

國立臺灣師範大學國際與僑教學院國際漢學研究所

碩士論文

Graduate Institute of International Sinology

College of International Studies and Education for Oversea Chinese

National Taiwan Normal University

Master Thesis

場所、影像、詞書編纂：

金尼閣的教育背景如何影響《西儒耳目資》

Loci, Image, and Lexicography:

How Trigault's Learning Influenced the *Siju Ulmoçu*

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中華民國 100 年 2 月

February 2011

國立臺灣師範大學學位論文授權書

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國際漢學研究所九十九學年度第一學期取得碩士學位之論文。

論文題目：場所、影像、詞書編纂：金尼閣的教育背景如何影響《西儒耳目資》

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碩士論文題目：

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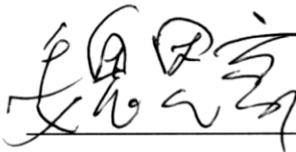
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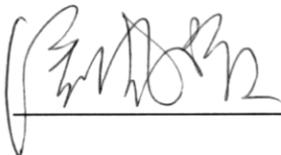
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ABSTRACT

Placing the *Ulmoçu* back to its cultural-historical context, this thesis investigates how Trigault's educational background offers the framework to deal with the Chinese script. This study finds that the art of memory, which Trigault had studied in school like other Jesuits, provided a framework of the lexicography. Trigault is clearly influenced by the Combinatory Art, which became the phonetic wheels and the tabulations of Chinese syllables that Trigault devised for language analysis. Trigault is also influenced by alphabetization, the method to arrange words in its alphabetical order. For Trigault, these intellectual heritages were his toolkit in tackling the exotic Chinese script. Moreover, I also justify Trigault and his contemporary Jesuits' belief about Chinese characters, namely, the ideographic and universal myth. Pre-occupied with this idea, Trigault and the early modern European travelers' observed the international intelligibility of the Chinese script and develop the idea that "the Chinese hieroglyphs" are also ideographic. In Trigault's lexicography, this idea permitted him to place Chinese characters in the places denoted by romanized syllables. Finally, the approach taken in this thesis explores a new horizon in the study on the *Ulmoçu* and underscores how a missionary's intellectual background contributes to his analysis of foreign language.

Keywords: Xiru Ermuzi, Nicolas Trigault, S.J., Jesuit Education, the art of memory, the ideographic myth, the phonetic wheels.

摘要

本研究根據《西儒耳目資》出版的歷史文化背景，重新思考編者金尼閣（Nicolas Trigault, 1577-1628）的教育背景如何形成這本字典的架構，並對傳教士之教育背景對語言分析的影響提出新的見解。本研究發現金尼閣和其他耶穌會傳教士在養成過程中所接觸的記憶術和字典編纂有相同的功能，可以提供金尼閣編纂《西儒耳目資》的基本架構。文藝復興時期所流行的結合術（the Combinatory Art）則提供金尼閣分析漢語音系的架構。接著金尼閣將歐洲既有的字母排列法（alphabetization）修改成獨特的漢語拼音排列法。除此之外，金尼閣和他同時期的歐洲人一樣，都把漢字是為表意圖像，並且將漢字聯想成東方的埃及象形文字。這樣的想法讓金尼閣把漢字放入由羅馬字母組合、標記而成的空間中，成為《西儒耳目資》成型過程中的關鍵要素之一。

關鍵詞：西儒耳目資、金尼閣、耶穌會教育、記憶術、象形文字迷思、音韻活圖。

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LIST OF ABBREVIATIONS

HWZY	<i>Hóngwǔ Zhèng Yùn</i> 洪武正韻 (The Standard Rimes of Emperor Hongwu)
WYPH	<i>Wǔyīn Piānhǎi</i> 五音篇海
YHXB	<i>Gǔjīn Yùnhuì Jǔyào Xiǎobǔ</i> 古今韻會舉要小補 (A Minor Supplement to the Extracts of the Ancient and Contemporary Rime Conglomerate)
ZYHP	<i>Zhèngyùn Hǎipiān</i> 正韻海篇



CHAPTER 1

BACKGROUND AND NEW QUESTIONS

1.1 Nicolas Trigault: Missionary and Linguist

In the history of the Sino-European cultural encounter, the French-speaking Flemish Jesuit Nicolas Trigault (Jīn Nígé 金尼閣 1577–1628)¹ played an important role in the early seventeenth century. Arriving at Macau in 1610, Trigault, a former teacher of humanities from Flanders, had already preached for three years in India. He traveled between Nanjing and Beijing for the business of the Society of Jesus and learned the Chinese language from Alfonso Vagnoni (Gāo Yīzhì or Wáng Fēngsù 高一志/王豐肅 1566–1640) and Lazzaro Cattaneo (Guō Jūjìng 郭居靜 1560–1640). The latter became Trigault's confessor.² In 1612, Trigault returned to Europe under Nicholas Longobardi's (Lóng Huámín 龍華民 1559–1654) order to request the establishment of a new province in China and the Pope's permission of the accommodation policies for Chinese converts.³ During his voyage to Rome, he translated and edited Matteo Ricci's (Lì Mǎdòu 利瑪竇 1552–1610) journal and letters from Italian to Latin, and the product titled *De Christiana Expeditione apud Sinas* was later published in Augsburg in 1615. It became the firsthand account of China in early seventeenth century Europe.

¹ Trigault's nationality and native language are discussed in Appendix 1.

² Anne-Marie S. Logan and Liam M. Brockey, "Nicolas Trigault, SJ: A Portrait by Peter Paul Rubens," *Metropolitan Museum Journal* 38(2003): 157–167.

³ Trigault, as an agent sent by the Jesuit China Mission, requested granting permission to wearing hats in Mass and using Chinese in liturgy. The dressing code accommodated the Chinese custom that bare head is disrespectful and was eventually permitted by the Holy See, whereas the petition of using Chinese in liturgy has never been approved. The history of Jesuit's accommodation policy and its implication in the Jesuit Mission in China has been discussed in George Harold Dunne, *Generation of Giants: The Story of the Jesuits in China in the Last Decades of the Ming Dynasty* (Notre Dame, Indiana: University of Notre Dame Press, 1962), 162–182.

Trigault's procurer journey was a round trip. Between 1615 and 1618, he recruited new members, collected books, and raised funds for the Jesuit Mission in China. When Trigault reached Macau again in 1620, he brought not only 7,000 titles (the actual number is in doubt), but also several learned missionaries who later played significant roles in the Sino-European cultural encounter. Among these new missionaries, Johann Terrenz Schreck (Dèng Yùhán 鄧玉函; 1576–1630) specialized in physics and medicine, Johann Adam Schall von Bell (Tāng Ruòwàng 湯若望; 1592–1666) in astronomy, and Giacomo Rho (Luó Yǎgǔ 羅雅谷; 1592–1638) in mathematics.⁴ In contrast, Trigault was not an expert in any scientific discipline, but he had excellent achievement in literature and language studies. During Trigault's second term in China, he compiled a dictionary which attracted modern linguists' and historians' attention, the *Siju Ulmoçu* 西儒耳目資.⁵

The *Siju Ulmoçu* is a significant milestone in the histories of Chinese lexicography, missionary linguistics, and Sino-European cultural encounters. It is a product under the convergence of European and Chinese intellectual traditions. The chief compiler,

⁴ For Trigault's general biography, see Louis Pfister 費賴之, *Zàihuá Yēsūhuìshì Lièzhuàn Jí Shūmù* 在華耶穌會士列傳及書目, trans. Chéngjū Féng 馮承鈞 (Beijing: Zhōnghuá Shūjú 中華書局, 1995), 115–125. For his mission and journey in Europe, see Luke Clossey, *Salvation and Globalization in the Early Jesuit Missions* (New York: Cambridge University Press, 2008). Standaert discussed the Renaissance culture brought by Trigault and his fellow Jesuit. See Nicolas Standaert, "The Transmission of Renaissance Culture in Seventeenth-Century China," *Renaissance Studies* 17, no. 3(2003). The number of the books that Trigault brought to China is in doubt. Fang Hao defends the number of seven thousand titles. Hao Fang 方豪, "Běitáng Túshūguǎn Cángshū Zhì 北堂圖書館藏書志," in *Fāng Háo Liùshí Zìdìnggǎo* 方豪六十自定稿 [The Collected Works of Maurus Fang Hao Revised and Edited by the Author on His Sixtieth Birthday] (Taipei City: Xuéshēng Shūjú, 1969).

⁵ The title romanized in Pinyin is "Xírú Ērmùzī," usually abbreviated in XREMZ in the literature. However, since this book has its own romanization system, I would adopt Trigault's system for the title as *Siju Ulmoçu*, but diacritics are removed for typographic clearness. The abbreviation is *Ulmoçu*, which was used in its time. This thesis refers to the three-volume facsimile reprint in Taipei in 1977, which is based on an older facsimile copy made by Peking University and the National Peiping Library (today's National Library of China) in 1933. Nicolas Trigault, *Xírú Ērmùzī* 西儒耳目資 (Taipei: Tiānyī Chūbǎnshè 天一出版社, 1977[1626]). For the table of contents of the *Ulmoçu*, see Appendix 2.

