European map, also following Ricci's model, but there is no other knowledge of that work.

In 1633, the Jesuit, Francesco Sambiasi (1582–1649), composed and annotated another world map, entitled *Kunyu Quantu* [Universal Map of the World], in Nanjing (#442).

In 1674, Ferdinand Verbiest developed the *Kunyu Quantu*, a similar map, but with various improvements. It consists of eight panels, each 179 cm x 54 cm, together displaying two hemispheres with a Mercator projection. The two outer scrolls individually depict cartouches that contain several kinds of information on geography and meteorology. The making of Verbiest's *Kunyu Quantu* [A Complete Map of the World] was intended to meet the interest of the Kangxi Emperor, as Verbiest's introductory dedication implies. There currently are at least fourteen or fifteen copies and editions of this map known in Europe, Japan, Taiwan, America, and Australia.

The *Gonyeomangukjeondo* (Hangul: 곤여만국전도) is a Korean hand-copied reproduction print by painter Kim Jin-yeo in 1708, the 34th year of King Sukjong's rule of Joseon. It shows *Kunyu Wanguo Quantu* [Complete Map of the World] measuring 533 x 170 cm on mulberry paper. This map, representing the world in an ellipse, was brought to Korea in the 36th year of King Seonjo's rule (1710) by Lee Gwan-jeong and Gwon Hui, two envoys of Joseon to China. It is owned and displayed at Seoul National University Museum, San 56-1, Sillim-dong, Gwanak-gu, Seoul, Korea and was designated National Treasure No.849 on August 9, 1985. The map shows five world continents and over 850 toponyms. It contains descriptions of ethnic groups and main products associated with each region. In the margins outside the ellipse, there are images of the northern and southern hemispheres, the Aristotelian geocentric world system, and the orbits of the sun and moon. It has an introduction by Choe Seok-jeong providing information on the constitution of the map and its production process. This reproduction map provides a clear testimony to the national interest in western maps in 17th century Korea, it is a highly esthetic piece of work, and one of the most beautiful maps produced during the Joseon period.

Dr. Siu-Leung Lee theorizes that the world map *Kun Yu Wan Guo Quan Tu*, a map completely labeled in Chinese and previously thought to be the works of the Italian Jesuit Matteo Ricci in 1602, is incompatible with the authorship of Matteo Ricci or European cartographers. The following summarizes Dr. Lee's observations.

- (1) The Europe presented in Ricci's map is outdated with little details, missing the Papal State and important cities during the Renaissance. This is inconsistent with Ricci's mission to introduce Europe to China and evangelize China. A note above Spain implies that the Europe on the Ricci map was drawn at the time of Zheng He's voyages.
- (2) Ricci's 1602 map was believed to be a copy of the 1570 Ortelius map (*see below*), yet many names on Ricci's map are not found on the 1570 Ortelius map (44 per cent of the names for Africa, 63 per cent for Asia, 46 per cent for Europe/Middle East, and 49 per cent for America), with some place names not found on any other map. Ricci stayed in China from 1584 until he died in Beijing in 1610, without notable contact with Europe. The only other sources he had were from Chinese chronicles and gazetteers as he explicitly stated in his map.
- (3) The orientation of Ricci's map with China shown at the centre is holistic, logical and systematic, in contrast to the random naming of cardinal directions in western maps at that time. Ricci did so not to please the Chinese, but to faithfully adhere to the original Chinese data made available to him, as well as to reconcile the contradictions in western maps.
- (4) Many of the Chinese names on the American continent on Ricci's map are descriptive, that can only be attributed to actual eye witnesses. These are not found in western maps.
- (5) Ricci's map shows America and Africa to be much more accurate and in greater details than European maps of his time.
- (6) The absence and presence of certain nations in Africa on Ricci's map are consistent with the dating between 1380 and 1460, in line with the period of Zheng He's voyages.
- (7) The southwest and northeast of China on Ricci's map include names strongly affiliated with Zhu Di (1403-1424) who commissioned Zheng He for the first six voyages. These names have no other significance except for their relevance to Zhu Di. Ricci's map details a China after Zhu Di's death in 1424 and shortly after the Vietnam trade route was interrupted in 1428.

The map portraying an outdated Europe without the Papal States, Tuscany and Florence is inconsistent with Ricci's status as an Italian Jesuit living in the Renaissance era. On the other hand, the geography of America on this map is not discovered by Europeans until 200 years after Ricci's death. For these reasons, the world map is nicknamed "Impossible Black Tulip". By Dr. Lee's account, according to a statement and the historical background of place names on the map, it is constructed between 1428 and 1430, more than 60 years before Christopher Columbus' first voyage. Martino Martini's *Novus Atlas Sinensis* also supports the capability of Chinese cartography in Ming dynasty. The loss of original Chinese documents, translational errors, and Ming politics have kept this secret for the past 600 years, until the details of this map are publicly available. According to Dr. Lee the entire history of cartography and Age of Exploration should be revised to include the pioneering voyages (1405-1433) and cartographical development led by Zheng He, the Chinese Admiral.

According to Angelo Cattaneo, on Ricci's planispheres, in the external corners, next to the planisphere, there are four diagrams that represent the Aristotelian-Ptolemaic universe. On the upper-left corner, there appears the sub-lunar world surrounded by the seven planetary spheres and the sphere of the fixed stars; in the lower-left and lower-right the Arctic and Antarctic poles are represented in stereographic projection; finally, in the upper-right corner

there is a diagram of the sub-lunar world, at whose center there is a representation of the terraqueous globe, surrounded by four ships, positioned at the four cardinal points. At the center of the globe, the Eurasian landmass can be made out. The overall effect of the four diagrams is without a doubt to point out the spherical nature of the earth and its circumnavigability in the context of the Aristotelian-Ptolemaic universe, composed of four elements: ideas that all contrasted with Confucian and Buddhist cosmographic ideas.

Any scholar who studies the history of cartography in China cannot avoid noticing the continual production of Chinese maps, atlases and geographical texts compiled by a succession of Jesuit missionaries from the end of the 16th century onwards. A question that has often been raised is why a group of European Jesuits, whose aim it was to diffuse Christianity in China, spent time and effort to produce geographical material in the Chinese language. The answer lies at the heart of the Jesuits' strategy for the conversion of China, in which, as is well known, they deployed their scientific knowledge as a way of gaining the trust of their Chinese counterparts by non-direct means. Cartography, together with astronomy and technology, was considered to be one of the best means of demonstrating the intellectual standing of Europeans and, in consequence, the value of the European faith.

