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THE HUMAN BODY AS A UNIVERSE: UNDERSTANDING HEAVEN BY VISUALIZATION AND SENSIBILITY IN JESUIT CARTOGRAPHY IN CHINA

BY

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This paper discusses the religious meaning of Jesuit world maps that were produced in China by their missionaries from the late sixteenth to the seventeenth centuries. These world maps serve as a visual proof to emphasize the greatness of the world and the minuscule nature of man, and by means of these maps man “can see” the truth of God because of the visual ability granted via God’s omnipotence. Jesuit cartography is not only a visual image of geographical configuration. It paved the way for the comprehension of the Creator’s significance. It was an embodiment of the Renaissance tradition of cartography as the graphical representation of the universe, which included the idea of understanding nature through mathematical science as well as of understanding Heaven by visualization and sensibility. In this Renaissance tradition, geography was associated with cosmology that was based upon Christian theology, and Aristotle’s sensibility toward the comprehension of the universe formed the core of Catholic epistemology and natural philosophy. The religious implications of Jesuit cartography in China explain how the Jesuits could have used it strategically in their evangelization.

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In his preface to the world map *Wanguo quantu* 萬國全圖 (*Universal Map of Countries*), which was made in China around 1620, the Jesuit missionary Giulio Aleni (1582-1649) states, “The human body is a small universe” (Fig. 1):

顧我身之在天地，雖為甚微而一點，靈才為造物主所賦，自能包括天地，而明天地萬物之真主。所謂人身一小天地也。信爾，以此形軀之至小，則何處可生倨傲之情，以此靈心之至大，則無可自棄自賤之理，果知乎此，則天地在目，豈徒然哉？

Although my body in the universe is so minuscule and only one point, the capacities of the soul were endowed by the Creator, so that I can comprehend the whole Heaven and Earth and come to some understanding of the real master of the universe. It is said: the so-called human body is a small universe. Because we believe in this and understand that the physical body is so small in size, we will not become haughty. Moreover, because our intellectual mind—in contrast to the small physical body—will perceive the supreme greatness, there is no reason to abandon oneself and be self-derogatory. If we understand all of these things, the Heaven and Earth seen by the eyes are not illusory.¹

In Aleni's eyes, the whole human body bears the full meaning of the universe. On the one hand, the world map serves as a visual proof to emphasize the greatness of the world and the minuscule nature of the human; on the other hand, because of the ability to visualize—one of the talents granted to us by an all-powerful God, humans “can see” through, and by means of a world map to perceive the truth of God. With God's grace, one understands the value of man, and therefore we should not undervalue ourselves. It thus appears that Jesuit cartography is not only “a visual image of a geographical configuration.”² It also paved the way for the comprehension of the Creator's significance.

¹Giulio Aleni, *Wanguo tu xiaoyin* 萬國圖小引 (*Little Preface of the Wanguo tu*). It only appears in an edition of Aleni's *Wanguo quantu* in the Biblioteca Apostolica Vaticana (BAV), call number Barberini Oriente 151 (1a). A modern facsimile of this map is provided by Howard L. Goodman, “Paper Obelisks: East Asia in the Vatican Vaults,” in *Rome Reborn: The Vatican Library and Renaissance Culture*, ed. Anthony Grafton (Washington, 1993), p. 259.

²This term is appropriated from Donald Lach's term “visual image of Asia's configuration” of European printed maps, see his work *Asia in the Making of Europe*, vol. 1, bk. 1 (Chicago, 1965), p. 218.



Fig. 1. Giulio Aleni, *Wanguo quantu* 萬國全圖 (*Universal Map of Countries*), c. 1620, woodcut and color on paper, Biblioteca Apostolica Vaticana, Vatican City, Barberini Oriente 151 (1a), © Biblioteca Apostolica Vaticana, Vatican City

This paper intends to discuss the religious meaning of Jesuit world maps produced in China by their missionaries from the late Ming to the early Qing periods. Aleni's statement quoted above reveals a method by which the Jesuits interpreted world maps, and a meaning that may have been given to this Jesuit cartography destined for the Chinese people. The "method" and "meaning" are both related to the religious dimension of the Jesuits. Cartography was a very important aspect of the Jesuits' China mission strategy in terms of both visual culture and sciences. How Jesuits used cartography as part of their visual methods of evangelization is a topic that needs to be investigated. The linkage between art and science, something unfamiliar in Chinese culture, was practiced in Early Modern Europe, and thus known to the Jesuits. Perhaps, due to this condition, Jesuit cartography in China was rarely discussed as it pertained to visual culture, and it has been much

more considered among the scientific achievements of the missionaries, and thus valued from scientific perspectives.³

Cartography as art and art in cartography are complicated historical questions in western civilization. Recent scholarly studies from the perspectives of both the history of cartography and the history of art have attempted to elaborate on the sophisticated nature of cartography. Their methodological reflections on the relationships between artistic and scientific methods, between form and content, and between aesthetics and function have led to stimulating discussions in several areas of scholarship.⁴ Cartography as “a graphic mode of expression” or “a visual image of geographical configuration” should not be excluded from the topic of visual culture.⁵ Cartography is regarded as an “art,” in the current tendency to treat it as a “genre of pictorial image,” to borrow Marcia Kupfer’s term.⁶ Reading maps is a process of reading images, so the iconographical character of maps becomes the central theme of the interpretation. Particularly interesting is that the Jesuit mapping techniques demonstrated a visual language different, both in form and content, from what was presented in the local traditions. This visual language, as I will argue, cannot be understood without the missionary contexts. Therefore, the religious dimension in the Jesuit cartography is crucial for deciphering that visibility, for a religious meaning is embedded into the iconography of their maps. Thanks to recent scholarship on the question of cartography as art, we are encouraged to investigate the iconography of Jesuit cartography in China, then to look for the religious meaning associated with the iconography. We can understand Aleni’s words in the above quotation to be a Jesuit iconographical interpretation of the world map. This paper will discuss the religious meaning of the Jesuit world maps in China by looking into how and by what means the Jesuits presented and interpreted their “graphic mode of expression” or “visual image of

³For instance, the recently comprehensive reference to the Jesuits or Christianity in China put the topic “cartography” under the category of “science and technology,” separate from the category of “arts, crafts, and language.” See Nicolas Standaert, ed., *Handbook of Christianity in China*, Volume One, (635-1800) (Leiden, 2001), pp. 752, 809.

⁴For a review of these scholarly reflections about cartography, see David Woodward’s introduction to the book edited by him, *Art and Cartography—Six Historical Essays* (Chicago, 1987), pp. 1-9.

⁵The term “a graphic mode of expression” comes from Sergio Bosticco, “Cosmology and Cartography,” in *Encyclopedia of World Art*, vol. 3 (New York, 1960), p. 836; for the term “a visual image of geographical configuration,” please see note 2 above.

⁶Marcia Kupfer, “Medieval World Maps: Embedded Images, Interpretive Frames,” *Word and Image* 10 (July-September, 1994), 262.

geographical configuration” to the Chinese. The method that the Jesuits used, within the framework of European cartography, is summed up in two categories: visualization and sensibility.

Jesuit World Maps in China

The world map of Matteo Ricci’s (1552-1610) is the first European example of its kind presented to the Chinese. Ricci displayed his map to the Chinese for the first time in 1583-84 in Zhaoqing 肇慶, a prefecture of the Province of Guangdong (廣東省), almost immediately after he arrived in Macau in 1582.⁷ It is obvious that Ricci had brought this map with him from Europe. In the Jesuit educational system, mathematics and astronomy were among the basic training courses for Jesuit students and were seen as a necessary preparation for theological studies.⁸ Maps could be used as visual material embodying the teachings of mathematics and astronomy. Ricci probably brought maps for the Jesuits’ own academic uses, that is for the same reason that he imported mathematical devices such as the globe and clocks. It is not surprising to notice that Euclid’s geometry, arithmetic, geography and cosmography, perspective, and horology—assigned courses for Jesuit mathematical training—can all be found in their theoretical and material fields for the Jesuit China mission.⁹ Jesuit engagement in mathematical and astronomical knowledge should be understood within the larger Jesuit intellectual structure. Given the study of these disciplines as preparation for divine knowledge, their introduction to the Chinese was aimed at persuading non-Christians to study Heavenly doctrines, in Chinese *tianxue* 天學 (literally meaning “Heavenly Studies”).

Among the several European books brought into China by the Jesuits in the early years of the mission, Abraham Ortelius’ *Theatrum orbis terrarum* (Antwerp, 1570) was the only European publication whose title Ricci included in his list of objects presented to the

⁷Pasquale M. d’Elia, *Fonti Ricciane: Documenti originali concernenti Matteo Ricci e la storia delle prime relazioni tra l’Europa e la Cina (1579-1615). Storia dell’introduzione del Cristianesimo in Cina scritta da Matteo Ricci*, 3 vols. (Rome, 1942-1949), I, p. 207.

⁸Nicolas Standaert, “The Classification of Sciences and the Jesuit Mission in Late Ming China,” in *Linked Faiths: Essays on Chinese Religions & Traditional Culture in Honour of Kristofer Schipper*, ed. Jan A. M. De Meyer and Peter M. Engelfriet (Leiden, 2000), pp. 287-317.

⁹For these Jesuit mathematical courses, see Giuseppe Cosentino, “Le Matematiche nella «Ratio Studiorum» della Compagnia di Gesù,” in *Miscellanea storica ligure*, vol. 2 (Genoa, 1970), pp. 171-213; also refer to Allan P. Farrell, S. J., trans., *The Jesuit Ratio Studiorum of 1599* (Washington, D. C., 1970).