Trigault and the cooperators, Wáng Zhēng 王徵 (1571–1644) and Hán Yún 韓雲 (?-?), were fully aware of this significant status and hoped for a good response from the Chinese audience. However, following its publication in 1626, the *Ulmoçu* did not achieve the popularity that its compilers and sponsors expected, and its reviews in the following decades were mixed. After the seventeenth century, no traditional Chinese phonologist mentioned the *Ulmoçu* again. The importance of the *Ulmoçu* was not discovered until Luó Chángpéi's 羅常培 in-depth introduction to modern linguists in 1930. Luó compared Ricci's and Trigault's romanization systems in order to trace the historical development of missionary romanization systems. With respect to the terminology of the *Ulmoçu*, Luó found the European origins of some linguistic terms and the romanization system itself, which served his phonetic reconstruction of the Chinese transcribed in the *Ulmoçu*. Finally, Luó discovered Chinese intellectuals' negative and positive responses to the *Ulmoçu* to examine its influence in the field of traditional Chinese phonology.⁶

This thesis intends not to re-examine the romanization system or the historical phonology of the *Ulmoçu*, which had been well studied since Luó's thesis. Rather, I would consider the *Ulmoçu* within its socio-cultural context, that direct cultural encounters between Europe and Asia were enabled and intensified by European navigators' trade-driven expeditions and missionaries' religion-driven enthusiasms. This alternative scope focuses on some less-addressed issues about the *Ulmoçu*, such as Trigault's intellectual heritages. Considering this context of cultural encounter, the influence from European intellectual tradition naturally becomes a major topic for further investigation. In fact, the lexicography of the *Ulmoçu* is a less addressed field in

⁶ Chángpéi Luó 羅常培, "Yēsūhuìshì Zài Yīnyùnxué Shàng De Gòngxiàn 耶穌會士在音韻學上的貢獻 [The Jesuit contributions to Chinese Phonology]," 1, no. 3(1930).

previous literature. As an attempt to integrate the Chinese and the European elements to create a unique lexicography, the *Ulmoçu* is not a translated version of any European original or model. Rather, it looks like its contemporary Chinese rime books, consisting of a theoretical section, several tables, lists of homophonous Chinese characters, and an index organized according to radicals of Chinese characters. However, some European elements, such as the phonetic wheels placed at the very beginning, the alphabetized list of characters, and the syllabary tabulation without “grade *děng* 等” divisions, are obviously non-Chinese. Thus, the *Ulmoçu* represents a mixed intellectual background, and this background must be understood through the analysis of the Renaissance culture and that contemporary knowledge to the Chinese language and script.

1.2 The Art of Memory

Recent studies on the *Ulmoçu* consider the influence from European intellectual traditions on Trigault’s lexicography. The studies of Wang, Tan, and Chien, all argue that Trigault’s phonetic wheels are influenced by the concentric wheels and the combinatory art in Lullism.⁷ Named after the Catalan Franciscan friar and inventor Ramon Lull (ca. 1232–1315),⁸ Lullism turns concentric wheels to generate the combinations from the seven God’s Dignities, designated by letters on each wheel, and uses a set of rules to interpret each combination. This mechanism was called *ars*

⁷ Sung-mu Wang 王松木, “Míngdài Děngyùnjiā Zhī Fānqiè Gǎiliáng Fāngàn 明代等韻家之反切改良方案 [Improvements of Fanqie Proposed by Phonologists in Ming Dynasty],” in *Dì Shíyī Jiè Guójì Jì Dì Èrshíqī Jiè Quánguó Shēngyùnxué Xuéshù Yántǎohuì 第十一屆國際暨第二十七屆全國聲韻學學術研討會 [The 11th International and the 27th National Conference of Chinese Phonology]* (Fu Jen Catholic University 2009); Huìyǐng Tán 譚慧穎, “Xírú Èrmùzī Yuánliú Biànxī 《西儒耳目資》源流辨析 [On the Formation and Effect of An Audio-visual Aid to Western Scholars]” (Beijing: Foreign Language Teaching and Research Press, 2008); Hung-yi Chien, “Jīn Nígé De Yīnyùn Huótú 金尼閣的音韻活圖 [Trigault’s Phonetic Wheels],” *Yǒu Fèng Chū Míng Niánkān 有鳳初鳴年刊 [Annual of Graduate School of Chinese Literature Soochow University]* 5(2009).

⁸ Lull’s name has various spellings. For example, Ramon Llull, Raymond Lully, Raymond Lull, etc. Ramon Lull is the spelling used by Frances A. Yates.

combinatoria, or the Combinatory Art. The Lullian wheel resembled a logic machine, but it should rather be considered as a form of mnemotechnique, which helps the practitioners to memorize religious arguments.⁹ There is no evidence indicating that Trigault mastered Lullism or its Renaissance variations, but the design of the phonetic wheels suggests that there is a certain relation between Trigault's lexicography and the Lullian art of memory in the European intellectual tradition.

The art of memory, or mnemonics, is a skill of memorization and recollection. It belongs to the discipline of rhetoric, one of the seven liberal arts in the Middle Ages.¹⁰ Rhetoric and Latin grammar were two essential parts of Jesuit missionary education. Latin was the *lingua franca* in the Church and rhetoric was the skill of preaching. However, in the greater context of the European intellectual tradition, both rhetoric and Latin grammar have more important implications for education prior to the Enlightenment. In short, Latin grammar was the key with which to access the seven liberal arts, and rhetoric was one of the three language arts, the *trivium*, among the seven liberal arts.¹¹ Moreover, rhetoric is a synthetic discipline that requires not only oration but also erudition, which serves as the basis of an orator's argumentation. Therefore, even though the influence from rhetoric is not as obvious as from Latin grammar, we should not under-evaluate the influence of rhetoric on missionary's language studies.

The most famous mnemonic treatise written by China-based Jesuits is Ricci's

⁹ Frances Amelia Yates, *The Art of Memory* (Chicago: University of Chicago Press, 1966).

¹⁰ Vivien Law, *The History of Linguistics in Europe from Plato to 1600* (Cambridge; New York: Cambridge University Press, 2003), 101.

¹¹ Ibid.

Xīguó Jifǎ 西國記法 (*The Mnemonics of the Western Countries*).¹² Ricci presented the essential principles of mnemonics and raised many examples suitable for Chinese in this treatise, but what made this treatise legendary in the history of Chinese Christianity was that it helped Ricci in winning the local governor's endorsement and in penetrating the cultural barrier of Chinese literati.¹³ However, it is also worth to consider the assistance of mnemonics in Ricci's Chinese learning. In chapters four and six, Ricci analyzes the radicals of each Chinese character and interprets this analysis with his mnemonic image, revealing his endeavor in grammatology, the study of writing systems. Nevertheless, Ricci's analytic approach in this mnemonic treatise also reflects the relation between Jesuits' Chinese learning and their rhetoric training.

Our understanding of the rhetoric curricula of Jesuit education comes from two major sources. The first is Allan P. Farrell's 1970 English translation of the *Ratio Studiorum* with an introduction and annotations. The second source is the designated textbook of rhetoric in the *Ratio Studiorum*, Cyprian Soarez's *De Arte Rhetorica*. According to the *Ratio Studiorum*, we know that the *Ratio Studiorum* assigned Cicero's oratorical works and Aristotle's *Rhetoric* and *Poetics* to the daily lesson and prescribed that Cicero was the model of oration¹⁴. However, the work of Quintilian (ca. 35–ca. 100), a Roman rhetorician in the first century, was also possible to supplement the

¹² Matteo Ricci, "Xīguó Jifǎ 西國記法," in *Lì Mǎdòu Zhōngwén Zhèyì Jí* 利瑪竇中文著譯集, ed. Zhū Wéizhēng 朱維錚 (Hong Kong: City University of Hong Kong Press, 2001[1595]), 181–214.

¹³ See Ricci's letter to Father Claudio Acquaviva, the Superior General of the Society of Jesus. Matteo Ricci, *Lì Mǎdòu Shūxìn Jí* 利瑪竇書信集 [*Letters of Matteo Ricci*], vol. 3 (Taipei: Kuangchi & Fu Jen Catholic University Press 1986), 230.

¹⁴ Jesuits, *The Jesuit Ratio Studiorum of 1599*, trans. Allan P. Farrell (Washington, D.C.: Conference of Major Superiors of Jesuits, 1970), 72–75.

rhetoric texts.¹⁵ In fact, most of the text about memory in Soarez's *De Arte Rhetorica* comes from Quintilian's *Institutio Oratoria*.¹⁶ I will discuss the details in Chapter 2.