Among the Western sources that Ricci had at his disposal to write the cartouches that are placed in the planisphere, there were the *In sphaeram Ioannis de Sacro Bosco commentarius* by Christopher Clavius (1st edition, Rome, 1570), the *Cosmographicus liber* by Petrus Apianus (1st edition, 1529), the *Sfera del mondo* by Alessandro Piccolomini (1st edition, 1540). These books were principally used for the cosmographic diagrams placed at the four corners of the *Kunyu wanguo quantu*, whose goal is without a doubt to point out the spherical nature of the earth in the context of the Christian Aristotelian-Ptolemaic universe, created by God and composed of four elements: ideas that all contrasted with Confucian and Buddhist cosmographic ideas. As for the planisphere, it is possible to detect the influences of cartography produced in northern Europe, such as the planisphere and the maps of the *Theatrum orbis terrarum* by Abraham Ortelius (1st edition, Antwerp, 1570, and re-published many times later on) but also Mercator's planisphere of 1589 and Petrus Plancius' planispheres of 1592 and 1594.

It was Ricci who found the key to open the door of China to his fellow Jesuits. As already noted, the key was European science. Also important was the way it was introduced, with flexibility and empathy. Ricci is generally considered to be the first geographer to make the Chinese aware of the division of the world into continents, of the existence of America and, possibly, of the sphericity of the earth. He noted the Sino-centric vision of the Chinese and accordingly positioned Asia in the middle of his map so that it would not be rejected by Chinese scholars. By structuring his map according to European ideas of projection, he introduced the Chinese to the Ptolemaic-Aristotelian organization of cartographic space. He also translated, for the first time, many toponyms into Chinese, some of which are still used in modern Chinese.

The historian Angelo Cattaneo concludes that the 16th century was marked by the development and deployment of spiritual practices that were rooted in the tradition of spiritual exercises, largely inherited from antiquity and the Middle Ages. Geography and cosmography were mobilized within these meditative practices and this was also done through references to maps and globes. Spiritual meditation found a key instrument in globes and maps of the world, especially with respect to Saint Ignatius' *compositio loci* [composition of place], a form of visual and spatial imagination for facilitating the meditation and the personal encounter with Jesus

and the mysteries of the Catholic faith. Maps could help to locate the stories narrated in the Bible, to visualize the vicissitudes of Christ and the apostles. Following examples derived from Antiquity, for instance Macrobius' *Commentary on the Dream of Scipio* (#201), they also make it possible to look at the world from above through the construction of a point of view, of a high observatory, that permits a distant view of the things of the world. This latter practice tends to generate a moral perspective, either in the form of the vanity of worldly matters or in the form of contemplation of the creation. Well beyond their geographical or technical contents, these ideas transformed cosmography and cartography into powerful meditative tools, especially for the concretization of the *compositio loci*.

The terms '*circuit of the world*' (a translation of the Spanish expression '*redondez de todo el mundo*', in Latin, *orbis terrarum*) clearly refers to the Earth as observed from above but at the same can refer to a map of the world, such as Ortelius' *Typus orbis terrarum*, or Ricci's and Li's *Kunyu wanguo quantu*. In this context, it is important to underline that until very recent times, planispheres and globes were the only cognitive objects that allowed the visual contemplation of the entire Earth, created by God: for this reason they both constituted privileged vehicles of meditation.

Here it is not at all suggested that, in the contexts of the Jesuit missions of China and Japan, maps and cosmography were a form of spiritual exercises. It is instead suggested that they could be better understood when considered from the perspective of being at the same time cognitive objects transmitting geographic and scientific knowledge and a meditative *viaticum*. It is a theme that goes back very far into the history of Christian medieval preaching and more importantly informed the meditative practices of the spiritual exercises of St Ignatius, the founder of the Society of Jesus.

Ricci and his Chinese collaborators and interlocutors, Pedro Gomez and Spinola, and their Japanese interlocutors, the Japanese painters that depicted the magnificent Jesuit residence in the *nanban* folding screens in the Nanban Bunkakan of Osaka, all seems to show awareness of the importance of cosmographical concepts and images as *identitarian viatica* on which the inculturation of the Catholic Christian faith in God creator of the universe could be grounded or at least attempted.

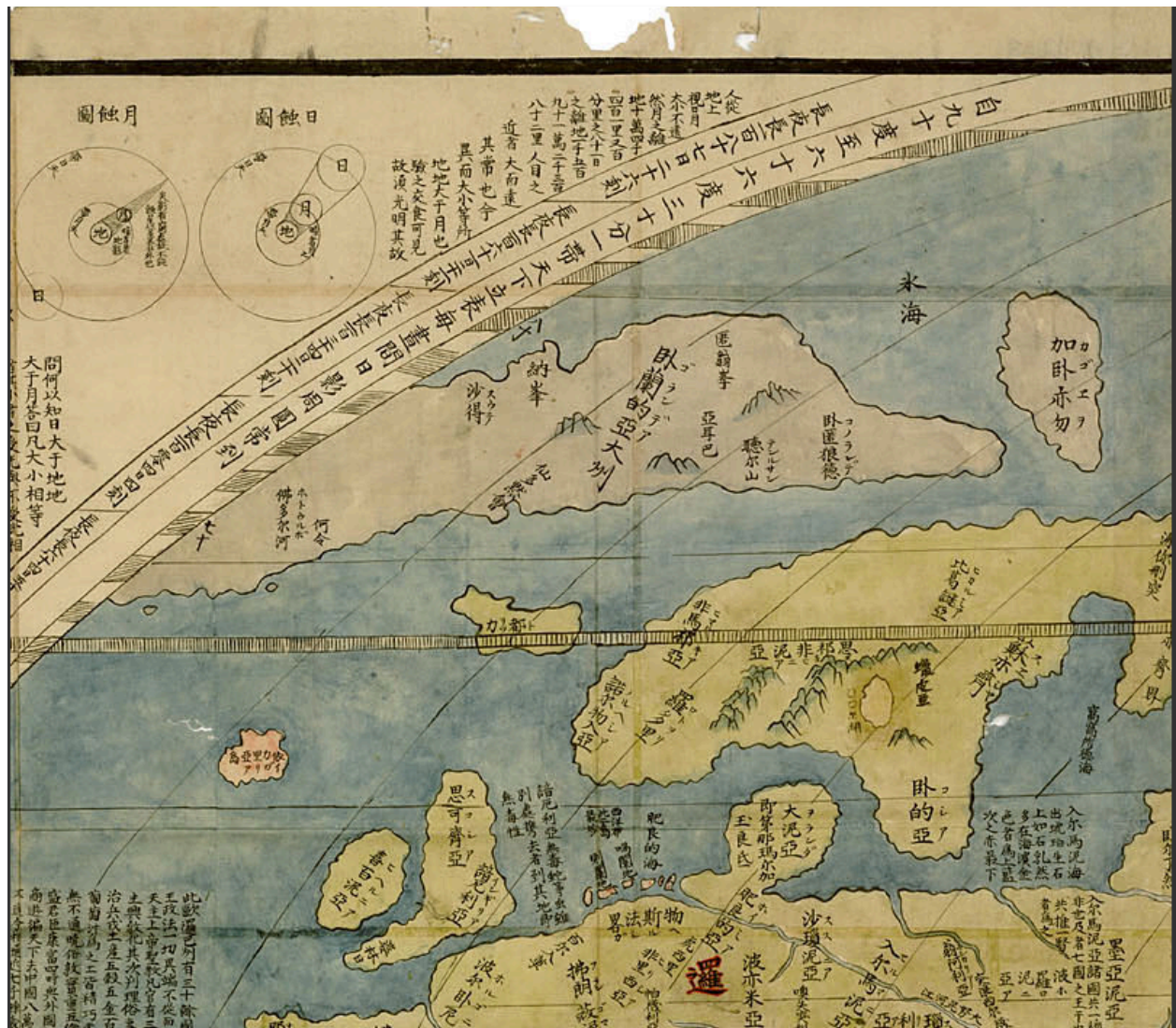
One of the Chinese sources that the Jesuits in China during the Ming period, starting with Ricci, had consulted was the *Enlarged Territorial Atlas* (*Guang yu tu* 廣輿圖) (1541), by Luo Hongxian (1504–64) which was an adapted version of the scholar Zhu Siben's (1273–1333) *Yu tu* [Terrestrial map] #218.1, from the Yuan dynasty (1271–1368). It was first published in 1561 and was reprinted many times. The one consulted by the Jesuits, from Matteo Ricci onwards was the sixth edition of 1579. And Martino Martini in his *Atlas Novus Sinensis* (1655) is said to have absolutely depended on this cartographical work. As explained in its preface, the *Guang yu tu* provided information about foreign populations; for instance, Tibet was represented on one of the maps, with a short description of the inhabitants of that area as "savages". Pasquale D'Elia also points out that Ricci drew on Chinese dynastic histories, as reflected in many of the annotations on his map regarding China's neighboring countries.