Chinese Emperor.¹⁰ However, Pasquale D'Elia, the remarkable scholar on Ricci's oeuvre, has argued that the European map Ricci displayed in Zhaoqing could have not been Ortelius' atlas since the latter arrived on the mainland at a later date, and that there are not enough existing sources to be certain which map Ricci showed at the time.¹¹ The first public appearance of the European-style world map, shown by Ricci in 1583-84, brought about telling reactions from local people, including that of the Prefect of Zhaoqing (肇慶知府) Wang Pan 王泮. Wang urged Ricci to annotate the map in Chinese and to print and distribute it all over China. The first edition of Ricci's world map in Chinese was entitled *Shanbai yudi quantu* 山海輿地全圖 (*Universal Map of Mountain, Sea, and Geography*) or *Yudi shanbai quantu* 輿地山海全圖 (*Universal Map of Geography, Mountain, and Sea*).¹² Afterwards this map was repeatedly revised and reprinted, for example, in Nanchang (c. 1596), Nanjing (1600), and Beijing (1601-1603).¹³ The Beijing example of 1602 was supervised by Li Zhizao 李之藻 (c. 1564-1630), and developed a refined format with additional supplementary contents and commentaries. This was the exemplar most often cited, and the final version of Ricci's *mappamundi* was re-entitled *Kunyu wanguo quantu* 坤輿萬國全圖 (*Universal Map of the World and Countries*) (Fig. 2).¹⁴ The 1603 edition from Beijing is also in a larger scale and format even than the one of 1602, and entitled *Liangyi xuanlan tu* 兩儀玄覽圖 (*Universal Map of the Heaven and Earth*). Although this

¹⁰D'Elia, *Fonti Ricciane*, II, pp. 90, 114, 123; Nicolas Trigault (1577-1628), *China in the Sixteenth Century: The Journal of Matteo Ricci: 1583-1610*, trans. Louis J. Gallagher (New York, 1953), p. 364.

¹¹Pasquale D'Elia, trans. and anno., *Il Mappamondo Cinese del P. Matteo Ricci S.I.* (Vatican City, 1938), p. 169; D'Elia, *Fonti Ricciane*, I, p. 207.

¹²D'Elia, *Fonti Ricciane*, I, pp. 207-209; II, pp. 58-59.

¹³About the history of the printing of Ricci's world maps, the following studies are still seen as of the most comprehensive: Hung Weiliang 洪煥蓮, "Kao Limadou de shijie ditu" 考利瑪竇的世界地圖 (On the World Map of Matteo Ricci), *Yu gong ban yue kan* 禹貢半月刊 (*The Chinese Historical Geography*) 5 (1936), 2-5; Fang Hao 方豪, *Li zhizao yanjiu* 李之藻研究 (*On Li Zhizao*) (Taipei, 1966), pp. 78-79; Cao Wanru 曹婉如 et al., "Zhongguo xiancun limadou shijie ditu de yanjiu" 中國現存利瑪竇世界地圖的研究 (Study of the World Map of Matteo Ricci Extant in China), *Wenwu* 文物 12 (1983), 57-70. At least sixteen copies and editions of Ricci's *mappamundi* dated from the sixteenth and seventeenth centuries are extant in Europe, China, Taiwan, and Japan.

¹⁴In addition to D'Elia's *Il Mappamondo*, the earlier reprint and annotation of the 1602 version at the BAV, the latest full modern facsimile of this edition, with a complete enlargement of every division of the map, was published from the one housed in the Library of the Miyagi Prefecture 宮城縣圖書館, see Li Madou 利瑪竇 (Matteo Ricci), ed., *Li madou kunyu wanguo quantu* 利瑪竇坤輿萬國全圖 (*Universal Map of the World and Countries of Matteo Ricci*) (Tokyo, 1996).



Fig. 2. Matteo Ricci, *Kunyu wanguo quantu* 坤輿萬國全圖 (*Universal Map of the World and Countries*), 1602, woodcut on paper, Biblioteca Apostolica Vaticana, Vatican City, Barberini Oriente 150 (1-6), © Biblioteca Apostolica Vaticana, Vatican City

1603 edition was expanded to eight vertical scrolls, compared to the six scrolls of the *Kunyu wanguo quantu*, in principle it follows the 1602 edition. However, this edition is less well known because of the fewer extant copies and versions based on it. Ricci's map certainly gained much interest and popularity, as many revisions and reprints were made up to 1603 in China, and even later in Japan.¹⁵

The universal mapping method of Ricci is basically founded on Ptolemy's model, but it seems intentionally to modify China's position with respect to the other continents by placing China in the middle (the fourth scroll from the right side).¹⁶ This can be demonstrated when Ricci's map is compared with a European world map of the same time, for instance, with one from Abraham Ortelius' *Theatrum orbis terrarum*, a version of which was sent to the Chinese court (China on the

¹⁵Although several European maps, such as those by Ortelius and Gerard Mercator, were also brought to Japan via missionaries, Ricci's world map, serving as the standard format in the mandarin style for neighboring Japan, played a significant role in the modern world cartography of this country. One annotation of a Japanese *mapamundi* of the eighteenth century (1775) states that Ricci's map was the harbinger of western cartography introduced to the East that projected a three-dimensional object on a flat surface ("利氏帶來精圖輿地圖...實為泰西地球圖傳來之始"). This Japanese map was entitled *Chikyu Bankoku Sankai Yochi Zenzusetsu* 改正地球萬國全圖 (*Revised Earth Map of Countries*), under the authorship of Sekisiu Nagakubo, housed in the John Carter Brown Library, Brown University, Providence, U.S.A. (without a shelf number). The Library has two copies of this, one published in Mito, the other in Osaka.

¹⁶D'Elia, *Fonti Ricciane*, I, pp. 208-211.

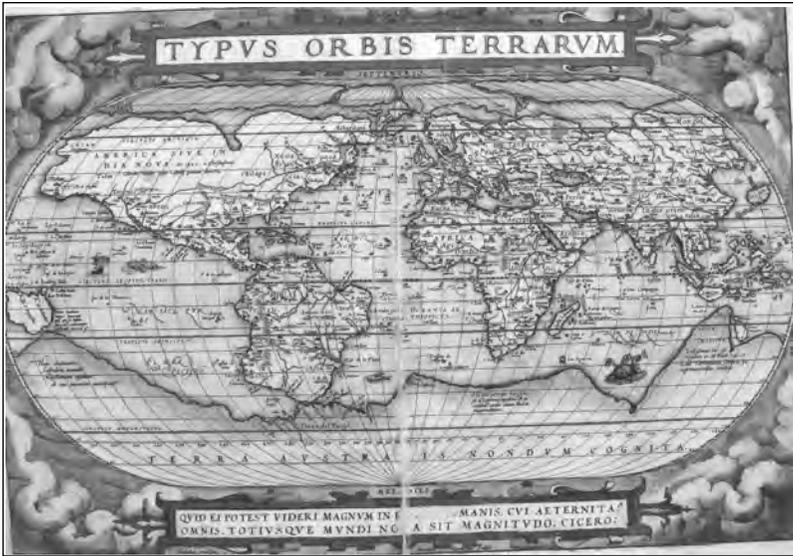


Fig. 3. Abraham Ortelius, World Map, from *Theatrum orbis terrarum*, 1570, color engraving, Leiden University Library, The Netherlands, Atlas 36, © Leiden University Library, Leiden, The Netherlands

far right side) (Fig. 3). Although, in contrast to the Chinese mapping traditions, the size of China was diminished on Ricci's map in order to present an appearance of China relative to the rest of the world, the map's overall modification was a concession to local mapping traditions. And yet, the position of China on the whole scale of the world in terms of both quantity and quality, still produced a culturally shocking visual experience for the Chinese. One anecdote, about a president of Nanjing looking at the world map that Ricci wanted to present to the Chinese Emperor, could be the first written record detailing a direct response to this new visual material from a Chinese scholar, Wang Zhongming 王忠銘, President of the Board of Rites of Nanjing (南京禮部尚書):

The President took great pleasure in studying this tablet [on which the world map was drawn], wondering that he could see the great expanse of the world depicted on such a small surface, and that it contained the names of so many new kingdoms and a list of their customs. He would examine it over and over again and very attentively, in an effort to memorize this new idea of the world.¹⁷

¹⁷Trigault, *China in the Sixteenth Century*, p. 301; the relevant but briefer passage in D'Elia, *Fonti Ricciane*, II, p. 13.

According to Ricci's own account, his observations of popular, self-oriented Chinese conventions in mapping the world were based on his studies of Chinese cartography, thus he might have foreseen the possible effect of his European-based map on Chinese traditions.¹⁸ In his famous work on Ricci's map, the Chinese scholar Hung Weiliang, 洪煥蓮, held that Ricci's interest in Chinese geography upon his arrival in China explained why he endeavored to translate European geography into Chinese.¹⁹ One of the most important sources Ricci used for his mapping was *Guang yu tu* 廣輿圖 (*Atlas of Universal Land*), an atlas based on the work of an earlier cartographer, Zhu Siben 朱思本 (1273-1333), expanded and revised in the sixteenth century by Luo Hongxian 羅洪先 (1504-1564) and first printed in 1555. This cartographical work had a wide influence on the Chinese geographical tradition.²⁰ According to Zhang Zhejia 張哲嘉, the mapping style shown in the maps of the *Guang yu tu* was aimed at accuracy, in contrast to a popular sketchy style seen in several types of maps produced by the local gazetteers of Ming China.²¹ If the *Guang yu tu* pursued accuracy in mapping more than other traditional cartographical modes, Ricci's reliance on it could correspond to the missionary's intention to offer a better and more precise mapping skill to the Chinese.

After Ricci's maps (1583-1603), Giulio Aleni's world map *Wanguo quantu* was made around 1620, following Ricci's format and contents. This world map was included in some editions of Aleni's geographical work, *Zhifang waiji* 職方外紀 (*Descriptions of Foreign Land*), his preface to which is dated 1623. This 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 we have no direct knowledge of this work at the present.²² Aleni's *Wanguo quantu* is much smaller in size (49 cm × 24 cm) than Ricci's *Kunyu wanguo*

¹⁸D'Elia, *Fonti Ricciane*, I, pp. 207-210.

¹⁹Hung, "Kao Limadou," p. 7.

²⁰For the *Guang yu tu*'s influence on Ricci's geographical work in Chinese, see Goodman, "Paper Obelisks," p. 257.

²¹Zhang Zhejia 張哲嘉, "Mingdai fangzhi de ditu" 明代方志的地图 (The Maps in the Local Gazetteers of the Ming Dynasty), in *Jindai zhongguo de shijue biaoshu yu wenhua goutu* 近代中國的視覺表達與文化構圖 (*The Visual Representations and Cultural Mappings in Early Modern China*), ed. Huang Kewu 黃克武 (Taipei, 2003), pp. 184-207.

²²One edition of the *Zhi fang wai ji*, including Aleni's world map, is reproduced in its modern facsimile, see Giulio Aleni, *Zhi fang wai ji* 職方外紀 (*Descriptions of Foreign Lands*), in *Congsbu jicheng chubian* 叢書集成初編 (*The First Compilation of Various Books*) (Shanghai, 1936). Aleni mentioning Pantoja is on the preface's page 1 of this facsimile.