For the investigation of Trigault's intellectual background, I will first review the mnemonic literatures that he must have pursued in his rhetoric classes, and then the modern studies of the art of memory. The art of memory was incorporated in the classical rhetoric training. In *On the Making of an Orator*, Cicero told the story of Simonides of Ceos, who was regarded as the discoverer of the art of memory. Ricci cited the same story in *Xīguó Jìfǎ*,¹⁷ indicating the influence of Cicero's oratorical works. In addition to Cicero, Aristotle's and Quintilian's rhetoric works are also considered to be the guides of the art of memory.¹⁸ However, the Latin text that is the most important to the art of memory is *Rhetorica ad Herennium*, which introduces the basic principles of mnemonics¹⁹ and lays out the five faculties required of an orator, including *inventio* (invention), *dispositio* (arrangement), *elocutio* (style), *memoria* (memory), and *pronuntiatio* (delivery). Although *Rhetorica ad Herennium* was mistakenly attributed to Cicero in the past, this mistake does not affect its status in the

¹⁵ Robert Schwickerath, *Jesuit Education; Its History and Principles Viewed in the Light of Modern Educational Problems* (St. Louis: B. Herder, 1903), 120.

¹⁶ Quintilian, *The Institutio Oratoria of Quintilian*, trans. H. E. Butler (London: William Heinemann Ltd., 1968[1922]). See also Flynn's note in Lawrence J. Flynn, "The De Arte Rhetorica (1568) by Cyprian Soarez: A Translation with Introduction and Notes" (University of Florida, 1955), 417.

¹⁷ Ricci, "Xīguó Jìfǎ 西國記法," 184.

¹⁸ Quintilian's advice is cited and discussed in Yates, *The Art of Memory*, 37–42. For the discussion about Aristotle's mnemonics, see Yates, *The Art of Memory*, 51–55.

¹⁹ Marcus Tullius Cicero, "Rhetorica ad Herennium," (London: William Heinemann, 1954), 205–225.

discipline of classical rhetoric because of its clarity in mnemonic principles.²⁰

I should clarify several closely related terms about the art of memory which are used in modern literature before discussing the art of memory in Chapter 2. First of all, *memoria*, the term from *Rhetorica ad Herennium*, specifically refers to the faculty in classical rhetoric. The author of *Rhetorica ad Herennium* distinguishes two kinds of *memoria*, the natural and the artificial.²¹ The artificial memory refers to the discipline that helps *memoria* in general, which might also be called either “mnemonics” or “the art of memory.” These terms are used interchangeably in this thesis, for “mnemonics” has an adjective form (mnemonic) to modify a noun (*e.g.*, mnemonic system). However, when we discuss the artificial memory from which the Renaissance and Enlightenment philosophers derived their new methods, I restrict the usage to “the art of memory.” Thus, “the art of memory” has a broader sense than has “mnemonics.” Finally, individual techniques of mnemonics are specified by the term “mnemotechnique.”²²

Academic study on the art of memory in English emerged quite late. Although we have few English titles on general mnemonics from the nineteenth century, these are either aids to learn foreign languages or a long bibliography of mnemonic masters’ works.²³ Frances Yates’ *The Art of Memory*, which is now the classic in this subject, is

²⁰ Yates, *The Art of Memory*, 43.

²¹ Cicero, “*Rhetorica ad Herennium*,” 207.

²² The usage referred here is Carruthers’.

²³ Not to exhaust the bibliography, I have found the following books teaching how to improve artificial memory: Gregor von Feinaigle and John Millard, *The New Art of Memory: Founded upon the Principles Taught by M. Gregor von Feinaigle* (London: Printed for Sherwood, Neely and Jones, 1812); Richard Grey and Solomon Lowe, *Dr. R. Grey’s Memoria Technica* (Oxford: Printed for J. Vincent, 1838); A. E. Middleton, *Memory Systems New and Old* (New York: Fellows & Co., 1888); Edward Pick, *On Memory and the Rational Means of Improving It* (London: Trübner & Co., 1861).

the first specific title to comprehensively address the history of mnemonics. Yates frequently referenced Paolo Rossi's *Clavis Universalis*,²⁴ which was translated into English in 1992. Before Mary Carruthers' research was published in 1990,²⁵ Yates and Rossi were the sources of modern studies on the art of memory.

Yates', Rossi's, and Carruthers' works are all important for my approach of the art of memory, but they contribute to different aspects. Yates' and Rossi's primary objective is to determine how the art of memory influenced philosophers during the Renaissance and Enlightenment in developing new methods with which to understand the world. Rossi analyzes the thoughts of Francis Bacon (1561–1626) and René Descartes (1596–1650), and Yates focuses on two Neoplatonists, Giordano Bruno (1548–1600) and Robert Fludd (1574–1637). To review the cultural context of the philosophers in question, it must also be noted that they studied the influential Lullism in the history of mnemonics and provided two comprehensive modern accounts of Lullism and the Combinatory Art. The Combinatory Art, which was introduced to Europeans by Lull, greatly influenced the Renaissance and the early modern philosophies, including the Universal Language proposals which pursued a real language that would be intelligible to all people speaking different languages. Carruthers, on the other hand, studied the medieval teaching and practice of mnemonics to unveil that the art of memory was a medieval *mentalité* that adapted to its times through history, influencing various ideas through the history.²⁶ Moreover, Carruthers

²⁴ Paolo Rossi, *Logic and the Art of Memory: The Quest for a Universal Language*, trans. Stephen Clucas (London: Continuum, 2006).

²⁵ Mary J. Carruthers, *The Book of Memory: A Study of Memory in Medieval Culture* (Cambridge [u.a.: Cambridge Univ. Press, 2008).

²⁶ Ibid., 153. *Mentalité* is a notion introduced by French historiography. The study of *mentalité* emphasizes the way of thinking common to the people of a particular time. *Mentalité* is also a link

also refers to neuropsychology in her discussion of the psychological foundation of the basic mnemonic principles which were passed down from Ancient Greece. My present objective is similar to Yates' and Rossi's studies, which emphasize the derivational aspect of the art of memory; thus, I will refer to their studies on both informational and methodological aspects. Carruthers' work is also informative with respect to our purposes. In addition, we can consider her insight in the medieval *mentalité* to study the history of cultural encounter.

Besides the major studies mentioned above, two additional works about Lullism merit mention. In his study of the Universal Language, Umberto Eco discusses Lull's Combinatory Art in the *Ars magna* and the non-Christian heritage of Lullism. Eco also reviews the operation of Lull's concentric wheels, which influenced Trigault's phonetic wheel. Regarding primary literature on Lullism, I shall rely on Anthony Bonner's English translation of Lull's major works.

Finally, alphabetization, which Trigault used to arrange the romanizations of Chinese syllables, was also a mnemotechnique in the Middle Ages.²⁷ Note that alphabetization should not be confused with romanization or literacy campaign. It is a method to alphabetically arrange things by their names. Alphabetization is only applicable to items written in alphabets. To analyze this issue, we shall refer to Lloyd W. Daly's *Contributions to a History of Alphabetization in Antiquity and the Middle Ages*.²⁸

between history and other human sciences. In the case of memory, Carruthers borrows psychology to study the art of memory, demonstrating interdisciplinary feature of *mentalité* study. For the definition and the development of *mentalité* in history research, especially in the French *Annales* School, see Jacques Le Goff, "Mentalities: A History of Ambiguities," in *Constructing the Past: Essays in Historical Methodology*, ed. Jacques Le Goff and Pierre Nora (Cambridge: Cambridge University Press, 1985[1974]), 166–180.

²⁷ Carruthers, *The Book of Memory*, 129.

²⁸ Lloyd W. Daly, *Contributions to a History of Alphabetization in Antiquity and the Middle*

Daly mentions various methods for the alphabetization of lexical items. Many of them are different from the full-alphabetization that is used in contemporary European dictionaries. In fact, as will be addressed in Chapter 6, Trigault's alphabetization is a unique alphabetization, which orders the romanizations by not only roman letters but also their tones and the number of letters in a syllable.

1.3 *Siju Ulmoçu* in the Sino-European Cultural Encounter

To Trigault and his contemporary Europeans, the Chinese script is an odd writing system that is composed of thousands of characters standing for distinctive meanings and mutually intelligible across different dialects. This cross-linguistic intellectualability fascinated the European scholars in the sixteenth and seventeenth century, and they eventually developed the idea that the Chinese script has a nature distinctive from European scripts, but similar to the mythical hieroglyphs of ancient Egypt. Trigault was an important figure in the development of these ideas, and they were held by the public for centuries and became a conventional wisdom to this script. The modern linguist, John DeFrancis, conceptualized and criticized these ideas as several “myths” about Chinese in *Chinese Language: Fact and Fantasy*.²⁹ Among the myths that DeFrancis criticized, “the ideographic myth” and “the universality myth” are directly related to Trigault.³⁰ Since the *Ulmoçu* was a dictionary dealing with Chinese characters, Trigault's understanding could influence its compilation. Then, I have to mention the sources which could become Trigault's references.

Ages (Bruxelles: Latomus, 1967).

²⁹ John DeFrancis, *The Chinese Language: Fact and Fantasy* (Honolulu: University of Hawaii Press, 1984).

³⁰ *Ibid.*, 134.