Caribbean Sea



Southwest North America: Baja California, Mexico



Northern Europe: British Isles, Scandinavia, Greenland

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This is a map of overwhelming dimensions and detail which was presented to the ruler of a land, this homage, surely, was a kind of deference. The map is partly meant to be an illustration of the ruler's powers, the extent of his realm, the range of learning he commands. Its imposing scale (12.5 feet long and 5.5 feet high) and grand ambitions (it encompasses the known world of

the early 17th century), at its very center stands the “Middle Kingdom,” as China called itself, its mountains and rivers commanding attention with dense annotation, all of which is in Chinese. One of his commentaries on the map (placed just south of the Tropic of Capricorn), declares that he (Ricci) is “filled with admiration for the great Chinese Empire,” where he has been treated “with friendly hospitality far above my deserts.” Over the landmass of China, he comments: “The Middle Kingdom is renowned for the greatness of its civilization.”

That greatness can be sensed in the delicate cartographic detail that had to be meticulously carved onto six wood blocks before being printed on rice paper. Ricci’s explanatory Chinese commentary is so extensive in some regions that it seems to cover the terrain. The map was meant to stand on six folding screens and can be imagined engulfing its observer.

Ricci created two earlier versions, beginning in 1584, drawing on atlases and materials he took with him on his journey from Italy. But this third version is the earliest to survive and the first to have combined information from both eastern and western cartography. It is also the oldest surviving map to have given the Chinese a larger vision of the earth.

Even the sturdiest of wall maps tend to have limited life spans, but this large, segmented map is so rare that for centuries it was uncertain if this copy even existed, which is why it has been nicknamed the “impossible black tulip” of maps. It is one of six known copies.

Last October the James Ford Bell Trust paid a million dollars for the map, buying it from a private Japanese owner. It will be permanently displayed at the University of Minnesota in the James Ford Bell Library, which Bell (the founder of General Mills) established to document the impact and history of international trade before 1800. The map’s text is necessary to understand the intricacies of its negotiations and presentations, because it is only partly an act of homage. It was also part of a diplomatic attempt by Ricci to affirm the greatness of his own religion and culture.



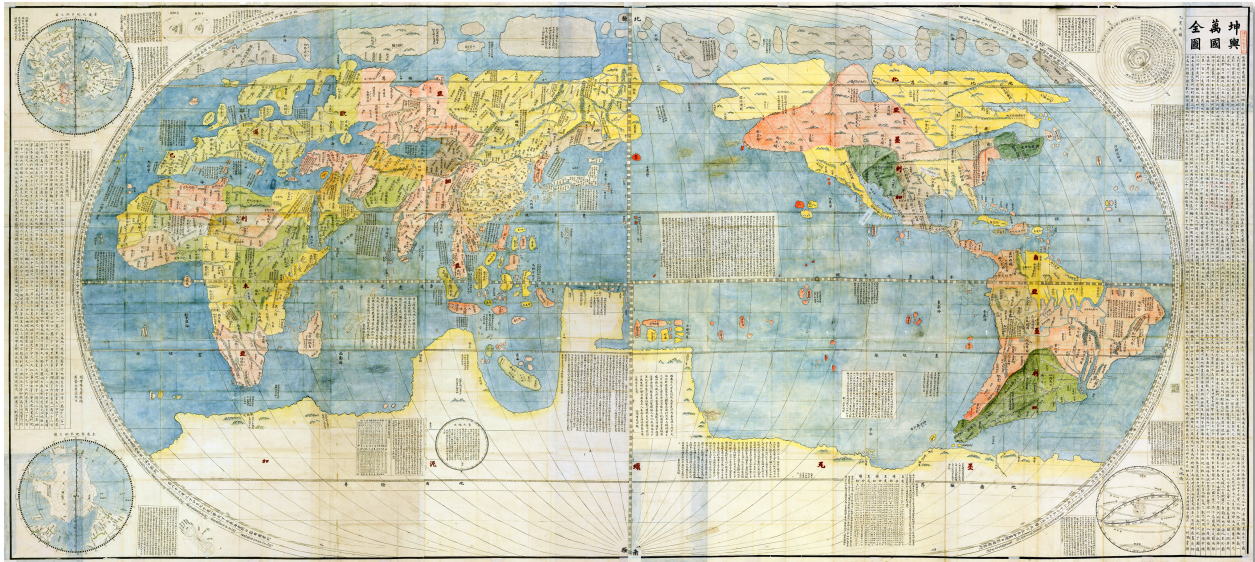


*Wanguo Quantu (萬國全圖) [The Complete Illustration of Ten Thousand Countries]
by Giulio Aleni, 1620*

Giulio Aleni (1582-1649), who came to China in 1610 as the successor of Matteo Ricci published a much simpler world map 萬國全圖 [*Wan Guo Quan Tu*] in 1620 but the map contains some serious errors. On Aleni's map, the same Atlantic Ocean as we know today is shown as 大東洋 [*East Ocean Major*] on the right side of America, and 大西洋 [*West Ocean Major*] is shown west of Europe on the left side of the map. This error is similar to the *Ulpius* globe (#367), showing that European mapmakers learnt about the East and West Oceans from the Chinese, but they could not properly label them. This map is also displayed in the Vatican's exhibit (2009-2010) in memory of Matteo Ricci, acknowledging his contributions. Aleni did not correct this error because he came 30 years later to witness a declining Ming China. He never had access to the information Ricci saw in Beijing. Ricci was the first foreigner ever allowed in the Forbidden City.