Fig. 4. Ferdinand Verbiest, *Kunyu quantu* 坤輿全圖 (*Universal Map of the World*), 1674, woodcut and color on paper, Kobe City Museum, Japan, © Kobe City Museum, Kobe, Japan

quantu (each scroll of which is 174 cm × 67 cm, and a total of six scrolls vertically connected); therefore, the former could be easily made to fit into the *Zhifang waiji*.²³ The Jesuit Francesco Sambiasi (1582-1649) composed and annotated another world map, entitled *Kunyu quantu* 坤輿全圖 (*Universal Map of the World*), in Nan-jing in 1633.²⁴ The most important Jesuit publication of the world map for the China

²³Here the size of the *Wanguo quantu* is taken from Takato Tokio's catalogue for the edition housed in BAV, call number Barberini Oriente 151 (1a) and (1b) (two copies), see P. Pelliot, *Inventaire sommaire des manuscrits et imprimés chinois de la Bibliothèque Vaticane*, ed. Takata Tokio 高田時雄 (Kyoto, 1995). The one with the number 151 (1a) has a single image alone, above a preface written by Aleni and the colored *Wanguo quantu* below. That of 151 (1b) is also a single yet uncolored sheet with the *Wanguo quantu* above and the *Beiyu ditu* 北極地圖 (*Northern Polar Hemisphere Map*) and *Nanyu ditu* 南極地圖 (*Southern Polar Hemisphere Map*) below. This one is identified as the same as the other extant copies of this work housed in the Biblioteca Ambrosiana, Milan, and in the Biblioteca nazionale centrale di Roma, Rome (call number 72C494 1&2). For the one in Ambrosiana, the following catalogue wrongly attributed it to Ricci: Paolo Revelli, *I Codici Ambrosiani di contenuto geografico*, vol. 1 of *Fontes Ambrosiani* (Milano, 1929), p. 188. The information in this catalogue offers the similar measurement (49.4 cm × 24.3 cm) as that of BAV's. The old attribution could be seen as a result of the prominence of Ricci's role in translating the European cartographical mode into Chinese for the traditional European scholarship. As for Ricci's map, the measuring information also comes from Takata's catalogue for the edition in BAV, call number Barberini Oriente 150 (1-6). This one serves as the subject of D'Elia's *Il Mappamondo*.

²⁴There are six copies of the *Kunyu quantu* known at present. See the most recent research of Paolo de Troia and Ann Heirman, "The World-Map of Father Francesco Sambiasi (1582-1649)" (paper presented at the XVth Biennial Conference of the European Association of Chinese Studies (EACS), University of Heidelberg, Germany, August 25-29, 2004).

mission in the second half of the seventeenth century is the *Kunyu quantu* (1674) of Ferdinand Verbiest (1623-1688). It bears the same title as Sambiasi's, yet is in a different format (each scroll 179 cm × 54 cm, a total of eight scrolls vertically connected) (Fig. 4). Verbiest's map consists of two hemispheres, and the two outer scrolls individually depict cartouches that contain several kinds of information on geography and meteorology. This projection, which had been devised by the famous cartographer Gerard Mercator (1512-1594) in his *Orbis terrae compendiosa descriptio* (1587), depicts a different mode from the Ptolemaic one, that was illustrated in Ricci's, Aleni's, and Sambiasi's representations of universal cartography. Although Verbiest's *Kunyu quantu* was the first Chinese translation of a Mercator projection, we can see a map made with this mapping method that had hung previously on the wall of the Beijing studio of the Jesuit Johann Adam Schall von Bell (1591-1666), in a depiction of this missionary's office found in *China Illustrata* (1667) of the Jesuit Athanasius Kircher (1602-1680) (Fig. 5). The making of Verbiest's *Kunyu quantu* was intended to meet the interest of the Kangxi 康熙 emperor, as Verbiest's introductory dedication implies. There are at least fourteen to fifteen copies and editions of this map dating from the seventeenth century currently extant in Europe, Japan, Taiwan, America, and Australia.²⁵

Through the above brief history of the Jesuits' making of the world map in the China mission, we can see why the missionaries introduced such a map from the very beginning and how the ensuing development was part of the important work of some major missionaries. Most maps described here were printed. That the Jesuits made use of the Chinese printing industry to distribute the European mode of the uni-

²⁵For the above information about Verbiest's *Kunyu quantu*, see Lin Tongyang 林東陽, "Ferdinand Verbiest's Contribution to Chinese Geography and Cartography," in *Ferdinand Verbiest: Jesuit Missionary, Scientist, Engineer and Diplomat*, ed. John W. Witek (Nettetal, 1994), pp. 136-138; and his "Nanhuai ren de shijie ditu—kunyu quantu" 南懷仁的世界地圖—坤輿全圖 (Ferdinand Verbiest's World Map—Kunyu quantu), *Donghai daxue lishi xuebao* 東海大學歷史學報 (*Bulletin of the Graduate Institute of History and the Department of History Tunghai University*) 5 (1982), 69-84; Christine Vertente, "Nan Huai-Jen's 南懷仁 Maps of the World," in *Succès et échecs de la rencontre Chine et Occident, du XVIe au XXe siècle* (San Francisco, 1993), pp. 257-263; Monique Cohen and Nathalie Monnet, *Impressions de Chine* (Paris, 1992), pp. 126-127. However, there is one copy or edition of Verbiest's *Kunyu quantu* never mentioned by the above three articles, i. e., the one hanging on a side wall of the public entry lobby of BAV, entitled *Mappamonde Terreste* (1674 ed.), in contrast to Johann Adam Schall von Bell's *Planisfero Celeste* (1634 ed.) on the opposite wall. Both works do not have shelf numbers, so they are not entered in any of the library's catalogues.



Fig. 5. Johann Adam Schall von Bell, from Athanasius Kircher's *China Illustrata*, 1667, engraving, Stanford University, U.S.A., RBC DS708. K58 1667F, © Department of Special Collections, Stanford University Libraries, Stanford, U.S.A.

versal cartography is seen in the several editions and copies of Ricci's and Verbiest's maps. Ricci's and other later Jesuits' studies of Chinese geography for making the world map were meant to incorporate the growing knowledge about "China" into the "geography of Jesuit knowledge," to use the phrase of Steven Harris.²⁶ This Jesuit case in China exemplified the "local" and "distributed" characters of their scientific knowledge, the term "distributed" referring to Jesuit efforts to translate

²⁶Steven J. Harris, "Mapping Jesuit Science: The Role of Travel in the Geography of Knowledge," in *The Jesuits: Cultures, Sciences, and the Arts 1540-1773*, ed. John W. O'Malley, S.J., et al. (Toronto, 1999), p. 214. The following discussion about the "local" and "distributed" characters of scientific knowledge, the Jesuit geographical network, and the *corporate* or *organized* travels all refer to Harris's theoretical framework, see esp. pp. 214-216. This theory intends to answer why the Society of Jesus published a great amount of works on geography and natural science.

a European-based map into a Chinese printed version, and to introduce new geographical knowledge of China back to Europe.²⁷ Under this theoretical framework, we can say that the value of Jesuit cartography in China is contextualized within the Jesuit institutional geographical network, in the sense of Jesuit *corporate* or *organized* travels and missions, which played a significant role for the Society. In this broader Jesuit context, the religious meaning of these world maps in China can hardly be dismissed, because they were made in conjunction with the evangelical concerns of the missionaries.

The Reception of Jesuit Cartography by the Chinese

What Jesuit cartography communicated to the Chinese people can be seen in the Chinese perception of European cartography. This perception illustrates the differences between two cartographical traditions. While the Jesuits tried to convey implicit Christian messages by their strategic manipulation of cartography, the Chinese perceived these messages in different ways.

First, Jesuit cartography in China communicated to the Chinese the geographical knowledge of the world, from a European perspective. Along with their geographical works composed in Chinese, such as Aleni's *Zhifang waiji* and Verbiest's *Kunyu tushuo* 坤輿圖說 (*On the Cartography of the World*) (1672), the Jesuit world maps portray countries other than China, all of which are drawn comparatively to scale. By so doing, they place the geographical position of China within the global framework more correctly than did the old Chinese geographical tradition. Ricci's *Kunyu wanguo quantu* and Aleni's *Wanguo quantu* both employ *wanguo* 萬國 (literally, *tens of thousands of countries*) in their titles, and in fact emphasize the comparative scale of the world in contrast to the domination of China, as it had been portrayed formerly in Chinese geography and ideology. For Ricci and the Jesuits, one secular and strategic purpose for using the European geographical knowledge in the missions was to eradicate Chinese fear of the missionaries and of their countries, which were considered by

²⁷For the Jesuits' introducing new knowledge of China to Europe and the ensuing new style of maps of Asia in Europe, see Boleslaw Szczesniak, "The Seventeenth Century Maps of China: An Inquiry into the Compilations of European Cartographers," *Imago Mundi* 13 (1956), 116-136; Theodore N. Foss, "A Western Interpretation of China: Jesuit Cartography," in *East Meets West: The Jesuits in China, 1582-1773*, ed. Charles E. Ronan and Bonnie B. C. Oh (Chicago, 1988), pp. 209-251; the same author as above, "Cartography," in Standaert, *Handbook of Christianity in China*, pp. 752-770.

Chinese authority as inhabited by barbarians in the first instance and as a political and military threat as well. By means of the pictorial format of the European cartographical model, the Jesuits could explain the real geographical distance between Europe and China, thus showing that the potential political and military threat did not exist. Additionally, architectural and other books, showing the beauty of European cities, palaces, and other structures, served as a “geographical explanation” in order to enhance Chinese knowledge of Europe.²⁸ Ricci himself presented the following prints to the Chinese court in 1601, as recorded in his account: prints of the building of St. Lawrence of the Escorial of Spain, and of the church of St. Mark of Venice, along with the arms of the Signoria.²⁹ In addition to Ricci’s account, a similar request appears in a letter written by the Jesuit Lazzaro Cattaneo (1560-1640) on October 12, 1599, that indicates that “*alguas cousas di architectura e uarias impressa di paços & de g’la muito em Roma* (some architectural objects and various prints of parks and of the [city] wall in Rome)” were needed for the China mission.³⁰ Like the world maps, the information revealed by these architectural sources attempted to direct the Chinese audience to an improved concept of Europe and European geography.