Trigault mentioned four Chinese language references in the *Ulmoçu* and complained about the difficulty of using them. Two out of these four dictionaries are the popular dictionaries, which had been commonly circulated in the Chinese publication market in the sixteenth and seventeenth century. These popular dictionaries feature a gigantic collection of characters, usually up to sixty thousand characters or more, and they usually use *hǎi* 海 ‘sea; ocean’ in their titles to highlight this feature. In fact, not only Trigault mentioned these dictionaries; many Jesuits who visited China in the seventeenth century reported this kind of dictionary in their travelogues or treatises about China.³¹

Although these popular dictionaries primarily served as a language reference, their appendices usually offered informative knowledge about the Chinese language and script, and it was eventually adopted by Jesuit missionaries in their reports. For example, an unpublished manuscript written by Prosper Intorcetta (Yīn Duózé 殷鐸澤 1626–1696) and other Jesuits simply adopted the common theory to the Chinese script in these popular dictionaries.³² This manuscript offers an instance about how the Chinese tradition influenced the Jesuits on their understanding to this odd script. We will cite this manuscript frequently in the following chapters.

Besides the direct adoption, Trigault’s cultural background and the preexisting knowledge in his mind also influenced his understanding of the Chinese script. In the

³¹ Hiroshi Watanabe 渡辺宏, “Rai Mei Senkyōshi Shiyō No Kanjisho Kaihen-ni Tsuite 来明宣教師使用の漢字書『海篇』について,” *Tōyōbunko-sho-hō* 東洋文庫書報 28(1997): 32–72.

³² Knud Lundbæk, *The Traditional History of the Chinese Script: From a Seventeenth Century Jesuit Manuscript* (Århus, Denmark: Aarhus University Press, 1988). The cooperating Jesuits are Couplet and Rougemont, see Noël Golvers, “The Development of the ‘Confucius Sinarum philosophus’ Reconsidered in the Light of New Material,” in *Western Learning and Christianity in China: The Contribution and Impact of Johann Adam Schall von Bell, S.J. (1592–1666)*, ed. Roman Malek (Sankt Augustin: China-Zentrum & the Monumenta Serica Institute, 1998).

publication that made Trigault and Ricci become renowned around Europe, *De Christiana Expeditione apud Sinas*, Trigault introduced the Chinese script and compared it with the Egyptian hieroglyphs. By doing so, he incorporated an exotic writing system into the existing knowledge category of European intellectuals, who had already learned about Egyptian hieroglyphs from Horapollo's Greek manuscript of the early fifteenth century.³³ However, Horapollo discussed the hieroglyphs without citing concrete examples, which led to a misleading image of the hieroglyphs. Before Jean-François Champollion's successful decipherment, early Egyptologists had believed for centuries that the hieroglyphs were ideographic, conveying meaning without interference by languages. According to DeFrancis, Trigault's comparison, multiplied by the early-modern misconception of the Egyptian hieroglyphs, produced the myths about the Chinese script, and the popularity of Ricci-Trigault's book amplified this influence.³⁴ The above review shows that Trigault was a key-figure in disseminating the myths about the Chinese script in Europe, but it does not mean that Trigault is the first to establish the myth. In fact, we will find that the myths about Chinese had already circulated in Europe since the late sixteenth century.

1.4 New Questions

While Trigault brought the latest account about China to Europe, in China, his role became the transmitter of European culture. In the *Ulmoçu*, Trigault employed the Roman alphabet to represent and analyze Chinese phonology and introduced the terminology of European linguistics to his Chinese readers. Since Luó Chángpéi's

³³ Horapollo, *The Hieroglyphics of Horapollo Nilous*, trans. Alexander T. Cory (London: Pickering, 1840); Umberto Eco, *Serendipities: Language and Lunacy*, trans. William Weaver (New York: Harcourt Brace & Company, 1998).

³⁴ DeFrancis, *The Chinese Language: Fact and Fantasy*, 134.

groundbreaking thesis, the etymology of Trigault’s terminology has been the mainstream of studying the European influence brought by the *Ulmoçu*. To mention the major works only, Chen Liang-chi’s 陳良吉 textual criticism significantly deepens our understanding of the etymology of Trigault’s terminology and its relation to similar terms in traditional Chinese phonology.³⁵ Wang Sung-mu 王松木 focuses on historical linguistics and reconstructs the initials, finals, and tonal categories in the *Ulmoçu*. He also analyzes the cases of multiple pronunciations of particular characters, identifying the diachronic status of the *Ulmoçu* in the history of Chinese language³⁶. Recently, Tán Huìyǐng 譚慧穎 focused on the correspondence between signs and sounds in the *Ulmoçu*, and she has compared Trigault’s romanization system with four orthographies of Romance languages as well as several Mandarin transcription systems preceding and following the *Ulmoçu*.³⁷

Each of these treatises improve and expand our understanding of the Chinese described in the *Ulmoçu* since Luó’s initiative work in 1930, but they more or less repeat each other on certain issues, and they are also biased on the metalanguage of language description but neglect the influence of Trigault’s background on his lexicography. Therefore, even though we have understood Trigault’s metalanguage, we cannot explain how the diagrams, tables, and indices function in the *Ulmoçu*, and the sources of these devices are still left unaddressed.

³⁵ Liang-chi Chen 陳良吉, “Eine funktionell-strukturelle und historisch-vergleichende Untersuchung des Xi Ru Er Mu Zi (1626, Hangzhou): eine vergleichende Studie zur traditionellen chinesischen Lexikographie” (Universität Trier, 1987).

³⁶ Sung-mu 王松木 Wang, “Phonology of Late Ming Dynasty Mandarin Reflected in Hsi Ju Erh Mm Tzu” (National Chung Cheng University, 1994).

³⁷ Tán 譚慧穎, “Xirú Èrmùzī Yuánliú Biànxī 《西儒耳目資》源流辨析” [On the Formation and Effect of An Audio-visual Aid to Western Scholars], 29–47.

As I have reviewed in the previous sections, the art of memory and the Renaissance conception to the Chinese script may both influenced Trigault's lexicography, and the reviewed materials can help to solve my questions, I still need a historiographic guideline for my study. In this thesis, I will adopt the historian of linguistics Konrad Koerner's three principles to ascertain "influence" serves as guidelines in this thesis. He argues that first, the most reliable sources are the direct citations made by the linguist in question. Although this information can only support a claim after conducting a critical comparison, direct citation is more favorable to historians than a hypothetical claim. Second, the biography of the linguist in question is helpful because we can look for probable influences from the linguist's family and educational background. Finally, we may identify an influence from a particular linguist's non-linguistic studies that are suggested in his or her biography.³⁸

In the case of the *Ulmoçu*, I only find direct references to its contemporary Chinese dictionaries and none to any particular European treatise. Thus, I must consult Trigault's major biography published by Dehaisnes in 1861.³⁹ Although this biography was published more than two centuries after Trigault's death, Dehaisnes refers to Trigault's letters and documents, offering valuable information for researchers like Pfister, Dunne, Logan and Brockey, and Clossey. Furthermore, I also consider the classical rhetoric tradition, which Trigault learned and taught, as a significant source of influence on his lexicography. The intellectual atmosphere in the late Renaissance, especially European knowledge of non-alphabetical writing, should not be neglected.

³⁸ E. F. K. Koerner, "On the Problem of 'Influence' in Linguistic Historiography," in *Practicing Linguistic Historiography: Selected Essays* (Amsterdam: John Benjamins, 1989), 40–41.

³⁹ Chrétien César Auguste Dehaisnes, *Vie du Père Nicolas Trigault de la Compagnie de Jésus* (Paris: H. Casterman, 1861).

However, I do not exclude the possible influence from Chinese traditions. I shall critically compare both traditions in order to establish a sound argument concerning Trigault's lexicography.

With Koerner's guidelines, the following new questions regarding the *Ulmoçu* will be investigated and answered in this thesis:

1. How did Trigault's educational background, intellectual heritage, and *mentalité* influence his lexicography?
2. How did Trigault transfer the Lullian art of memory to Chinese lexicography?

The questions above will be address in Chapter 2.

3. How did Trigault's background influence his understanding of Chinese characters, and how did this knowledge influence the *Ulmoçu*?
4. Did the Chinese philological tradition shape Trigault's understanding of Chinese writing? If yes, how?

These questions will be addressed in Chapter 3. After the discussion over the influences, in Chapter 4, I shall answer

5. How these influences embodied in the *Ulmoçu*.

After answering these new questions, we will understand how Trigault developed his Chinese lexicography from the art of memory and his understanding to the Chinese script, and the results will explore and expand today's understanding to the linguistic achievements of early modern missionaries.

CHAPTER 2

TRIGAULT'S INTELLECTUAL BACKGROUND AND ITS INFLUENCE

A recent turn in the study of the *Ulmoçu* is to consider the influence from Trigault's intellectual background. The latest studies suggest that the art of memory may have influenced Trigault's linguistic thinking,¹ and his fellow missionaries' citations and applications of the art of memory, such as Ricci's *Xīguó Jìfǎ*. Thus, I would take the art of memory to understand Trigault's intellectual background, and how this background influenced his linguistic thinking.