1620's Wanguo Quantu map, by Giulio Aleni, whose Chinese name (艾儒略) appears in the signature in the last column on the left, above the Jesuit IHS[disambiguation needed] symbol.



Matteo Ricci's 1602 world map *Kunyu Wanguo Quantu* 坤輿萬國全圖
[A Complete Map of the Ten Thousand Countries of the World]

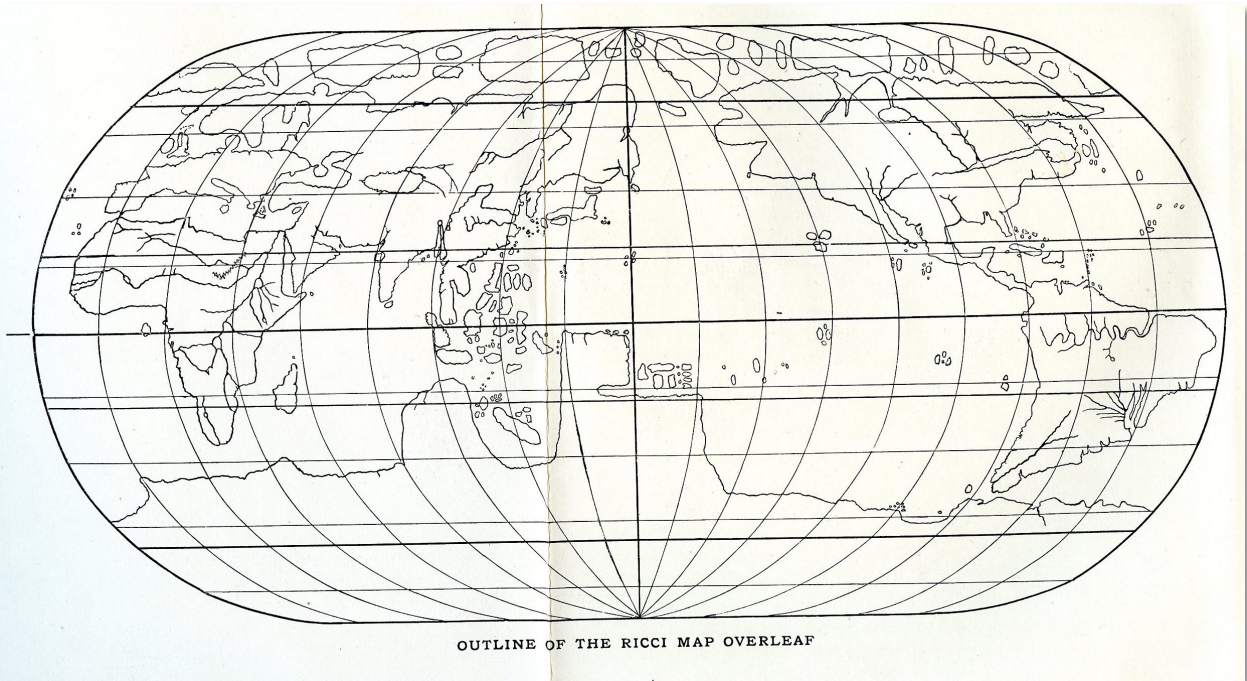
The Chinese section in the *Kunyu wanguo quantu* clearly shows the Chinese phrase "*Da Ming Yi Tong*," which signifies the unification of the Great Ming empire. The description of China in this way was, in fact, a compromise to assuage the Chinese who were extremely proud and self-centered. For centuries the Chinese had regarded themselves as the center of the world in terms of both geography and culture. The image of the world presented on the *Kunyu wanguo quantu* was clearly contrary to their Sinocentric worldview.