Therefore, this introduction to a fuller vision of the world through European cartographical models was a completely new experience for the Chinese both in visual format and contents. If we consider Samuel Edgerton’s “mental matrix” theory for the present discussion, the reading of Jesuit world maps by the Chinese might have presented a visual challenge to the local people. Edgerton thought that the western and eastern mental matrices for mapping were opposites of each other. The Chinese grid pattern superimposed on the world appears to have been “centripetal—aiming at a central focus,” which is different from the western grid, that was “centrifugal—aiming at expansion and domination.”³¹ As seen from a map of the whole of China made by the Chinese in the seventeenth century, the way towards the center of China is prominent (Fig. 6). Although this kind of the map meant the whole China, it usually and meanwhile meant the whole world in Chinese perception. This idea of centripetal movement from the east-

²⁸D’Elia, *Fonti Ricciane*, I, pp. 211, 259.

²⁹D’Elia, *Fonti Ricciane*, II, p. 131.

³⁰ARSI (Archivum Romanum Societatis Iesu, Rome, Italy), JapSin 13-I, fol. 319v.

³¹Samuel Y. Edgerton, Jr., “From Mental Matrix to *Mappamundi* to Christian Empire: The Heritage of Ptolemy Cartography in the Renaissance,” in Woodward, *Art and Cartography*, pp. 10-50, and Woodward’s introduction in this book, p. 4.



Fig. 6. *Yuji tu* 禹跡圖 (*Map of the Tracks of Emperor Yu*), woodcut, from Wang Qi 王圻, comp., *Sancai tubui* 三才圖會, *dili* 地理 13 卷 (*juan*), pp. 49-51, from an edition of 1609, Fu-ssu Nien Library, Institute of History and Philology, Academia Sinica, Taiwan, A041 033, © Institute of History and Philology, Academia Sinica, Taipei, Taiwan

ern perspective is demonstrated especially well in a political geography, which actually dominated the geographical and cartographical traditions of China over centuries (Fig. 7).³² A popular style of mapping in Chinese local gazetteers also shows a centripetal point of view, i.e., it indicates that the perspective of the maker centers first on the important governmental building of the city or town, such as the city hall, and then looks outward. The central governmental building is enlarged, while the marginal areas appear diminished, even neglected (Fig. 8).³³ Perhaps, the contrast between the eastern and western conceptions for “mapping” countries and peoples on a universal scale is a

³²John Henderson, “Chinese Cosmographical Thought: The High Intellectual Tradition,” in *The History of Cartography*, ed. J. B. Harley and David Woodward, vol. 2, bk. 2 (Chicago, 1994), pp. 203-213.

³³Zhang, “Mingdai fangzhi,” pp. 190-212.



Fig. 7. *Zhou jiufu tu* 周九服圖 (*Diagram of the Nine Domains of the Zhou*), woodcut, from Hu Wei 胡渭, *Yu gong zhuizhi* 禹貢錙指 (written 1694-97), from an edition of 1705, Fu-ssu Nien Library, Institute of History and Philology, Academia Sinica, Taiwan, 093.31 313, © Institute of History and Philology, Academia Sinica, Taipei, Taiwan

better and more thoughtful way to explain local responses resulting from different visual experiences. The explanation can further our understanding of Chinese curiosity, as shown in the account of Wang Zhongming looking at Ricci's map.

Second, this new geographical knowledge and representative format of world cartography had to direct the Chinese to an inevitable scientific fact: the Earth is a sphere. European cartographical projections were carried out based upon this fact, which was again contrary to the traditional Chinese concept: that the Earth is flat or square. In

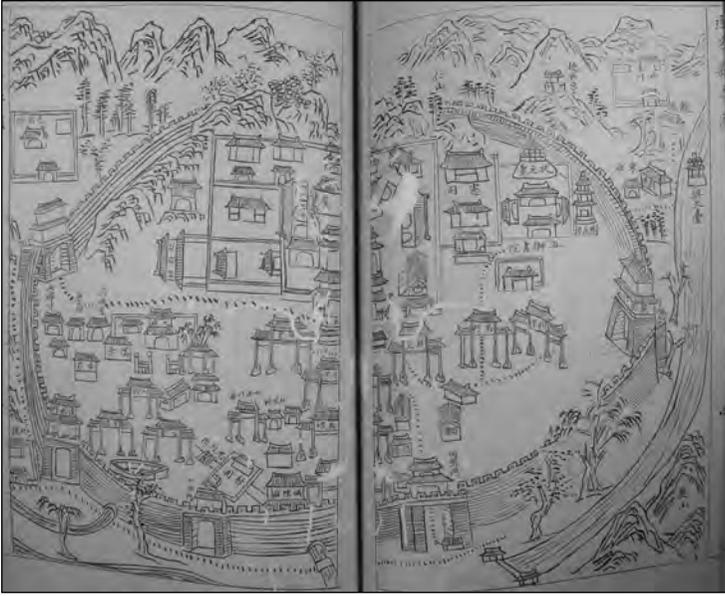


Fig. 8. Town plan, woodcut, from *Wanli suian xianzhi* 萬曆巡安縣志 (*Gazetteers of the County of Suian of the Wanli Period*), from an edition of 1612, National Taiwan Library, Taiwan, © National Taiwan Library, Taipei, Taiwan

the conventional ideology held in China over centuries, only the Heaven be could round or spherical.³⁴ It is legitimate, therefore, to point out the reason for the addition of the sun, moon, and stars to the globes that God holds in the images of the title page and in the last one, the “Coronation of the Virgin Mary,” in Aleni’s Chinese woodcuts *Tianzhu jiangsheng chuxiang jingjie* 天主降生出像經解 (*Biblical Explanations and Illustrations of the Heavenly Lord’s Incarnation*), a work which illustrates the life of Christ (Figs. 9, 10). It is not exactly correct to say that the sun, moon, and stars depicted on a globe in these images are new elements particularly in Chinese fashion, as their European models do not have these elements, because we find a similar depiction in an engraving of the Flemish printer Maarten de Vos

³⁴Chu Pingyi 祝平一, “Kua wenhua zhishi chuanbo de ge’an yanjiu—mingmo qingchu guanyu diyuan shuo de zhengyi, 1600-1800” 跨文化知識傳播的個案研究—明末清初關於地圓說說的爭議, 1600-1800 (The Formation of Factual Knowledge in Trans-cultural Scientific Transactions: The Debate over the Sphericity of the Earth in China, 1600-1800), *Zhongyang yanjiuyuan lishi yuyan yanjiusuo jikan* 中央研究院歷史語言研究所集刊 (*Bulletin of the Institute of History and Philology*) 69 (1998), 589-670.



Fig. 9. Title page, woodcut, from Giulio Aleni's *Tianzhu jiangsbeng chuxiang jingjie* 天主降生出像經解 (*Biblical Explanations and Illustrations of the Heavenly Lord's Incarnation*), 1637, Archivum Romanum Societatis Iesu, Italy, JapSin I-187, © Archivum Romanum Societatis Iesu, Rome, Italy

(Fig. 11).³⁵ For the Chinese of the Ming period, a globe could only indicate a celestial body; by no means could it be used as a visualization of the terrestrial entity. So the sun, moon, and stars on the globes in the hands of Christ in Aleni's woodcuts reinforce their identification as celestial bodies. However, the idea of the three-dimensional projections in European cartographical modes could be realized only after it had been established that the Earth is a sphere. Aleni's *Beiyu ditu*

³⁵Paul Rheinbay said that the globe on the title page of the *Tianzhu jiangsbeng chuxiang jingjie* was "depicted according to Asian style," meaning that they were only outlined in Asia. Paul Rheinbay, "Nadal's Religious Iconography Reinterpreted by Aleni for China," in "Scholar from the West: Giulio Aleni S.J. (1582-1649) and the Dialogue Between Christianity and China," ed. Tiziana Lippello and Roman Malek (Nettel, Germany, 1997), p. 330.



Fig. 10. *Coronation of the Virgin Mary*, woodcut, from Giulio Aleni's *Tianzhu jiangsheng chuxiang jingjie* 天主降生出像經解 (*Biblical Explanations and Illustrations of the Heavenly Lord's Incarnation*), 1637, Archivum Romanum Societatis Iesu, Italy, JapSin I-187, © Archivum Romanum Societatis Iesu, Rome, Italy

北極地圖 (*Northern Polar Hemisphere Map*) and *Nanyu ditu* 南極地圖 (*Southern Polar Hemisphere Map*), included in one of the editions of his *Wanguo quantu*, and the depictions of the same hemispheres occupying prominent positions in the upper and lower left corners of Ricci's *Kunyu wanguo quantu*, made explicit the Earth's sphericity for the purposes of scientific theory (Fig. 12).

Sambiasi's map contains at least four diagrams for illustrating the theory (Fig. 13).³⁶ On the top of this cartographical panel, Sambiasi's

³⁶The illustration shown here is also found in an earlier Jesuit work, Manuel Diaz, Jr., *Tian wen lue* 天問略 (*On Astronomy*; 1615) see *Tianxue chubun* 天學初函 (*The First Book Compilation of the "Heavenly Studies"*), 6 vols. (Taipei, 1964), V, p. 2704.



Fig. 11. Maarten de Vos, *Salvator Mundi*, from a series of “Christ Blessing,” early seventeenth century, engraving, Bibliothèque Royale de Belgique, Belgium, SI38279, © Bibliothèque Royale de Belgique, Brussels, Belgium

text deals directly with the sphericity of the Earth. The beginning sentence goes to the core of the relevant geography and cosmology: “造物者之初造物也，必定物之本像焉，地之本像，圓體也 (In the beginning when the Creator created things, he necessarily determined the essential appearance of these things. The essential appearance of the Earth is a sphere.)”³⁷ This statement also indicates the principal teaching at the center of Jesuit geography and its metaphysical foundation: the Creator, i.e., God. D’Elia pointed out that the European sources for Ricci’s world map would be Alessandro Piccolomini’s (1508-78) *Sfera del Mondo* and Christophus Clavius’s (1538-1612) work also on the

³⁷Although the map has Sambiasi’s signature to indicate that he wrote and annotated it, this text had appeared in another Jesuit work, Sabastino de Ursis, *Biao du sbuo* 表度說 (*On Gnomon*) (1614), in *Tianxue chuban*, V, pp. 2543-2544.