However, the origins of Trigault's linguistic thinking are vague. In the *Ulmoçu*, he simply claims that he had known the theory of language and script (*yánzì zhī suǒyǐrán* 言字之所以然, lit. 'why language and script actually are what they are') since his youth.² Trigault probably heard Lambert Schenkel, who taught mnemonics at Douai in Trigault's teenage years,³ but I have no evidence suggesting Trigault had learned Schenkel's art at his hometown. In his brief autobiography extracted from *l'Album novitiorum Domûs probalionis Tornacensis*, he only mentioned the curricula he had completed in the Jesuit college,⁴ but the art of memory is not explicated here:

I, Nicolas Trigault from Douai, was born on March 3rd, 1577...I studied in the college of the Society of Jesus in Douai, spending one year in the primary class, another

¹ See Footnote 7 on Page 3.

² *Ulmoçu I*, 1a

³ Schenkel's career as a mnemonic master, see Middleton's introduction and the genealogy compiled by his descendants living in the United States in the late nineteenth century. Middleton, *Memory Systems New and Old*, 15–16; Louisa Jane Shinkle Abbott and Charles L. Abbott, *The Shinkle Genealogy, Comprising the Descendants of Philipp Carl Schenckel, 1717–1897* (Cincinnati, OH: Press of Curts & Jennings, 1897), 7.

⁴ The history of the Jesuit college at Douai, which became the University of Douai, see Bernard Ward, "Douai," in *Catholic Encyclopedia*, ed. Charles George Herbermann (New York: The Encyclopedia Press, 1913).

one in the secondary class, two years in grammar, one year in humanities, two years in rhetoric, two years in philosophy. With these studies, I obtained the Master of Art at the end of September 1594.⁵

Among these curricula, rhetoric attracts our attention because *memoria* was one of the five faculties in the classical rhetoric, which had been incorporated in European pedagogy since the Middle Ages. As a graduate and a rhetoric teacher of the Jesuit school, Trigault must have had an experience with the art of memory as he learned and taught classical rhetoric. In fact, modern academic investigations in the art of memory suggest that this art formed the way of thinking in medieval and in Renaissance Europe, and its fundamental principles inspired new methods to knowledge organization and logical reasoning, such as the alphabetization and the Combinatory Art (see Section 1.2). Both techniques were adopted by Trigault and became the principles to organize Chinese characters in the *Ulmoçu*.

In this chapter, I will review the history of the art of memory and its medieval derivations. I will also go beyond Trigault's time to see how the art of memory could have inspired a new linguistic theory, focusing on the *Fünffacher Denckring der Teutschen Sprache* (*Five-Folded Thinking Ring of the German Language*) of the German poet Georg Philipp Harsdörffer (1607–1658).

2.1 The art of memory in Jesuit education

The art of memory had been a part of rhetoric since antiquity, and so was it in Jesuit education of the sixteenth century. Since the late sixteenth century, the Jesuit schools used two major texts in the rhetoric curriculum. One is the classical *Rhetorica Ad Herennium*, a classical rhetoric text from the Roman era, and the other text is *De Arte Rhetorica* (*The Art of*

⁵ “Ego Nicolaus Trigault Duacensis natus anno 1577, 3^o martii...Studii in scholis societatis Jesu duaci in infima classe uno anno, in secunda semiliter, in syntaxi duobus annis, in humanitate uno, in rhetorica duobus, in philosophia duobus. Ibidem artium licentiatu factus feci in fine septembris 1594.” Dehaisnes, *Vie du Père Nicolas Trigault de la Compagnie de Jésus*, 217.

Rhetoric) of the Portuguese Jesuit Cyprian Soares. The former had been an important rhetoric text taught since the Roman era, and the latter is a late Renaissance text, which had served as a bridge between Latin grammar and the classical Latin literature.⁶ Soares followed the classical way to discuss the five faculties of rhetoric: invention (*inventio*), arrangement (*dispositio*), style (*elocutio*), memory (*memoria*), and delivery (*pronuntiatio*), but he did not intend to alter the classical doctrine. This conservative textbook had been a popular text for centuries. Originally published in 1568, it had been reprinted 134 times throughout Europe until the eighteenth century. In the Jesuit system, Soares's text was adopted by some Jesuit colleges since its first publication and eventually became an assigned material to the humanity class in the 1599 *Ratio Studiorum*.⁷

I am not sure what text Trigault had used as a student in his humanity class, but it was unlikely Soares's text, which primarily circulated in Spain and Portugal before it became an officially assigned material in the *Ratio Studiorum* in 1599,⁸ but Trigault had already completed his liberal education before it. However, since Trigault had taught humanities for nearly a decade in Flanders until 1607, he must have used Soares's text in his class under the regulation of the *Ratio Studiorum*. I may therefore start to discuss the art of memory in Trigault's education background from Soares's *De Arte Rhetorica*. Moreover, as a teacher of rhetoric, it is hard to imagine that Trigault would stay with Soares's elementary text and have no experience with *Rhetorica ad Herennium* in his career. Therefore, I must also bring the classical *Rhetorica ad Herennium* into our review of Trigault's intellectual background.

Soares discussed memory from Chapter 52 to 55 in Book Three.⁹ It is a relatively short

⁶ Flynn, "De Arte Rhetorica," 367, 369.

⁷ Jesuits, *The Jesuit Ratio Studiorum of 1599*, 79–84; Flynn, "De Arte Rhetorica", 14–15, 21–41.

⁸ Flynn, "De Arte Rhetorica," 23.

⁹ *Ibid.*, 417–423.

treatise in comparison with other faculties of rhetoric in *De Arte Rhetorica*. Flynn points out that most parts of this mnemonic text are extractions from the Roman rhetorician Quintilian's (ca.35-ca.100) memory treatise in the *Institutio Oratoria*. Soarez began the text with the story that Simonides, the discoverer of mnemonic in Ancient Greece, was able to identify the victims' corpora buried under a collapsed hall according to their seats in that fatal banquet. This story points out the foundation of memory: places.¹⁰ He then elaborated on the importance of memory for an eloquent orator in the following chapter.¹¹ In Chapter 54, Soarez turned to explain the theory of memory. The theory comprises two major elements: places and images. First, one needs to memorize a series of places in the mind. They must be expansible and clearly arranged in the proper order of the things to be memorized and should avoid alternation, making them firmly fixed in one's mind. The places, for example, may be a large house or similar structures. Once the places are prepared, one can associate the images with the places in a reasonable order, so they may be easily recollected on demand. The images, on the other hand, must be impressive and distinguishable with the things to be memorized. When a thing is no longer needed, one may discard the associated image to preserve the memory place, which ought to be constantly used.¹² Mary Carruthers called this system "the architectural mnemonics."¹³ In the final chapter on memory, Soarez advised that one should carefully use the memory places to memorize important things, or they would be quickly exhausted. One may excel in this method only through exercise. Finally, he demonstrated the merits of excellent memory with several memory masters' cases. For example, the Greek king Mithridates knew 22 languages spoken in his governed nations.

¹⁰ Chapter 52; *Ibid.*, 417–418.

¹¹ Chapter 53; *Ibid.*, 418–419.

¹² Chapter 54; *Ibid.*, 419–421.

¹³ Carruthers, *The Book of Memory*, 89.

Crassus, the Roman commander of Asia, spoke five Greek dialects. Cyrus, King of Persia, remembered every soldier's name in his army.¹⁴

The method stated by Soarez in *De Arte Rhetorica* is also called “the method of *loci*,” which is the art of memory transmitted with rhetoric from Ancient Greece to Rome. Since rhetoric had been one of the three liberal arts (*trivium*) in the medieval European pedagogy, the method of utilizing *loci* had been deeply imprinted on every rhetoric students' mind, becoming an important *mentalité*, or way of thinking, in the intellectual history of Europe.¹⁵ The Dominicans were the major promoters of this method. Because of their efforts in the late Middle Age, the art of memory had been disseminated into general European culture by the thirteenth century, especially in France and Italy.¹⁶ Therefore, it is not surprising to see European missionaries mentioning similar ideas in East Asia. Ricci's *Xīguó Jìfǎ*., for example, cites many statements which are also quoted in Soarez's text. However, our comparison between *De Arte Rhetorica* and *Xīguó Jìfǎ* shows that Ricci's theory is much more detailed than Soarez's. In fact, both Soarez's and Ricci's theories relied on the method of *loci* from three classical rhetoric texts: *De Orator* of Cicero, the *Institutio Oratoria* of Quintilian, and *Rhetorica ad Herennium*. Among these texts, *Rhetorica ad Herennium* had a similar status like Soarez's text in the Jesuit rhetoric curriculum.¹⁷ Thus, if Trigault did not use Soarez's text as a student, he probably used *Rhetorica ad Herennium* instead.

In the history of the art of memory, and rhetoric as well, *Rhetorica ad Herennium* is the oldest surviving rhetoric text and plays an important role among the three mnemonic texts. Written by an anonymous rhetorician in early first century BCE, it had mistakenly been

¹⁴ Chapter 55; Flynn, “De Arte Rhetorica,” 421–423.

¹⁵ Carruthers, *The Book of Memory*, 153.