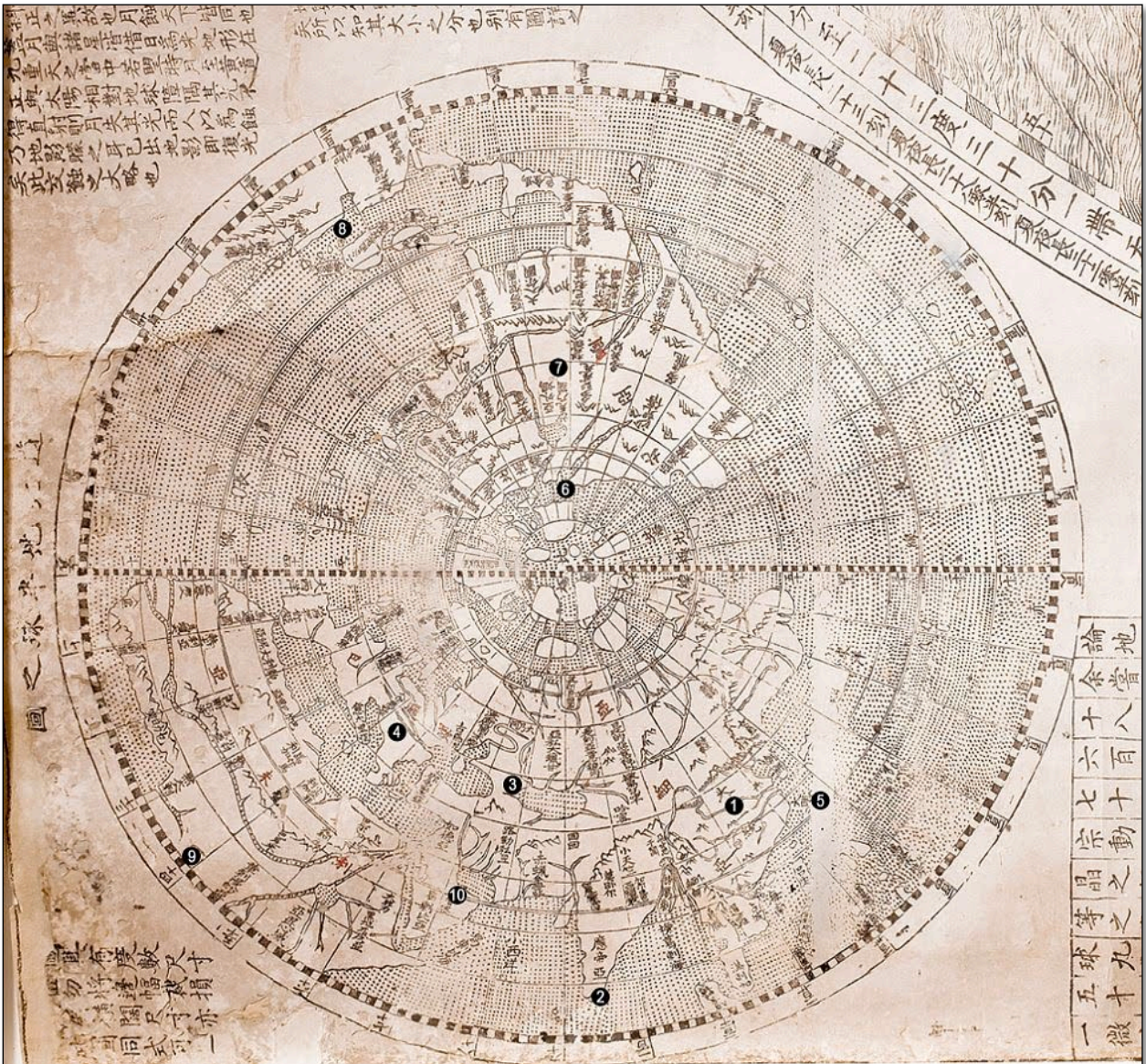
However, Ricci soon found a way to minimize their embarrassment. He moved China to the center of the world map. Since the earth is a globe like a ball, there is no reason why a certain country or continent should be in the center of a world map that is flat. And yet, the center of any given world map is often presented differently according to the cartographer and the audience. Matteo Ricci chose to avoid offending the Chinese by placing the Chinese continent right in the middle.



Matteo Ricci's 1602 world map Kunyu Wanguo Quantu 坤輿萬國全圖
[A Complete Map of the Ten Thousand Countries of the World], Library of Congress.







Father Matteo Ricci's 1602 world map *Kunyu Wanguo Quantu* 坤輿萬國全圖
Detail: inset of a North Pole projection



Father Matteo Ricci's 1604 world map *Kyunyu Wanguo Quantu* 坤輿萬國全圖
Detail: East Asia

The sea which Koreans prefer to call the East Sea is designated as the Sea of Japan in the *Kyunyu wanguo quantu*. However, the "Sea of Japan" in this case only signifies that

the sea is near Japan. Many other world maps concurrently made in the West label the same body of water "the East Sea." It was only in the late 19th century that the Japanese started calling the East Sea the Sea of Japan. Taking an imperialistic stance, the Japanese tried to permanently fix the name of the sea as the Sea of Japan.



Father Matteo Ricci's 1604 world map Kunyu Wanguo Quantu 坤輿萬國全圖
Detail: North America





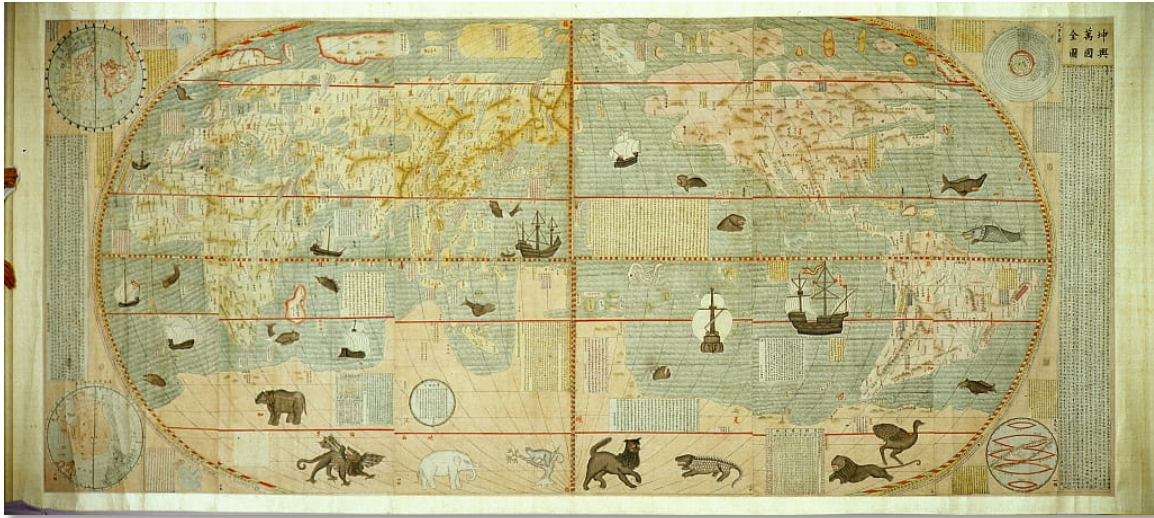
Father Matteo Ricci's 1602 world map Kunyu Wanguo Quantu 坤輿萬國全圖
Detail: South America



Father Matteo Ricci's 1602 world map Kunyu Wanguo Quantu 坤輿萬國全圖
Detail: Liweiya [Africa]

1584	<p><i>Yudi shanhai quantu</i> 輿地山海全圖 (<i>Complete Geographic Map of the Mountains and the Seas</i>).</p> <p>Woodcut. Made by Ricci in Zhaoqing, Guangdong province; no extant copies known, but a reduced copy can be found in the encyclopaedia compiled by the Ming scholar Zhang Huang 章潢 (1527–1608), <i>Tushu bian</i> 圖書編 (Collection of Books), 29, p. 44.</p>	1602	<p><i>Kunyu wanguo quantu</i> 坤輿萬國全圖 (<i>Complete Map of All Nations on the Earth</i>).</p> <p>Woodcut. Published in Beijing in six sections. Known extant copies: Vatican Library; Imperial University, Kyoto, Japan; Library of the Miyagi Prefecture, Japan; Philip Robinson private collection; Observatory of the University of Bologna, Italy (only sections 1 and 6). Re-edited in facsimile with introduction, translation and extensive notes by D'Elia, <i>Il mappamondo cinese del P. Matteo Ricci S.J.</i> (see note 27).</p>
1600	<p><i>Shanhai yudi quantu</i> 山海輿地全圖 (<i>Complete Geographic Map of the Mountains and the Seas</i>).</p> <p>Woodcut. No extant copies known, but a reduced copy can be found in Feng Yingjing 馮應京 (1555–1606), <i>Yueling guangyi</i> 月令廣義 (General Meaning of the Months), 1, p. 60. Feng Yingjing was a scholarly official well known for his prefaces to several of Ricci's written works and to an edition of this world map (Standaert, <i>Handbook</i> (see note 8): 476, 478).</p>	1603	<p><i>Liangyi xuanlan tu</i> 兩儀玄覽圖 (<i>The World Observing Map</i>).</p> <p>Woodcut. Published in eight sections in Beijing, with the help of a Chinese convert, Paul Li Yingshi 李應試 (1559–?1620). Although in eight sections, the map is cartographically similar to the world map of 1602 in six sections. Known extant copies: in a private collection and in the City Museum of Shenyang.</p>