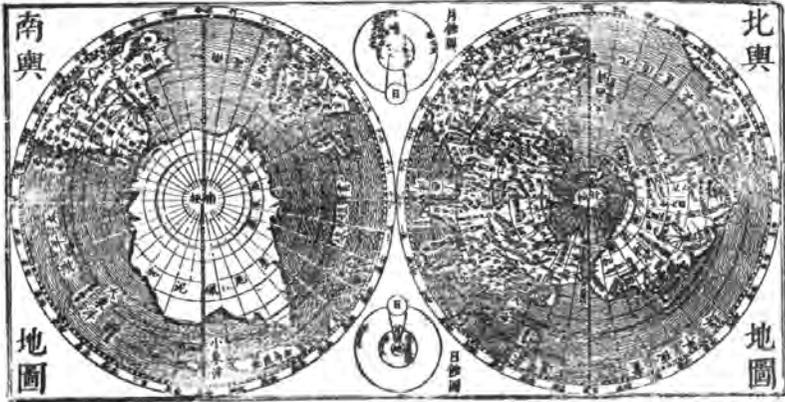


Fig. 12. *Beiyu ditu* 北輿地圖 (Northern Polar Hemisphere Map) & *Nanyu ditu* 南輿地圖 (Southern Polar Hemisphere Map), from Giulio Aleni, *Wanguo quantu* 萬國全圖 (Universal Map of Countries), c. 1620, woodcut on paper, Biblioteca Apostolica Vaticana, Vatican City, Barberini Oriente 151 (1b), © Biblioteca Apostolica Vaticana, Vatican City

Earth's sphericity (*Sphaeram Ioannis de Sacrobosco Commentarius*).³⁸ Ricci's world map and other Jesuit geographical and cartographical works alike resorted to this tradition, and the sphericity of the Earth was the theoretical premise by which to calculate the solar and lunar eclipses, locate the celestial positions of the star, and realize the relationships between the earth and other celestial entities. These astronomical observations were important for mapping the earth; thus the calculation of the relative distances among various places and celestial objects was a three-dimensional geometrical issue rather than merely a two-dimensional problem as it had been conceived in local Chinese traditions.³⁹ As Aleni's *Wanguo tu xiaoyin* 萬國圖小引 (*Little Preface of the Wanguo tu*) explains lucidly, “地與天同一圓體，度數相應，故畫地必取規於天。(The Earth and Heaven are both the same, a sphere, and their degrees correspond with each other. So mapping the Earth has to resort to the Heavens).”⁴⁰ Regarding the matter of the Earth's sphericity, Jesuit cartography was a cultural product imported as a modern concept for Chinese people. Therefore, Jesuit world maps

³⁸D'Elia, *Il Mappamondo*, pp. 170-171.

³⁹Foss, “A Western Interpretation of China,” p. 210; Chu, “Kua wenhua zhishi,” pp. 596-614.

⁴⁰Aleni's *Wanguo tu xiaoyin*.

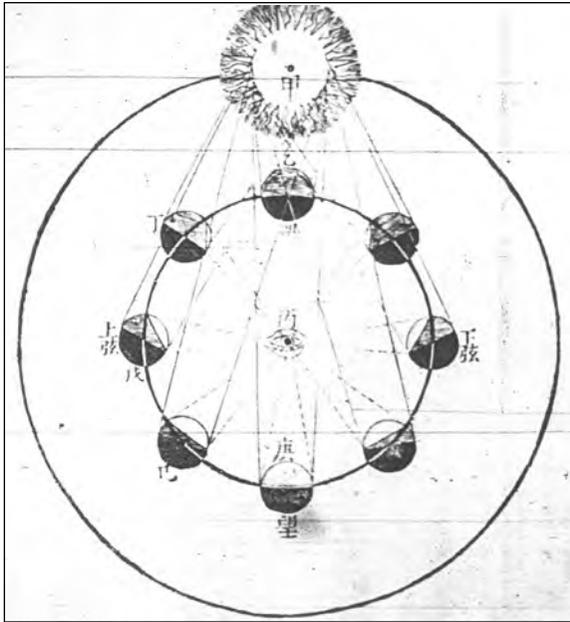


Fig. 13. Diagram, woodcut, from Manuel Diaz, Jr., *Tian wen lüe* 天問略 (*On Astronomy*), 1615, National Central Library, Taiwan, 305.2 06257, © National Central Library, Taipei, Taiwan

were not only “a visual image of geographical configuration.” Various astronomical diagrams—such as those of the nine layers of the Heavens at the upper right corner of Ricci’s *Kunyu wanguo quantu* (Fig. 14), of the astrolabe at the lower right corner of Ricci’s (Fig. 15), as well as of the solar and lunar eclipses on Ricci’s and Sambiasi’s world maps, and Aleni’s *Beiyu ditu* and *Nanyu ditu*—all served as illustrations of the physical studies of the Heavens, which played a crucial role in mapping the earth. In the meanwhile, they paved the way toward the comprehension of the Creator’s significance.

The third difference between the two cartographical traditions revealed in the Chinese perception of European cartography concerns “time.” Jesuit world maps indicate a new concept, not only of the Earth and of global “space,” but also of “time.” Different places on the individual lines of longitude and latitude lines observe different times—a notion also foreign to the indigenous Chinese. Thus reading the maps in the European mode entailed a new conception of time. In his preface to the *Kunyu wanguo quantu*, Ricci observes:

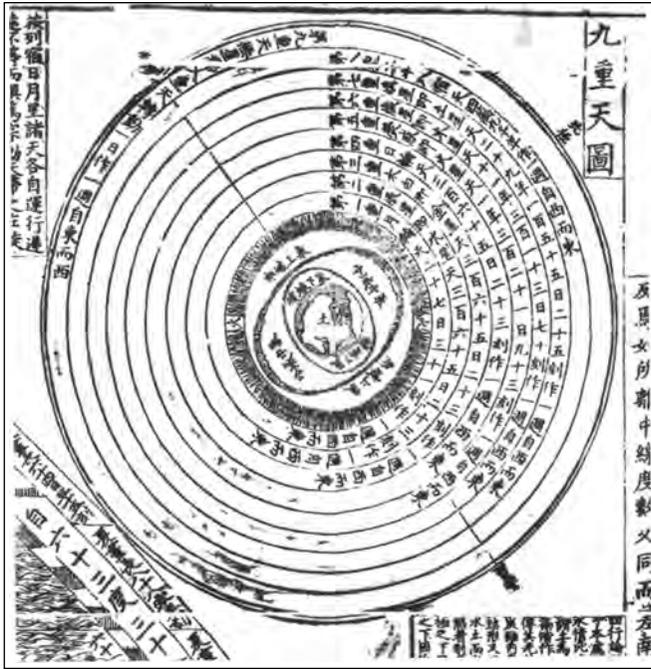


Fig. 14. *Jiu chong tien tu* 九重天圖 (Diagram of the Nine Layers of the Heavens), from Matteo Ricci, *Kunyu wanguo quantu* 坤輿萬國全圖 (Universal Map of the World and Countries), 1602, woodcut on paper, Biblioteca Apostolica Vaticana, Vatican City, Barberini Oriente 150 (1), © Biblioteca Apostolica Vaticana, Vatican City

用經線以定兩處相離幾何，辰也。蓋日輪一日作一週，則每辰行三十度，而兩處相離三十度，並謂差一辰。

Use the longitude line to determine the distance between two places, which is called “time.” It is a day as the sun turns one circle. So each unit of time runs thirty degrees. If the distance between two places is thirty degrees, their time has the difference of one unit.⁴¹

⁴¹This preface is the text under the title of the map at the right side of the work. For the texts on Ricci’s maps, refer also to Wang Mianhou 王勉厚, “Lun li madou kunyu wanguo quantu han liangyi xuanlan tu shang de xuba tishi” 從利瑪竇坤輿萬國全圖和兩洲全圖圖上的序跋題識 (On the Prefaces and Texts on the *Kunyu wanguo quantu* and *Liangyi xuanlan tu* of Matteo Ricci), in *Zhongguo gudai ditu tuhan—ming dai* 中國古代地圖集—明代 (A Compilation of Chinese Ancient Maps—Ming Dynasty), ed. Cao Wanru 曹婉如 et al. (Beijing, 1994), pp. 107-111.



Fig. 15. *Tien di yi* 天地儀 (Diagram of the Astrolabe), from Matteo Ricci, *Kunyu wanguo quantu* 坤輿萬國全圖 (Universal Map of the World and Countries), 1602, woodcut on paper, Biblioteca Apostolica Vaticana, Vatican City, Barberini Oriente 150 (1), © Biblioteca Apostolica Vaticana, Vatican City

One such practical example is found in Aleni's *Kou duo ri cha* 口譯日抄 (*Daily Account of the Vocal Assertion*). By means of a map of Rome shown to Fujian's followers in 1630, Aleni explained the difference in time between China and Rome based on the various degrees related to the position of the sun striking the earth, thereby illustrating the spherical configuration of the earth. He further confirmed a false presumption held by Chinese astrologers, as is clear from the quote below:

余曰：夫星家之擇日推命也，以為普天之下，同此時耳。今即王會之內，便已不同，若此，彼星家安所憑以定吉兇乎？先生曰，吾固謂其不足信也，而世顧惑之何哉。

I [the Fujianese adherent Li Jiubiao 李九標] said, “The [Chinese] astrologer who chooses dates and tells fortunes thinks that the world observes the same time. However, in this case (as explained by the Roman map regarding the different time zones) there are differences in time even within the [Chinese]

empire. If so, by what means can Chinese astrologers determine auspicious and ill omens? Aleni answered, "This is why they [Chinese astrologers] are untruthful, yet also why commoners are still confused by them."⁴²

This is a concrete example of the use of scientific visual material, a European map, to refute Chinese astrology, which was considered a discipline of science as well as of religion in Chinese traditions. Aleni's attack shows the ridiculousness of this traditional discourse as it pertained in the areas both of science and religion. This idea of a link between time and astrology could also have legitimized the Jesuits' introduction of European clocks.⁴³

The Human Body as a Universe: Understanding Heaven by Visualization and Sensibility

In the above discussion of the differences between Chinese and European cartography, as the Chinese perceived the European world maps that Jesuit missionaries brought to China, we can see how the religious message was embedded in the Jesuit explanations of the maps. In what follows, I propose to look at the matter further from the Jesuit side, arguing that for the Jesuits, the religious implications in their cartography could be concerned with a broader European context, by which their intentions for employing such visual objects may be elucidated. I suggest that the visualization, as well as sensibility, can be two primary conceptions of the religious meaning of the missionary versions of world maps.