¹⁶ *Ibid.*, 129

¹⁷ Flynn, “De Arte Rhetorica,” 24.

attributed to Cicero until the Renaissance.¹⁸ It gave detailed instructions on the construction of places and images and demonstrated the application of the method of *loci* with examples. Although I do not have to repeat the method of *loci* cited by Quintilian and then by Soarez, it is worth to note that *Rhetorica ad Herennium* compared wax tablets and papyrus with memory places, letters with images, writing with the arrangement of images, and reading with delivery.¹⁹

These analogies between mnemonic elements and documentation imply that the art of memory is a method of archiving. The difference is that documentation requires real stationary to achieve, but the art of memory operates purely psychologically without graphical aids in the real world. The psychological nature gives the art of memory a great freedom to create memory places by imagination, opening the grand avenue toward abstract place-making, such as numerical grids or alphabetic combinations.

After discussing memory place, the author of *Rhetorica ad Herennium* turned to the making of memory images. Although I will reserve the detail of image-making to our discussion on Jesuit's conception of Chinese writing, I need to mention two kinds of images, *verba* and *res*, distinguished in *Rhetorica ad Herennium*. *Res* (lit. 'things') means the matters or the contents in one's oration, and *verba* (lit. 'words') means the verbatim of one's oration.²⁰ *Rhetorica ad Herennium* uses the image of a lawsuit to explain the memory of *res*, and a poetic passage to exemplify the verbatim memory. In both cases, this Roman rhetorician was constrained by his alphabetic writing system, so he recollected the *res* and the *verba* through phonetic heuristics. In the following sections, I will see how this alphabetic

¹⁸ Yates, *The Art of Memory*, 5. In Loeb Classical Library, *Rhetorica ad Herennium* is still placed in Cicero's collection. Regarding this editorial arrangement, I retain the attribution to Cicero in the citations and the bibliographical entry of *Rhetorica ad Herennium*.

¹⁹ *Rhetorica ad Herennium* Book III Ch 18. Cicero, "Rhetorica ad Herennium," 211.

²⁰ It is Cicero's definition cited in Yates, *The Art of Memory*, 8.

constrain was broken when the Renaissance Europeans encountered “ideographic” writing, such as Egyptian hieroglyphs and Chinese characters.²¹

2.2 Images and *Loci*

In the previous section, I have reviewed the method of *loci*, a mnemotechnique introduced in the classical rhetoric texts and deeply institutionalized in the medieval European pedagogy through the rhetoric curriculum, creating a *mentalité* in organizing things among generations of European literati that lasted for centuries. Trigault and his contemporary Jesuits living in the late Renaissance were all immersed in this atmosphere. The method of *loci* involves a series of carefully arranged places in which many images are anchored. Now I will discuss the place further, for its transformation and symbolization after antiquity had influenced the methods of categorization, such as the focus of this thesis, lexicography.

As the ancient rhetoricians repeatedly advised, the preparation of memory place is crucial in practicing a successful memory system. *Rhetorica ad Herennium* not only specified how a memory place should be in size, in distance, and in illumination, but also recommended the method of place arrangement. The arrangement of the places should be at best in a series, so one may virtually walk back and forth around these places to recollect memory images. This method is not Roman rhetoricians’ invention, but Aristotle had already mentioned it in his *On Memory and Reminiscence*. Aristotle discussed the importance of arrangement in recollection. He argued that recollection is executed by eliciting a stimulus to trigger its associated stimuli. Thus, we may arrange these stimuli in the natural or one’s habitual order to help recollection. Aristotle then explained an instance of recollection

²¹ The origin and influence of the ideographic myth will be discussed in Chapter 3.

through geometric reasoning, giving the art of memory a rational foundation.²² Aristotle's emphasis on the importance of arrangement was cited and studied in medieval memory treatises, such as in the commentaries to Aristotle by Albertus Magnus (ca. 1206–1280) and Thomas Aquinas (1225–1274). Aquinas also mentioned Aristotle's argument on arrangement in *Summa Theologica*,²³ incorporating the method of *loci* into the most important theological discourse in Christianity. Aquinas' fellow friars, the Dominicans, were primary promoters of this mnemotechnique.²⁴

No method is perfect. When Quintilian cited the method introduced in *Rhetorica ad Herennium*, he had pointed out the drawback of the place arrangement in the method of *loci*. He criticized that this method forces one's mind to do speech and recollection simultaneously, loading too much burden on one's mind, which inevitably interrupts one's speech. The purpose of mnemonics is to facilitate oration rather than to interfere in it. Instead, Quintilian recommended a simpler method by memorizing the passage as it is written on its original medium, such as a wax tablet, and committing signs or marks only for really difficult parts.²⁵ Quintilian's revisionist approach moved the memory place from mental imagination to an ever-tangible medium, but he still respected the importance of arrangement. In the revised method, the arrangement is determined by the written order of the passage.

However, methods aimed at easing one's memory burden are not absent in the *Rhetorica ad Herennium*. It recommended marking every five places with a cue to remind the location. For example, the mark for the fifth place is a golden hand; the five fingers prompt Number 5

²² Aristotle, "On Memory and Reminiscence," in *The Treatise of Aristotle* (London: Robert Wilks, 1808), 163–177.

²³ Thomas Aquinas, *Summa Theologica, Volume 3 (Part II, Second Section)* (New York: Cosimo, 2007), 1396.

²⁴ Yates, *The Art of Memory*, 84–85.

²⁵ *Institutio Oratoria* Book 11.2 32–33. Quintilian, *The Institutio Oratoria of Quintilian*, 75.

in one's mind. For the tenth place, the Roman rhetorician suggested a man called Decimus; his name sounds similar to Latin "one-tenth (*decima*)."²⁶ The mark for the tenth place was altered to a cross in Christian's memory treatises (Figure 2.1). We may observe instances of this alternative in the collection of medieval mnemonic texts of the German Dominican friar Johannes Romberch (or Johann Host von Romberch, ca. 1480–ca. 1533) and in *Xīguó Jìfǎ* of Ricci in the early and the late sixteenth century.²⁷ These numerical indications of places make all places in a memory system inducible through simple calculation, easing one's memory burden to maintain an imagined structure in mind.

The implication of numerical indications is significant to the symbolic place-making. The numerical mnemotechnique employs a sign to denote a place, and meanwhile, the sign becomes a symbol referring to that place. This semiosis suggests an idea that it is possible to mark all places with a set of signs that possesses a pre-established, familiar arrangement. Thus, if we mark places with the Roman alphabet, then these places would be arranged in the alphabetical order. This method respects and preserves the principle of arrangement with an economic method. In fact, the author of *Rhetorica ad Herennium* had already thought of a similar method, the Greek shorthand writing, or "tachygraphy." The origin of tachygraphy is unclear, but the first record of this writing is dated to the first century BCE. Cicero was also reported being trained with this method. Tiro, Cicero's confidential secretary, reportedly devised signs for Latin prepositions and declensions.²⁸ Tiro's shorthand writing employs simple signs to represent other concepts, which involves semiosis, associating the signifier (shorthand signs) and the signified (Latin prepositions and declensions). Conventionalization

²⁶ Yates, *The Art of Memory*, 7.

²⁷ Johann Host von Romberch, *Congestorium Artificiose Memorie* (Venetijs: Melchiorem Sessam, 1533), 36–37; Ricci, "Xīguó Jìfǎ 西國記法," 186–187.

²⁸ Herwig Maehler, "Tachygraphy," in *The Oxford classical dictionary*, ed. Simon Hornblower and Antony Spawforth (New York: Oxford University Press, 1996), 1468–1469.

is also expectable if shorthand writers share a system. However, the author of *Rhetorica ad Herennium* certainly opposed symbolic methods like shorthand signs for two reasons. First, he believed that an impressive image could be most effective to elicit its creator's memory but less to stimulate others. Second, he believed it was impossible to signify each concept with a sign because the number of concepts is infinite, making the exhaustible signs quickly face shortage.²⁹ Medieval Europeans' solution to the shortage of signs was to employ more foreign characters for memory.³⁰ A similar solution was also employed by Giordano Bruno.³¹



²⁹ Cicero, "Rhetorica ad Herennium," 221–223.

³⁰ Carruthers reports that a manuscript in Morgan Library lists Hebrew, Greek, Latin, Scythian, and Runic alphabets. Carruthers argued that the only explanation to list these foreign alphabets is mnemonics. Carruthers, *The Book of Memory*, 138.

³¹ Yates, *The Art of Memory*, 208.

Tractatus Secundi

A	V				L			A
1	2	3	4	5	6	7	8	9
10								
B	I	B	L	I	O	T	E	C
11	12	13	14	15	16	17	18	19
20								
C		A	P		F	L	L	A
21	22	23	24	25	26	27	28	29
30								

Figure 2.1 Instances to memorize numbers with corresponding images in Romberch's *Congestorium Artificiose Memorie*

Note that ten, twenty, and thirty, all employ a cross, indicating they are multiples of ten. Multiples of five, such as are indicated with a hand, has five fingers.

Source: gallica.bnf.fr / Bibliothèque nationale de France.

2.3 Manipulating the Alphabets

Although the classical text of the art of memory opposes the use of symbolic mnemotechniques, it could not stop people devising symbolic methods to help memory. In fact, in court and monastery, where oration was primarily exercised in medieval Europe, varieties of mnemotechniques did exist. These alternative systems were more digitalized, allowing recollection through computational inference, and had widely disseminated prior to the fourteenth century.³² In order to demonstrate that mnemotechniques derived from the method of *loci*, I will review several methods developed in the medieval Europe, including the use of numerical grid, alphabetization, and finally arrive the Combinatory Art (*ars combinatoria*), the most significant influence on the *Ulmoçu*.