The four editions of Matteo Ricci's world map, based upon Theodore Foss' "la cartografia di Matteo Ricci" and on the bibliography of Ricci's works at the Istituto Matteo Ricci, Università di Macerata



This is a new version of *Gonyeo manguk jeondo* [Map of the Myriad Countries of the World by Matteo Ricci] made by the Silhak Museum based on the prototype, a world map commissioned by the royal family of the Joseon Dynasty in 1708. In 1602, Matteo Ricci, an Italian Jesuit priest, jointly with Li Zhizao, a Chinese scholar, made *Kunyu Wanguo Quantu* (Chinese for *Gonyeo manguk jeondo*) in Beijing. The map was introduced to Joseon in 1603. In 1708 (the 34th year of King Sukjong's reign), two hand-copied reproductions of it were made in Joseon at the command of King Sukjong, one of which is kept at the Seoul National University (SNU) Museum (Treasure No. 849), while the other was consumed in a fire at Bongseonsa Temple during the Korean War.

The Kyujanggak Institute for Korean Studies, SNU managed to digitally reproduce the map that used to be kept at Bongseonsa Temple in the form of an eight-panel folding screen using photos as a reference material. In 2011, the Silhak Museum redid the work of restoring it based on the one made by SNU. The illegible letters were restored based on a copy (1602 edition) of *Kunyu Wanguo Quantu* kept at Kyoto University in Japan and the University of Minnesota in the United States. For the coloring, the workers referred to the one kept at the SNU Museum.

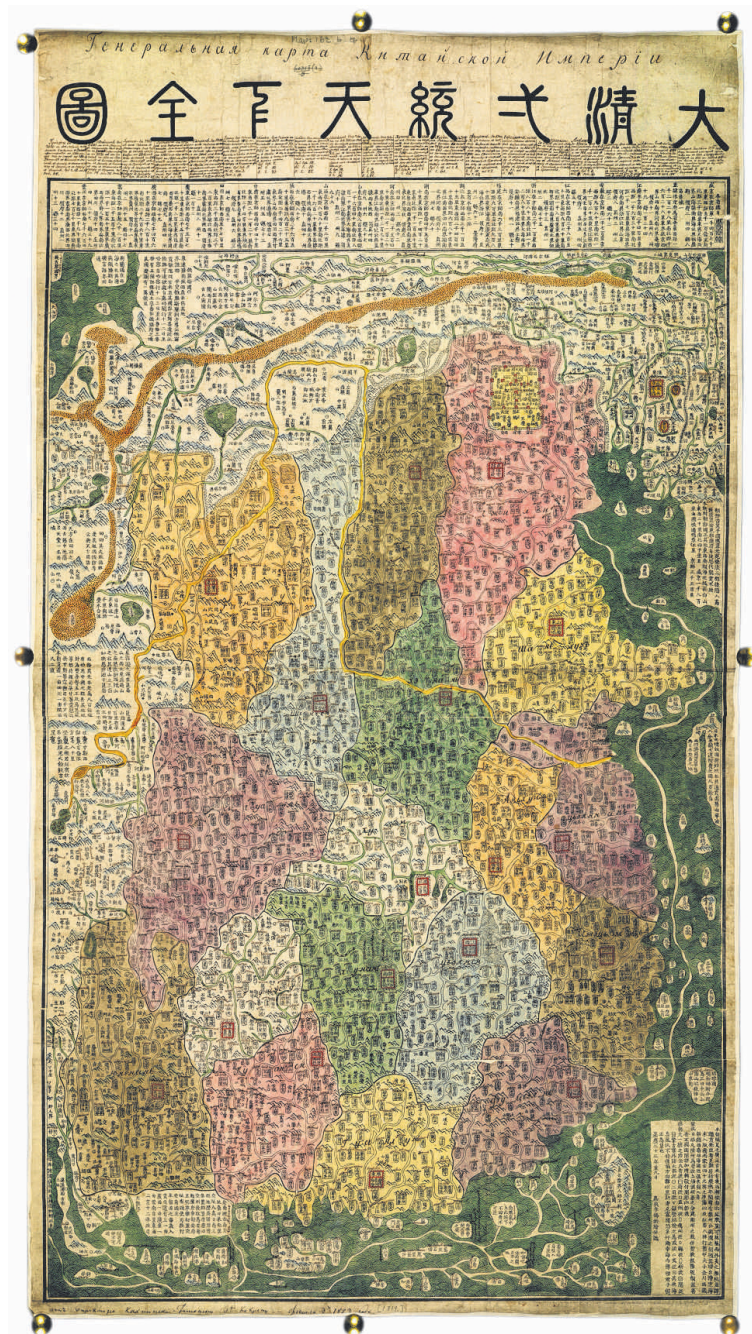
The second to seventh panels are a world map. The first panel contains a foreword written by Matteo Ricci while the last panel contains a foreword written by Prime Minister and Head of Gwansanggam (Bureau of Astronomy) Choe Seok-jeong.