In 1589, Richard Hakluyt made the following sharp-witted remark: "From the Mappe he brought me to the Bible."⁴⁴ This truth was also valid for Chinese Jesuit cartography as it was first presented to the Chinese.

⁴²Giulio Aleni, *Kou duo ri cha* 口譯日抄 (*Daily Account of the Vocal Assertion*), in Nicolas Standaert and Adrian Dudink, eds., 耶穌會羅馬檔案證明清天主教文獻: *Chinese Christian Texts from the Roman Archives of the Society of Jesus*, 12 vols. (Taipei, 2002), VII, pp. 42-43.

⁴³Regarding the tools the Jesuits brought to China for time and spatial measurement, see Catherine Jami, "Western Devices for Measuring Time and Space: Clocks and Euclidian Geometry in Late Ming and Ch'ing China," in *Time and Space in Chinese Culture*, ed. Chun-Chieh Huang and Erik Zürcher (Leiden, 1995), pp. 169-200.

⁴⁴Cited by Frank Lestringant, *Mapping the Renaissance World: The Geographical Imagination in the Age of Discovery*, trans. David Fausett (Berkeley, 1994), p. 6. The "he" in the quotation is his cousin who, in Lestringant's terms, "guided his reading from the planisphere to the Psalms." The original source of the remark is Richard Hakluyt, *The Principall Navigations, Voiages, and Discoveries of the English Nation, Made by Sea or Over Land. . . .* (London, 1589), fol. 2r.

In the two European sources that D'Elia pointed out for Ricci's world map, Alessandro Piccolomini's *Sfera del Mondo* and Christophus Clavius's *Sphaeram Ioannis de Sacrobosco Commentarius*, the geographical and cosmological contents indicate that European geography since the Renaissance period had to be understood by way of its cosmological associations, which were based on Christian theology.⁴⁵ Aleni's *Wanguo tu xiaoyin*, part of which was quoted at the beginning of this article, indicates that the missions, both implicitly as well as explicitly, conveyed the Christian message that was implied in a map's configuration. The key points in Aleni's statement are the human body as a universe and the comparative smallness of the human body in relationship to the greatness of Heaven. Ricci's text of 1602 on the *Kunyu wanguo quantu* expresses the magnitude of Heaven in a similar tone:

嘗聞天地一大書，惟君子能讀之，故道成焉。蓋知天地，而可證主宰天地者之至善、至大、至一也。不學者棄天者也。學不歸原天帝，終非學也。淨絕惡萌，以期至善，即善也。姑緩小以急于大，減其繁多以歸于至一，于學也庶乎？

I have heard that the universe is a great book, and only the intelligent scholar can read it and then achieve the ultimate doctrine. By comprehending the Heaven and Earth, one would be able to testify to the ultimate kindness, greatness, and oneness of the supreme power of the lord who rules over the Heaven and Earth. Those who do not study or pursue this way neglect Heaven. Not to ascribe this study to the sovereign of Heaven is not to study in the serious sense. Abandoning absolutely any malicious ideas in order to achieve the ultimate kindness is meritorious. To put aside the little [study or faith] and turn to pursue the great one, minimizing the multitude [regarding beliefs] in order to pledge allegiance to the utmost one, is not far from the study, is it?

Both Ricci's and Aleni's statements ascribe the metaphysical realm of human intelligence and the body to the Creator, emphasizing the greatness and uniqueness of God. Ricci in particular denounced the multitude of beliefs and of deities in Chinese traditions, in contrast to God's existence as the only supreme power of the universe. Aleni points out the relationship between the human body and the universe in physical as well as in spiritual terms: that our human soul and talent are granted by God's omnipotence. People can understand the universe and should do so within the framework of this relationship, so

⁴⁵Lestringant, *Mapping the Renaissance World*, pp. 1-11.

as to pay esteem to the Creator. The last sentence in Aleni's statement is clever, implying that the map in front of our eyes serves as visual proof, given that the human eye "can see" it, through the faculty bestowed by the Creator. Therefore, it shows that the visual evidence provided by a map was a visualization of an understanding of God, and that it was used to point to this ultimate truth by means of the image itself and the ability of the viewer which depends on the ultimate one, both of which are inevitably interlinked. The importance of establishing the proof of God or the truth in the universe lies in the fact that the missionary had to preach the truth of Christianity to non-Christians, because the Chinese were not able to recognize Jesus Christ in their history and culture and questioned the veracity of him and his religion.

Therefore, it is not strange that Aleni's *Zhifang waiji* was categorized under the section of *li* 理篇 (literally, *li* means theory or principle; in the religious context of Christianity, it denotes "Christian doctrine") instead of *qi* 器篇 (those works on the physical studies of Heaven), in the *Tianxue chubao* 天學初函, the first book compilation of the Heavenly studies in China. It was compiled and published by Li Zhizao around 1629, who was responsible for Ricci's *Kunyu wanguo quantu*. Like cartography for the Jesuits, the *Zhifang waiji* is not simply an introduction to geographical knowledge.

However, Jesuit cartography and geography need physical studies to achieve their ends. Jesuit methods of teaching the Chinese to comprehend the Heaven and Earth proceeded from the physical to the spiritual realms, and the former, the physical studies, were an essential part of the process toward the understanding of the metaphysical field of the universe. The most important basis for physical studies was mathematics. Hence the section of *qi* of the *Tianxue chubao* includes works and treatises on numerical theories and geometry. The mathematical disciplines and studies, as seen in the case of Venetian mapping in the sixteenth century, were understood as "being in the first degree of certainty." Based on the Pythagorean-Platonic view of the mathematical and geometrical structures of the universe, the Jesuits believed that, "mathematical reason allows us to understand the *harmonia mundi* in the created universe and further, to grasp metaphysical concepts like the Trinity: 'through the wonderful correspondence between God and the world, created on the model of divine harmony, a number becomes the means and criterion to elevate oneself from the sensible world to the invisible and

ineffable truth of God.”⁴⁶ This “certainty” was a concept crucial to direct one to the “proof of the truth.” The Renaissance tradition of cosmology and cartography and the idea of understanding nature through mathematical science are the essential framework through which the Jesuits legitimized the sciences in the China mission. Mathematics played an important part in cartography; through it the Jesuits interpreted the role of the sciences in Jesuit visual culture. It was also the fundamental physical study guiding one toward the spiritual realm, and it played a key role in regularizing knowledge to the level of certainty and truth.

In addition, it is particularly interesting to note that Aristotelian sensibility was employed in cooperation with the understanding of mathematics and mathematical practices for gaining knowledge of Heaven in the Jesuit China mission. Willem Hackmann articulated the relationship between Sense and Reason in seventeenth-century European scholarship as follows: “Reason made it possible to comprehend the new phenomena produced by science, while observations on their own could never lead to understanding.” He pointed out further that the title page of the Jesuit work *Ars magna lucis et umbrae* (1646), a treatise on optics composed by Kircher, uses the telescope as an emblem for Sense as the only source of knowledge. Hackmann commented: “The Jesuits were keen to introduce science into the Vatican and they were among the most ardent diffusers of the new knowledge based on these novel instruments, but as their frontispieces indicate, they were very much concerned with the relationship between Reason and Sense.”⁴⁷ These remarks are appropriately applied to Jesuit sciences in their Chinese missionary work, because as in the case of cartography, the Jesuits introduced the Chinese to the comprehension of western knowledge and of Heaven by means of the cooperation of mathematics (Reason) and sensibility (Sense).

In the Jesuit framework, the visualization is carried out by the ability of the human sense, the theory based upon the concept of per-

⁴⁶Both quotations concerning Venetian mapping case studies are from Denis Cosgrove, “Mapping New Worlds: Culture and Cartography in Sixteenth-Century Venice,” *Imago Mundi* 49 (1992), 75. Here the author is talking about and citing Fra Luca Pacioli’s reference to the central positions of number, geometry, and proportion in measuring all things of the universe.

⁴⁷Willem D. Hackmann, “Natural Philosophical Textbook Illustrations 1600-1800,” in *Non-Verbal Communication in Science Prior to 1900*, ed. Renato G. Mazzolini (Florence, 1993), pp. 173-174.

ception or sensibility of Aristotle. This theory can be grasped by the Aleni's statement: the human body as a universe. First, as Aleni's preface indicates, the human body, likened to a universe, is based upon that human faculty bestowed by the master of the universe, i.e., God. Also because of this understanding of the body as a microcosm of the universe, we can "comprehend the whole Heaven and Earth." For the Jesuits, the whole meaning of the human body includes both its corporality and the soul. A man is different from other beings due to God's bestowal of *anima*, the rational soul. As the Jesuit founder Ignatius de Loyola explains, *anima*, a denomination of "the rational soul," suggests the co-operation of "body and soul," and is "a compound of body and soul" and "the whole self," even though the word "soul" alone is generally used as a translation of *anima*.⁴⁸ In this sense, *anima* means the essence of a human being. This concept of an able and rational soul is completely unfamiliar to the traditional Chinese concepts of *bun* 魂 and *po* 魄.⁴⁹ These two Chinese terms, commonly used as equivalents for the word "soul" in modern English usage, do not indicate either a positive and realistic being, nor was the faculty of reason and intelligence associated with these terms. While *bun* and *po* have a metaphysical sense, they are meaningless when detached from the physical body; the body and soul in Chinese thought are not opposed in any dualistic way.⁵⁰ In addition, the Aristotelian distinction of three souls for temporal beings, and the significance of the rational soul of man, as the third and highest among the three, are explicitly explained in various works of Jesuit literature for the Chinese. In Ricci's *Tianzhu shiyi* 天主實義 (*The True Meaning of the Lord of Heaven*, 1603), among the earliest of these works, this *anima* of human beings was translated as *ling bun* 靈魂, and Ricci said that *ling bun* is *shen* 神 (literally "spirit").⁵¹ In the *Tianzhu shengjiao qimeng* 天主聖教啓蒙 (*Catechism for Catholicism*, early seventeenth century) and *Song nian zhu gui cheng* 誦念珠規程 (*Method for Reciting the Rosary*, first edition circa 1619), bound together in a single volume,

⁴⁸George E. Ganss, *The Spiritual Exercises of Saint Ignatius—A Translation and Commentary* (St. Louis, 1992), p. 150.