The numerical grid was the method that Hugh of St. Victor devised to memorize the Psalms. Dated around 1130 CE, this elementary mnemonic design divided the verses of Psalms into shorter passages and placed them in 150 numbered compartments, making a memory grid. The number assigned to each compartment became the mnemonic cue to stimulate the indicated passage of the Psalm in one's mind. The numbers, in Aristotle's term, have a natural order and allow the practitioner to search the passage on demand through calculation.³³ Hugh's mnemotechnique was not a radical reformation since it observed the advices from the ancient rhetoricians, but it still demonstrated the efficiency of symbolized places in recollection. Moreover, it is worth to note that the grid system represented not only a mnemotechnique, but also an indexing system in medieval Europe. The indexing system led the emergence of archiving systems around 1200 CE.³⁴ The case of Hugh supports that

³² Carruthers, *The Book of Memory*, 99.

³³ *Ibid.*, 101–103.

³⁴ *Ibid.*, 129.

mnemonics and archiving share a similar rationale. The ultimate goals of an archiving system, mnemonic system, and lexicography are identical; they all seek an efficient approach to retrieve information quickly and accurately. Thus, it is reasonable to develop a coding and filing system from an existing mnemotechnique.

Now let us turn to alphabetization, the method to arrange words according to their alphabetical order. This method is not only used in the art of memory but also in lexicography up to our time. Although the classical mnemonics warn that using the alphabet to mark memory place quickly faces shortage of place markers, it was a common device to arrange things. The alphabets provided a pre-existing order before setting up one's artificial memory system because it was elementary and well known in the medieval European education. A person who needed an artificial memory aid was supposed to be literate and knew the order of the alphabets.

Since the alphabets were also a script to represent language, its order was definitely an obvious arrangement to sort words in dictionaries or glossaries. However, we should not take alphabetic arrangement as a common, granted technique in any community using alphabets. Daly's survey shows that although alphabetization was possible to be discovered as soon as the Greek adopt the Phoenician script, the Greek had not used alphabetization 500 hundred years after the adoption. Daly believed alphabetization was not economic if the data were not large enough to reach an economic scale; otherwise, alphabetization would take great effort for preparation, but reward little improvement in consulting data. The collection in the library of Alexandria was worth to apply alphabetization to organize and catalogue because it was large enough. This adoption made Alexandria become the center to disseminate this technique in antiquity.³⁵

A certain regression of civilization in the Early Middle Ages made the medieval

³⁵ Daly, *Contributions to a History of Alphabetization in Antiquity and the Middle Ages*, 93–95.

European have to revive this old method in the eleventh century. In Daly's survey, it was not until the mid-eleventh century, the *Elementarium doctrine erudimentum* of Papias, completed around 1053, gave the first description of the alphabetization principle. Since there was nearly no use of alphabetization in Latin works in late antiquity, it could be considered as a lost technique in the Western Europe up to Papias' time, even though people had still practiced similar arrangement elsewhere.³⁶ Papias used the first three letters to arrange the Latin lexemes but ignored doubled consonants and aspiration in determining the order. In Papias' description to the alphabetization, he used "subdivision (*subdivisionis*)" to call a set of words sharing the first three letters. Therefore, for example, the words with *aba-* initial form a subdivision out of the vocabulary in Papias' lexicography, and the words with *Abd-* initial form another.³⁷

In terms of symbolic place-making, Papias' "subdivisions" are the places denoted by the initial letters, and these places are arranged in alphabetic order. There were other alphabetization schemas in the high Middle Ages, and they divided their "subdivisions" in different ways. For example, Hugutio of Pisa (late 12th century) determined word order only by the first letter,³⁸ and Richard Fishacre (late 13th century) by the first two vowels, creating a syllable-basis alphabetization. The number of subdivisions is the crucial design here. Generally, a great number of subdivisions permit a fewer number of lexemes in each subdivision, saving time to look for words within it.³⁹ In the *Ulmoçu*, I find Trigault had a more sophisticated schema to prepare subdivisions, and I will discuss it in Section 4.4.

³⁶ Ibid., 71–72.

³⁷ Lloyd W. Daly and B. A. Daly, "Some Techniques in Mediaeval Latin Lexicography," *Speculum* 39, no. 2(1964): 233–234.

³⁸ Ibid.: 235.

³⁹ Carruthers, *The Book of Memory*, 150–151.

2.4 The Combinatory Art

In lexicography, a compiler can arrange entries by their first letters. This is an inductive process because the places of each lexeme had pre-determined by its spelling. A compiler's task is to embody this pre-determined arrangement. However, there was also a deductive process that created alphabetically denoted places through letter combinations, and the combinations were interpreted to derive their denoting contents. It is Lullism introduced by Franciscan friar Ramon Lull. Under the influence of Lullism, the mechanism of letter combination was then called the Combinatory Art, influencing many intellectual innovations in the sixteenth and seventeenth centuries.

Ramon Lull was born in today's Mallorca, Spain, an island shared by Muslim, Jewish, and Christian communities in the thirteenth century. His major contribution to the history of thought was the proposal of an art of memory based on combination and reasoning. While the architectural mnemonics had been using stationary images and places to help memory, Ramon Lull's art of memory, or Lullian mnemonics, took an active approach to formulate the memory skill. Lull introduced a series of letter notations to signify a set of holy attributes, or God's Divine Names in Lull's term, and defined the principles to interpret the combinations of these holy attributes. This operation was best demonstrated by a famous figure shown in Figure 2.2. This figure is made of three concentric wheels on which the letters denoting the Divine Names were inscribed. Interestingly, the peripheral wheel in this figure is stationary, and the two inner wheels rotate against it to form letter alignment, generating combinations of the Divine Names. If we read these combinations according to Lull's method, we can render a set of arguments answering the designated theological problems.

QVARTA FIGVRA.

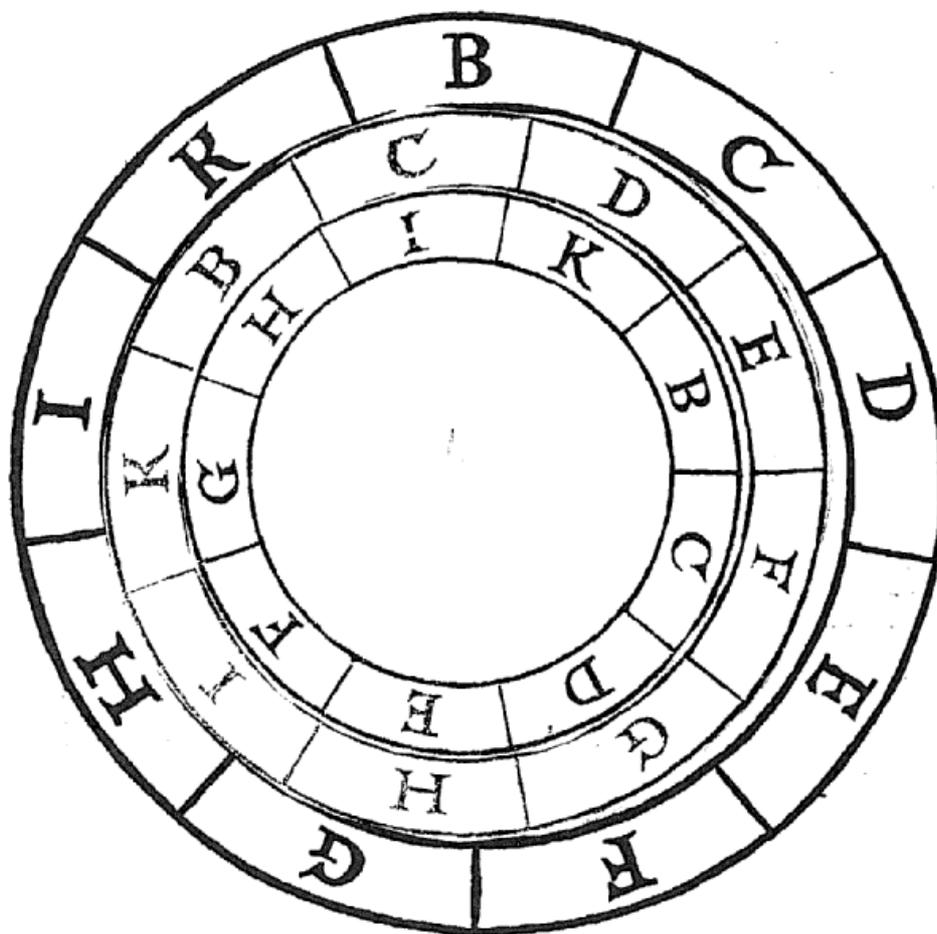


Figure 2.2 A Lullian Wheel

Each Letter on the concentric wheels represents a God's Divine Name.

Source: gallica.bnf.fr / Bibliothèque municipale de Lyon Part-Dieu.