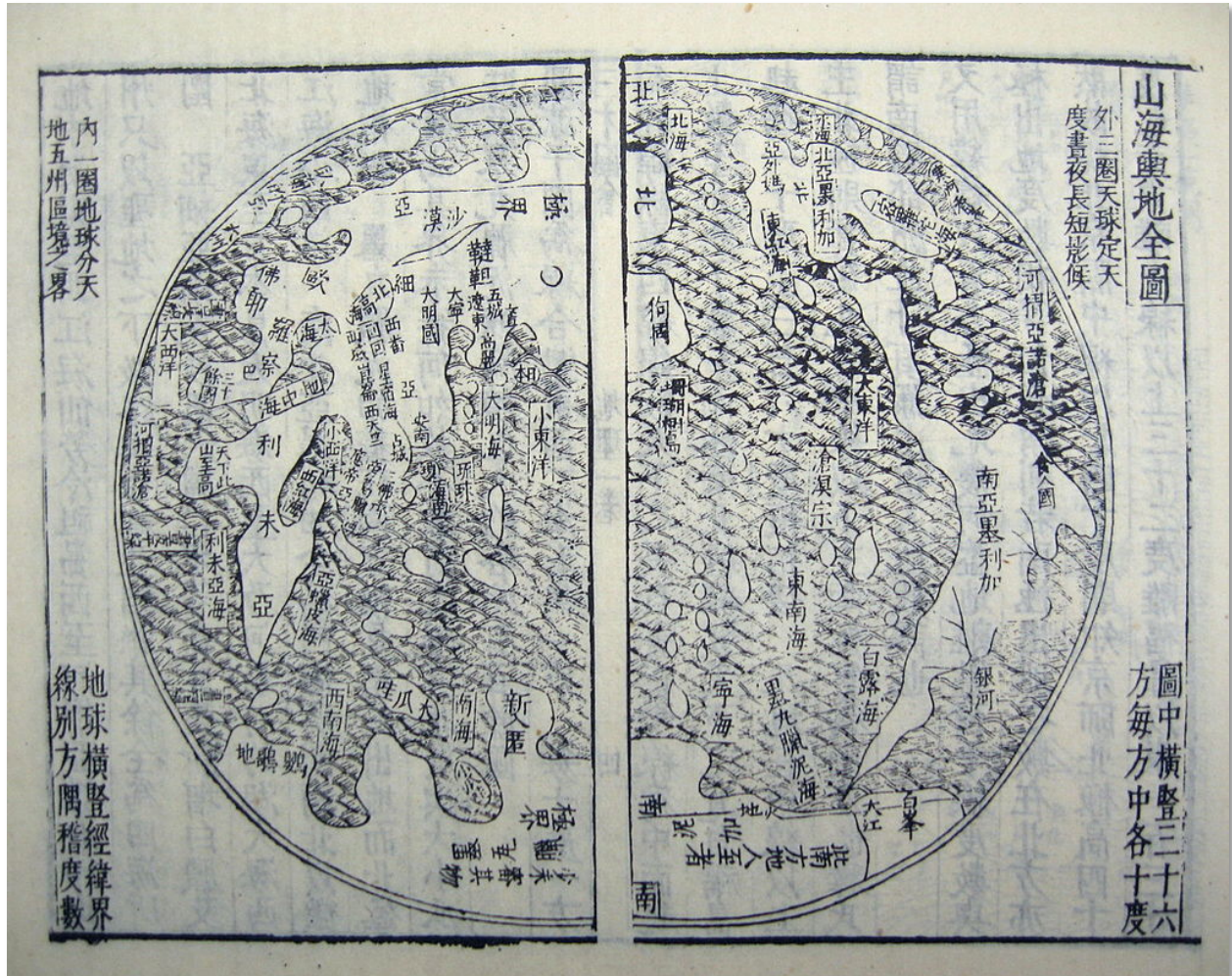
World map by Abraham Ortelius, 1570 from the *Theatrum Orbis Terrarum*
 13.25 x 19.5 inches (33.7 x 49.5 cm)

This map is centered on the Atlantic Ocean and covers the entire world from the North to the South Pole. His depiction of North America owes much to the work of Mercator, with whom he often consulted. Much of the geography of North America is speculative. Although the continent had been explored to some extent by the Spanish in the early decades of the 16th century, much of what they discovered and charted is not depicted by Ortelius. Despite its discovery by at least 1540, the Mississippi River does not appear on the map, while at the same time, the northeast reveals the discoveries made by Verrazzano and Cartier, with the St. Lawrence clearly denoted. *Nova Francia* is also named even though Champlain had not yet been born at the time the map was first published, and there is no trace of the Great Lakes. Many place names north of Mexico correspond to indigenous Indian place names as they had been noted by De Soto and Coronado. The geography of the Pacific Northwest is primarily based on reports of various mythical kingdoms and even reference to places named by Marco Polo, a clear indication of the confusion amongst cartographers of the time regarding the precise geographical relationship between Asia and North America. Most of Europe, Africa and Asia are depicted in almost modern form, with countless place names which have not changed over the centuries. While the Caspian Sea (*Mar de Bachu*) is incorrectly oriented, both it and the Black

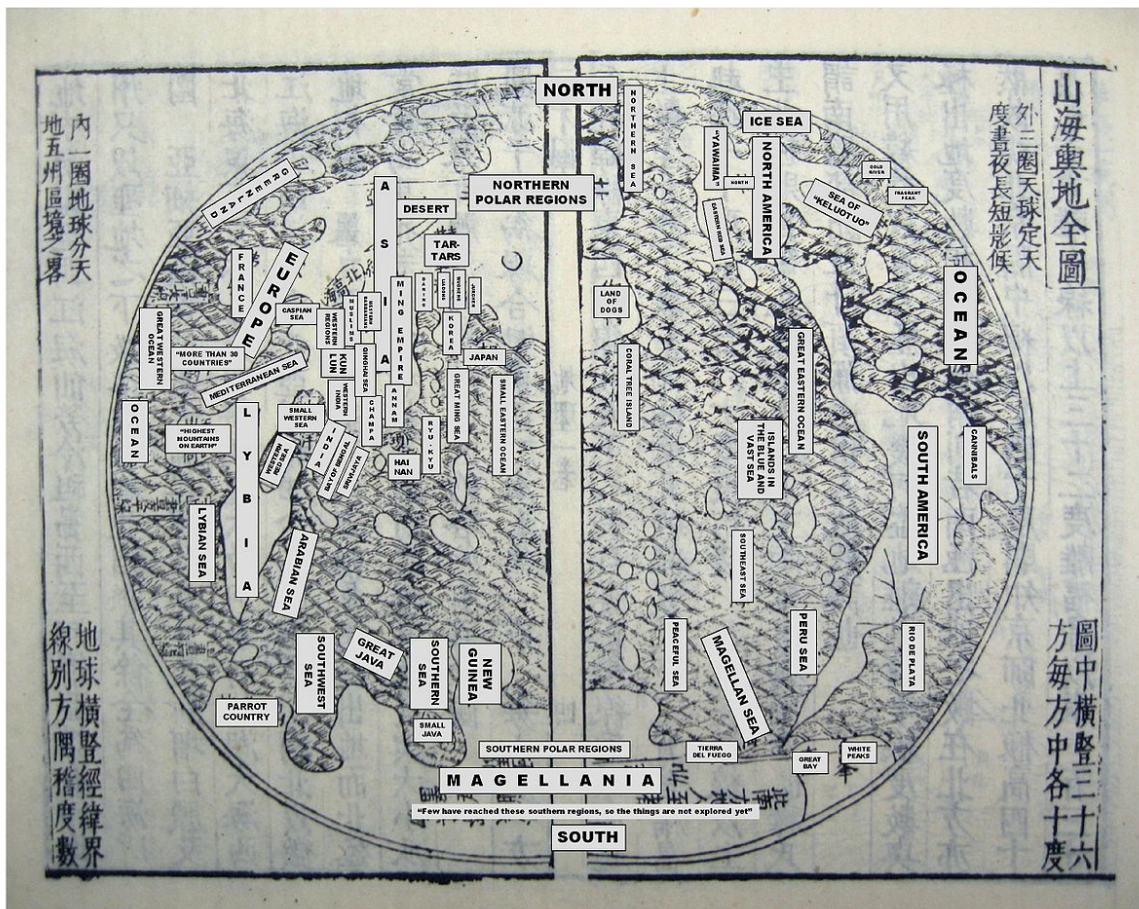
Sea are depicted. Many famous places are noted and many are omitted. For example, Troy of Iliad fame is depicted in 'Natolia' in almost its precise geographic position, while China's Great Wall is absent.