⁴⁹Jacques Gernet, *China and the Christian Impact: A Conflict of Cultures* (Cambridge, 1985), pp. 146-150; Erik Zürcher, "Confucian and Christian Religiosity in Late Ming China," *The Catholic Historical Review* 83 (October, 1997), 625-630.

⁵⁰For this concept in the elaboration of Daoism, see Joseph Needham, *Science and Civilization in China*, vol. 2, *History of Scientific Thought* (Cambridge, 1956), pp. 153-154.

⁵¹Matteo Ricci, *Tianzhu shiyi* 天主實義 (*The True Meaning of the Lord of Heaven*), in *Tianxue chuban*, I, pp. 429-449.

and in Sambiasi's *Ling yan li shao* 靈言靈勺 (*Treatise on Anima*; 1624), the term is transliterated as *yanima* 亞尼瑪.⁵² It was read as *ling shen* 靈神 in the *Pangzi yi quan* 龐子遺詮 (*The Posthumous Work of Pantoja*) of Diego de Pantoja (ca. 1610), *shen* in the *Jiaoyao jie lue* 教要解略 (*Brief Explanations of the Catholic Essentials*, 1615) of Alfonso Vagnoni (1568-1640), and *ling xing* 靈性 (spiritual nature) and *ling ming* 靈明 (spiritual intelligence) later in Aleni's works.⁵³ *Ling* 靈 and *shen* 神 are interchangeable. In order to elucidate the genuine sense of *anima*, in their Chinese works, the Jesuits explained that a rational soul has the faculty of reason and intelligence due to *shen* or *ling xing*, for instance. In other words, the Jesuits used terminology such as *shen* or *ling xing*, in order to indicate the primary feature of the rational soul. To borrow a term from Erik Zürcher, as in the late Ming period when Neo-Confucianism was popular, the idea of "soul" was marginal but human nature (*xing* 性) and mind (*xin* 心) were considered in a positive light.⁵⁴ The Jesuit appropriation of *shen* or *ling xing* were much more associated with the *xing* and *xin* of Neo-Confucianism. The Jesuits could have thought that the Chinese terms *shen* and *ling* were appropriate to point out the conception of the body and soul in their highlighting of the rational soul.

The same concept of "the human body as a universe" was also seen in Chinese metaphysics. However, it represented a different cosmology. In the writings of the Chinese philosopher Zhuangzi 莊子 (365-290 B.C.), we see that man is similar to the universe in nature and structure. Their relationship, which was furthered in the Han period

⁵²João da Rocha, *Tianzhu shengjiao qimeng* 天主教教啓蒙 (*Catechism for Catholicism*) and *Song nian zhu gui cheng* 誦念珠規程 (*Method for Reciting the Rosary*) (ARSI, JapSin I, 43), fol. 1r. A modern facsimile of this work has been published, see Standaert and Dudink, *Chinese Christian Texts*, I, pp. 503-515, 515-574; the above folio 1r is on page 515; Francesco Sambiasi, *Ling yan li shao* 靈言靈勺 (*Treatise on Anima*), in *Tianxue chubun*, II, pp. 1127-1268.

⁵³Diego de Pantoja, *Pangzi yi quan* 龐子遺詮 (*The Posthumous Work of Pantoja*), in Standaert and Dudink, *Chinese Christian Texts*, II, p. 109; Alfonso Vagnoni, *Jiaoyao jie lue* 教要解略 (*Brief Explanations of the Catholic Essentials*), in Standaert and Dudink, *Chinese Christian Texts*, I, pp. 301-306; Giulio Aleni, *Xingxue cushu* 性學初述 (*On Human Nature*, Aleni's preface dated in 1623), in Standaert and Dudink, *Chinese Christian Texts*, VI, pp. 104-108; Giulio Aleni, *Sanshan lunxue ji* 三山論學紀 (*Account of Discussing Catholic Doctrine at Sanshan (Fuzhou)*), in *Tianzhujiao dongchuan wenxian xubian* 天主教東傳文獻匯編 (*Literature of Catholicism in the East, Second Series*), 3 vols. (Taipei, 1966), I, pp. 469-477; Giulio Aleni, *Dizui zhengui* 懺罪正規 (*Formal Rule and Statement of the Penitential Sacrament*), in Standaert and Dudink, *Chinese Christian Texts*, IV, p. 360.

⁵⁴Zürcher, "Confucian and Christian Religiosity," p. 626.

(206 B.C.-220 A.D.), is revealed in the correlative thought that was entrenched in Chinese astrological and cosmological discourses, whose influence determined the emperor's deeds no less than folk religions and morality.⁵⁵ In Zhuangzi's elaboration, each being in the universe has equal status, because they are all created or resulted from *qi* 氣 (air). In other words, the Aristotelian distinction of three souls for temporal beings, with the rational soul as the third and highest, is in opposition to this cosmology. The meaning of human existence in Chinese cosmology is not to be established through the omnipotence of the real master of the universe—at least not from a Jesuit perspective—but in the indiscriminate universe.⁵⁶ Basically, this conception of the universe formed the foundation of Chinese thought throughout subsequent centuries, as revealed in the Neo-Confucian analysis of the linked relationship between human beings and nature, and of that between nature and the universe. “The human body as a universe” was not brought about through the ultimate and only Creator, but it was understood through the concept of *Tianren heyi* “天人合一” (“Heavens and humans directed towards the same one, or being homogeneous”), or as the same derivation of heavens and humans from *qi* in the *qi*-immersed and non-discriminated world.⁵⁷

Second, due to this *shen* or *ling xing*, in the Jesuit religious context, the human body has five senses. The sense of the eye occupies the first rank in the theory of the five senses, and the human faculty or intellect depends above all on the proper functioning of vision. Ignatius'

⁵⁵As for the correlative thought in China, refer to Du Zhengsheng 杜正勝, “Xingtí, jingqì yú hunpò—zhongguó chuántóng duì rén renshì de xíngchéng” 形體、精氣與魂魄—中國傳統對「人」認識的形態 (Body, Spirit and Soul—The Formation of the Knowledge of Humans in Chinese Traditions), *Xīn shǐ xué* 新史學 (New History) 2 (3): 56-61 (September 1991); John B. Henderson, *The Development and Decline of Chinese Cosmology* (New York, 1984).

⁵⁶About Zhuangzi's writings and philosophy, see Young-bae Song 宋榮培, “Dongfang de xiangguan xing siwei moshi han dui youjiti shengming de lijie—yi Zhuangzi han zhongyi de youjiti shengming yuanli wei zhongxin” 東方的“相關性思維模式”和對有機體生命命的理解—以莊子和中醫的有機體生命原理為中心 (The Eastern Thinking Method of Relativity and the Comprehension of the Organic Being—the Principles of the Organic Being in Zhuangzi and Chinese Medicine), (paper presented at the International Meeting of the Formation of the Cosmic Order in Early Modern East Asia, Center for the Study of East Asian Civilizations, National Taiwan University, Taipei, Taiwan, August 20-21, 2004).

⁵⁷For this concept of the universe in Neo-Confucianism, see Wu Zhan-liang 吳展良, “Yangming de qihua shijieguan yu qi hexin sixiang xilun” 陽明的氣化世界觀與其核心思想新論 (The Qi Worldview of [Wang] Yangming), (paper presented at the International Conference on the Development of the Worldviews in Early Modern East Asia, Center for the Study of East Asian Civilizations, National Taiwan University, Taipei, Taiwan, August 5-6, 2005).

Spiritual Exercises takes up “the Five Senses of the Body” as one of its subjects in the First Method of Prayer, the “light exercise,” that can be given to “simple and illiterate persons who are unqualified for the full Exercises.”⁵⁸ Along with other subjects in the First Method—the Ten Commandments, the Capital Sins, and the Three Powers of the Soul—the Five Senses of the Body were translated and explained by the Jesuits in the earliest Chinese catechetical treatises, such as Vagnoni’s *Jiaoyao jie lüe* and *Shengjing yue lu* 聖經約錄 (*Abridgement from the Bible*, ca. after 1615). The Chinese terms were employed as below:

身有五司，一目視司，二耳司聽，三口司啖，四鼻司臭，五四肢司覺。

The human body has five senses. First are the eyes for the vision or sight; second, the ears for hearing; third, the mouth for tasting; fourth, the nose for smelling; fifth, four limbs for feeling.⁵⁹

At least until the middle of the seventeenth century, Aristotle’s understanding of the human soul’s sensibility, that is, the soul’s capacity to perceive things by the senses leading to a comprehension of the universe, was central to Catholic epistemology and natural philosophy.⁶⁰ The prominent historian of Chinese sciences, Joseph Needham, noted that, “the world-picture which the Jesuits brought was that of the closed Ptolemaic-Aristotelian geocentric universe of solid concentric crystalline sphere.”⁶¹ In introducing this Ptolemaic-Aristotelian world picture to the China mission, the Jesuits were more concerned with its religious implication as it suited their missionary uses. Moreover, the Jesuits could use it in both symbolic and realistic senses. Their cartography based on the Ptolemaic world retained as much symbolic as scientific meaning for seventeenth-century Europe, considering the realistic pic-

⁵⁸Ganss, *The Spiritual Exercises*, pp. 96-98, 186.

⁵⁹The quotation comes from the *Jiaoyao jie lüe*. The *Jiaoyao jie lüe* and the *Shengjing yue lu* were reprinted in full in the first volume of Standaert’s and Dudink’s *Chinese Christian Texts*. The texts discussing the five senses of the body are separately seen in the following pages, 110, 301-303 (the quotation on p. 301). Albert Chan attributed the *Shengjing yue lu* to Ricci, composed after 1605, see Albert Chan, *Chinese Books and Documents in the Jesuit Archives in Rome—A Descriptive Catalogue* (Armonk, New York, 2002), p. 106.

⁶⁰For the Aristotelian theory of the human sense in theology, a recent discussion on this issue pertained to the Jesuit Ignatius de Loyola, is Jeffrey Chipps Smith, *Sensuous Worship: Jesuits and the Art of the Early Catholic Reformation in Germany* (Princeton, 2002), pp. 35-40.