Complete Map of the Comprehensive Great Qing Empire, 1818, showing America as an island in the northwestern corner (British Library)



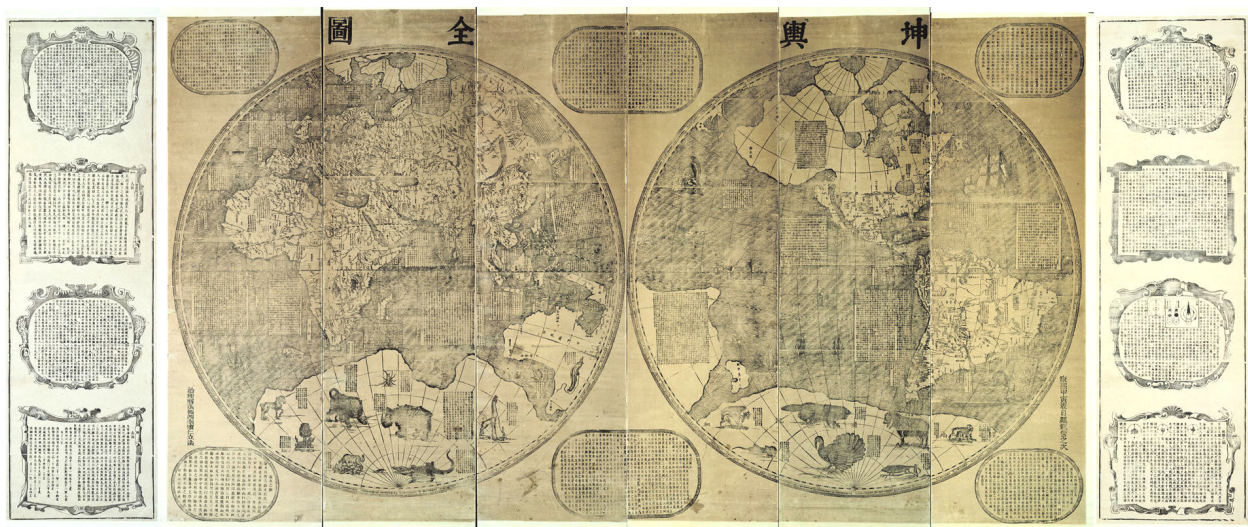
Shanhai Yudi Quantu (山海輿地全圖), the world map by Wang Qi in Sancai Tuhui, 1607 from the Asian Library in the University of British Columbia



The Shanhai Yudi Quantu with translations in English from Roderich Ptak's "The Sino-European Map".



*Feng Yingjing's gloles displaying Ricci's world map (Nanjing edition. 1600)
Copyright: Bibliotheque Nationale de France*



Kunyu Quantu 1674 by Ferdinand Verbiest in two hemispheres

This is a sino-centric map showing China as the center of the universe. Flemish scientist Ferdinand Verbiest joined the Jesuit order in 1641; he traveled to Macao in 1659, where he studied Chinese and Confucian classics and took his final religious vows. He was a polymath best known for this Chinese world map, a revised Chinese calendar, and astronomical works in Chinese and Latin. Notwithstanding his status as a foreigner he developed an unusually close

relationship with the Kangxi emperor, who conferred mandarin rank on Verbiest and granted him an official funeral. For the emperor, cartography was a significant expression of his control over the regions under imperial domain. Verbiest's world map drew from contemporary Dutch maps and Chinese sources, but it presented the world in a format appropriate to a Chinese audience. Counter to western map-making traditions that focused on Europe, the *Kunyu quantu* deferred to local conventions by placing China at the symbolic center, surrounded by countries that could be construed as tributary states.

In 1647 Ferdinand Verbiest produced one of the largest double hemisphere maps of the world to date. It was made for the second Qing Emperor of China, K'ang-hsi (1662-1722) and was part of a larger geographical work called *K'un-yu t'u-shuo* [Illustrated Discussion of the Geography of the World]. Approximately eight copies survive of the original map. Verbiest's unique map was primarily made for Chinese use and designed to open China's eyes to the rest of the world. It incorporates Chinese text with European cartographic knowledge of the globe at that time. In keeping with Chinese tastes and their belief that Peking was the cultural and political center of the world, China is placed at the center of the map with the rest of the world flanking it. The map is drawn using Mercator's projection. Descriptive cartouches explain geographic details and peculiarities of countries and oceans, as well as describing natural phenomena such as eclipses and earthquakes. Columbus' discovery of America is also discussed. The likely source for Verbiest's map was Joan Blaeu's monumental world map of 1648, *Nova totius terrarum orbis tabula* (10'x7', see image below). Although the delineation of China differs, the maps are similar in size and a comparison and a concordance of geographical names shows clearly the relationship between the two maps. In total twenty-three different animals, believed to be unknown or little-known in China, decorate the margins. The illustrations were derived from Konrad Gessner's *Historia animalium* (1551) and this part of the map became most influential - the illustrations and their descriptions were copied into the imperial encyclopedia *T'u-shu chi-ch'eng* of 1723 and the transliterated names included in Chinese and Manchu dictionaries.



Ferdinand Verbiest



Created by celebrated Dutch cartographer Joan Blaeu in 1648, the 10' x 7' map titled *Nova totius terrarum orbis tabula*, is commonly known as the Blaeu world map. This grand map is composed of 21 hand-printed engraved images that show the known geography of the earth at that time along with images of the zodiac constellations and diagrams of the solar system. The image has been embellished with hand-applied watercolors and silk ribbon trim. There is also a ten-sheet letterpress-printed informative text along the bottom edge of the map that describes the nature of various landforms, climates around the globe, and navigational information.