⁶¹Joseph Needham, *Chinese Astronomy and the Jesuit Mission: An Encounter of Cultures* (London, 1958), p. 1. The contents of this booklet are also part of Needham’s *Science and Civilization in China*, vol. 3 (Cambridge, 1959).

ture of the world already brought back by several explorers from actual navigations and from geographical expansions. However, for the Chinese as well as for the missionaries, the symbolic image of the Ptolemaic world did, to a certain extent, present a more realistic picture than the local mapping conventions in China, as explained above.

The sense of sight is usually described as a bodily function in those earliest Chinese catechistic treatises, but the ability of the eyes, shown in the sense of sight and vision, is not conceived by the Jesuits only within the realm of the physical body. Vagnoni explained the interdependence of the human body and *shen* as follows:

蓋神者，無形之物，不能離外物之像而自為明，必藉外司而使接納諸像，內傳之。外五司者，無內司以神明其所傳之像，亦莫能靈通暢達以對應萬物之理。

Shen is a non-material thing. It cannot be independently realized without the image of the material, but has to rely on various images of external things [from the five senses] to receive and transmit them inward. For the external five senses, the transmitted images can be neither enlightened without the internal faculty [i.e., *shen*], nor be animated clearly and aptly to react to the principle of all of things.⁶²

Therefore, the five senses have to be completed through the capacity of *shen*, and *shen* has to be conceived by means of the five senses, as it receives the images of various external objects for a more complete perception. This Chinese description conforms to the whole meaning of the human body, that is, Ignatius' co-operation of the body and the soul.

Ling xing or *shen* has one component regarding vision: mnemonics, which links *ling xing* or *shen* to the capacity of sensory perception, pertained to the issue of visualization and imagination in its European context. The faculty of *shen*, following Vagnoni's text, has three categories: *ji ban* 記含 (memory), *ming wu* 明悟 (enlightenment and comprehension), and *ai yu* 愛欲 (will).⁶³ These three faculties of *shen*, repeated in various Jesuit works in Chinese, derive from the three mental powers of Ignatius' *Spiritual Exercises*—memory, intellect, and will:

⁶²Vagnoni, *Jiaoyao jie lue*, p. 304.

⁶³*Ibid.*, pp. 301-302. Ricci's *Tianzhu shiyi* (1603), *Shengjing yue lu* (ca. after 1605) and Pantoja's *Renlei yuanshi* 人類原始 (*Origin of Human Beings*, ca. 1610) are those earliest records of the three faculties of *shen* in Jesuit Chinese literature, see individually, Ricci, *Tianzhu shiyi*, pp. 574-577; *Shengjing yue lu*, pp. 110-111; and for Pantoja's, the edition in BAV, Borgia Chinese 350 (1), fol. 5v.

Spiritual Exercises 50: The First Point [for the First Exercise] will be to use my memory, by going over the first sin, that of the angels; next to use my understanding, by reasoning about it; and then my will. My aim in remembering and reasoning about all these matters is to bring myself to greater shame and confusion. . . . I will call to memory the sin of the angels. . . . Next I will use my intellect to ruminate about this in greater detail, and then move myself to deeper emotions by means of my will.⁶⁴

These three faculties have to work together for the functioning of *shen*. Sambiasi's *Ling yan li shao* and Aleni's *Xingxue cushu* 性學精述 (*On Human Nature*, Aleni's preface dated in 1623) offer two elaborations of these three faculties in greater detail, compared with other Jesuit Chinese works.⁶⁵

"Memory" occupies the first rank among the three faculties of *shen*, because its quality would affect the operations of the other two capacities, intellect and will. Aleni's explanation in 1634 states clearly and concisely the co-relationships between these three functions:

一清記念，記含不清，則雜物亂入腦囊，默想時遂有紛思憧擾之弊，故必蒐羅經典，取其精美者，括諸囊中，隨所抽而用之，啓明悟之機。二充明悟，悟機既啓，則觸類引伸，洞徹其隱，因揣其行為意義，取為法則，而愛慕之情動矣。三發愛欲，既悟斯理，遂熱心嚮慕，或發痛悔之情，或生遷改之念，堅定己志，祈 天主賜我神力，毅然行之。斯則默想之大略也。

The first is to clean up memory. Memory is not clear; that is, miscellaneous thoughts come into brain. In this case, it will cause confusion and disturbance in meditation. So it [the memory] must resort to sacred books, adopting those good and exquisite ones and taking them into the memory, so they can be used at all times in order to inspire intelligence. Second, the fulfillment of intellect. The intellect has been enlightened, then can draw inferences in order to understand thoroughly any hidden meanings. Having pondered the action and significance [of the things or issues in question], we take it to be a standard. At this point the affection can be motivated. Third, the initiation of the affection. Once the comprehension of the principles is achieved, then the affection can be aroused. It can generate either the will of repentance or the thought of improvement. Be determined and supplicate God's grant of spiritual power, in order for firm action. This is a summary of meditation.⁶⁶

Memory is important for its just confirmation of the contents, from which derives the smooth advance of intellect and will. In the

⁶⁴Ganss, *The Spiritual Exercises*, p. 41.

⁶⁵Sambiasi, *Ling yan li shao*, pp. 1154-1211; Aleni, *Xingxue cushu*, pp. 283-302.

⁶⁶Aleni, *Kou duo ri chao*, pp. 397-398.

European tradition of mnemotechnics dating from the classical period onward, imagination and visualization were the two primary methods for causing and arranging a trained memory. Thinking about the Aristotelian theory of knowledge, that he expounded in his *De anima*, formed an extremely prominent position in Jesuit thinking on the issues; as Frances Yates states, “The perceptions brought in by the five senses are first treated or worked upon by the faculty of imagination.”⁶⁷ Imagination relies on the brain to generate various mental images; this point is confirmed by the above quotation of Aleni’s explanation. However, the Jesuits distinguished the memory of the brain and that of the heart, emphasizing the heart as the ultimate source of a rational soul because the management of memory, such as building a visionary palace, lies therein.⁶⁸ The practical example of this building method in the management of memory in China is Ricci’s *Xiguo jifa* 西國記法 (*Western Mnemonics*; 1596), a prominent booklet of western mnemonics. Ricci introduces the western theory of mnemonics, and discusses the method of constructing an imaginative house with Chinese ideographs.⁶⁹ By speaking of Chinese ideographs as signs, he simultaneously made use of the imaginative and memory-oriented characteristics of the Chinese language in order to articulate the visual function of western mnemonics for the comprehension of the Chinese people. He thus discussed the idea of *xiang* 象 (image) with many figurative samples of Chinese characters.⁷⁰ In other words, Ricci appropriates the hieroglyphic character of the Chinese language to express his concept of *xiang* and *xiang*’s significant uses, and he tries to establish a common perceptive method between the image-oriented characteristics of the Chinese language and the visualization of western mnemonics. This link between imagery and linguistics formulated by

⁶⁷Frances A. Yates, *The Art of Memory* (Chicago, 1966), p. 32.

⁶⁸Aleni, *Xingxue cusbu*, pp. 283-302. In Aleni’s term, memory housed in the brain is called *she ji* 書記. The term *ji ban* 記本 is used for memory of the heart. This theory conforms to the relevant historical discourse in fifteenth-century Europe that is stated by Paul Saenger as follows: “In the fifteenth century, cognitive function was thought to be divided between the brain, which according to Galen was the locus of sense and memory, and the heart, which according to the Bible, Aristotle, and numerous Latin patristic authorities was the intangible seat of the rational soul,” see Paul Saenger, “Books of Hours and the Reading Habits of the Later Middle Ages,” in *The Culture of Print—Power and the Uses of Print in Early Modern Europe*, ed. Roger Chartier, trans. Lydia G. Cochrane (Princeton, 1987), p. 145.

⁶⁹This booklet forms the skeleton of Jonathan Spence’s well-known book, *The Memory Palace of Matteo Ricci* (New York, 1985).

⁷⁰Matteo Ricci, *Xiguo Jifa* 西國記法 (*Western Mnemonics*), in *Tianzhujiào dōngchuan wénxiān* 天主教東傳文獻 (*Literature of Catholicism in the East*), 3rd ed. (Taipei, 1997), pp. 1-70.

the Jesuits entails an important observation of difference between the two cultures. As words and images could be seen as rivals in the European aesthetic traditions, both scripts and images for the Chinese could have been “undifferentiated art forms,” both functioning as “graphic signs that expressed meaning.”⁷¹

To restate simply the matter elaborated above: seeing is crucial for understanding. The sense of the eye occupies the first rank among the five senses, and the human faculty or the rational soul depends above all on the proper functioning of vision. With regard to the capacity of the human rational soul, mnemonics assigns significance to the sensed image, and thus images play a legitimate role in the fulfillment of the sensibility. The reason for the Jesuits' uses of images and visual objects in the China mission lies in this Aristotelian philosophical and Jesuit theological background. Jesuit cartography was an embodiment of the Renaissance tradition of cartography as the graphical representation of the universe, which included the idea of understanding nature through mathematical science as well as of understanding Heaven by uses of the senses, especially visualization. In this Renaissance tradition, geography was associated with cosmology that was based upon Christian theology, and Aristotle's use of the senses for the comprehension of the universe formed the core of Catholic epistemology and natural philosophy. Cartography, as a mode of the visualization of knowledge, was a practical example to use to proceed from the human ability of sight to the truth of Christianity.

The religious implications of Jesuit cartography explain how the Jesuits could have employed cartography strategically in their attempts to evangelize in China. The religious underpinning supported the use of this scientific object in the Jesuit China mission. While the Jesuits made efforts to translate a European-based map into a Chinese printed version, they also introduced new geographical knowledge of China back to Europe, to use Steven Harris' term, incorporating the knowledge of China into the geography of Jesuit knowledge. Cartography thus played quite a significant role in the dynamics of this intercultural relation. For both Europe and China, it indicates a historical process in the Early Modern period, in which each side tried to accommodate world geography and the knowledge of other countries and peoples into the individual ideological system.

⁷¹As for the difference in the relationship between words and images in China and Europe, see Wen C. Fong, “Why Chinese Painting Is History,” *The Art Bulletin* 85 (June, 2003), 259 (for both quotations); David Carrier, “Meditations on a Scroll, or the Roots of Chinese Artistic Form,” *Word and Image* 18 (January-March, 2002), 50.