I will not discuss the metaphysics and theological foundations of Lull's philosophy,⁴⁰ which are out of the scope of this thesis. What I shall investigate is the combinatorial mechanism of Lullian reasoning. The Divine Names are the fundamental constituents in

⁴⁰ English translations of Lull's major works: Ramon Llull, "Doctor illuminatus: a Ramon Llull reader," ed. Anthony Bonner (Princeton, N.J.: Princeton University Press, 1993). The discussion on the philosophical background and the theological argumentation of Lullism, see Yates, *The Art of Memory*, 173–198; Umberto Eco, *The Search for the Perfect Language*, The making of Europe (Oxford: Blackwell, 1995), 53–72.

Tabula.

bcdt	bce.t	b c f t	b c g t	b c h t	b c i t	b c k t
bctb	bctb	bctb	bctb	bctb	bctb	bctb
bctc	bctc	bctc	bctc	bctc	bctc	bctc
bctd	bcte	bctf	bctg	bctb	bcti	bctk
bdtb	betb	bftb	bgtb	bhtb	bitb	bktb
bdtc	betc	bftc	bgtc	bhtc	bitc	bktc
bdtd	bete	bftf	bgtg	bhtb	biti	bktk
btbc	btbc	btbc	btbc	btbc	btbc	btbc
btbd	btbe	btbf	btbg	btbb	btbi	btbk
btcd	btce	btcf	btcg	btcb	btc i	btc k
cdtb	cetb	ctfb	ctgb	ctcb	cti b	ctk b
cdtc	cetc	ctfc	ctgc	ctcb	cti c	ctk c
cdtd	cete	ctff	ctgg	ctcb	cti i	ctk k
ctbc	ctbc	ctbc	ctbc	ctbc	ctbc	ctbc
ctbd	ctbe	ctbf	ctbg	ctbb	ctbi	ctbk
ctcd	ctce	ctcf	ctcg	ctcb	ctci	ctck
dtbc	etbc	ftbc	gtbc	htbc	itbc	ktbc
dtbd	etbe	ftbf	gtbg	htbb	itbi	ktbk
dtcd	etce	ftcf	gtcg	htcb	itci	ktck
tbcd	t b c e	t b c f	t b c g	t b c b	t b c i	t b c k

Figure 2.3 A portion of the combination chart from Figure 2.2
 Source: gallica.bnf.fr / Bibliothèque municipale de Lyon Part-Dieu

Lull's philosophy, and he always recited the Divine Names in his treatises.⁴¹ In Lullism, to combine the Divine Names is equivalent to "invention" in the classical rhetoric since the combinations are interpreted as theological arguments. Lull's concentric wheel provided a visual aid to operate and to arrange the combination, characterizing the Lullian method in memory as well. Another significant implication of Lullism is the idea of finite place-making. This finite number of the Divine Names generates a finite number of combinations. The nature of finiteness in Lullism conveys an idea that it is possible to reduce the nature to a finite number of propositions, and these propositions are represented by the combinations of God's Divine Names. Thus, Lull's idea was to represent the whole through combinations of parts, and this was then called the Combinatory Art.

Lull believed that this fantastic machine could help converting Muslim and Judaism to

⁴¹ Yates, *The Art of Memory*, 176–178.

Christianity.⁴² However, although Lullism took a Christian approach, the use of letter notations was obviously influenced by the Jewish tradition of Cabala (or *Kabbalah*).⁴³ Because of this heathenism influence, Lullism was marginalized from the mainstream monastery learning. The change of intellectual fashion in the Renaissance altered this situation. Lullism found its followers in the Renaissance when the Cabala regained people’s attention. However, in the Renaissance, Lullism had been further developed into another version by the Renaissance Lullism, and Lull’s image was usually an alchemist or a cabalist in Renaissance minds. This altered version of Lullism was the variety that the sixteenth-century and later scholars, including Giordano Bruno, actually acknowledged.⁴⁴

So far I have discussed several kinds of symbolic place-making, which are all rooted in the method of *loci* delivered through the classical rhetoric. Here, I should briefly summarize the mnemotechniques mentioned from Section 2.1 to 2.4 to conclude our review of the art of memory and its medieval derivations.

Image-making	Place-making	Abstract	Realistic
	Embedded	Original Lullism	Quintilian’s revisionist mnemonics
Semiotic		Alphabetization in lexicography	the architectural mnemonics in the classical rhetoric

Table 2.1 A classification of the art of memory and its medieval derivations

Table 2.1 classifies the methods of place-making into abstract and realistic, and image-making into embedded and semiotic. In place-making the realistic methods adopt real

⁴² Ibid., 176.

⁴³ Ibid., 188.

⁴⁴ Ibid., 187–191.

or imaginative places, which resemble the real world. Practitioners of the architectural mnemonics, like Ricci, would adopt a hall of a cathedral as his memory palace. The revisionist like Quintilian would not prefer architecture but would rather divide passages to be memorized into chunks as it was on papyrus manuscript. The abstract place-making, on the other hand, creates places with a definite set of constituents. *Rhetorica ad Herennium* opposed to this method because it is impossible to assign each sign to countless concepts. However, the combination of letters solved the shortage of signs and still allowed logical inference in place searching. The analytic method is used in original Lullism and alphabetization in dictionaries.

In image-making, the embedded method invents a method to incorporate the tasks of invention and memory, so the generated ideas may also be found out through inference. For example, a practitioner of original Lullism combines the Divine Names to form theological propositions, and the combinations may be inferred through the virtually rotating Lullian concentric diagram. In Quintilian's method, the chunked passages are memorized directly but rarely associated with signs.⁴⁵ The semiotic image-making uses symbols to represent the contents. The architectural mnemonics forms impressive images to facilitate memory, and it is the *res* to be ultimately memorized.

To classify alphabetization into the semiotic methods may sound obscure, because alphabetization seems entailing place arrangement only. However, it is clarified when we refer to the modern English dictionary. The letter on the margin of each page denotes that all words under this section share a particular initial. Some dictionaries are also provided with combinations of more letters. Then, the letter(s) on the margin is the sign, functioning as the cue to search words. Therefore, alphabetization is an analytic method of place-making

⁴⁵ The psychological support to the relation of chunking and memory is discussed in Carruthers, *The Book of Memory*, 105.

because it employs constituents to indicate places. It is a semiotic image-making as well, for the margin letters are not the lexemes, but cues that signify places in which all lexemes share an identical initial.

2.5 The Transformation of the Art of Memory

In the previous sections, I have reviewed the classical mnemonics taught in the Jesuit school and other mnemotechniques developed throughout the medieval Europe. In this section, we arrive in Trigault's time, the early modern Europe. Many new methods of science had been developed in this creative period. In general, I assume the ideas which appeared after 1600 did not account for Trigault's lexicography since he had departed for Asia in 1607, so post-1607 theories were too late to influence the formation of his thought. However, we should not restrict the search of influence by Trigault's first departure from Europe. Since this thesis treats the art of memory as a *mentalité* in the late Renaissance and in the early modern Europe, I regard the idea that a *mentalité* changes very slowly,⁴⁶ so the idea that had influenced Trigault could be identified in a later author's work. Even though new methods of the seventeenth century could hardly influence Trigault's *Ulmoçu* due to geographical distance and communicational difficulties, they still represent what kind of new method would develop from the art of memory, a technique transmitted through rhetoric curricula in Europe. Therefore, I do not treat Trigault's 1607 departure as a cut-point, but refer to the authors who shared a common cultural background with Trigault as well.⁴⁷ In this section, I will then discuss the transformation of the Combinatory Art and the classical rhetoric in the sixteenth century and conclude the chapter with a seventeenth-century linguistic machine

⁴⁶ Le Goff, "Mentalities: A History of Ambiguities," 170.

⁴⁷ The periodization should not be too sharp. Yates noted that, although we consider the philosophies of Bacon and Decartes are distinguishable from their predecessors, they were just two more contributions to the current trend. Yates, *The Art of Memory*, 378–379.

based on the Combinatory Art, the *Fünffacher Denckring der Teutschen Sprache* of German poet Georg Philipp Harsdörffer.

As I have mentioned in the previous section, Lullism found its followers in the Renaissance, but the Renaissance scholars actually acknowledged a misrepresented Lull as an occult alchemist.⁴⁸ The former Dominican Friar Giordano Bruno's popularity in the late sixteenth century marked the climax of the Renaissance Lullism, but his death on the burning stake in 1600 also indicated the intensive suppression from the Catholic Church. Bruno is the central figure, which Yates discussed in *the Art of Memory*, and several of Bruno's creative diagrams were cited by her. Bruno's diagrams share some features with Trigault's phonetic wheels in the *Ulmoçu*, and this resemblance led Wang Song-mu to infer that Bruno had influenced Trigault.⁴⁹ However, this is unlikely to be the case. Jesuit education was notoriously conservative in theology and philosophy, and the program defined in the *Ratio Studiorum* clearly expressed this conservative attitude to learning. For example, *the Rules of the Prefect of Studies* specified what book students were permitted to have. For the students of philosophy, only Aristotle and some related commentaries were permitted.⁵⁰ It is difficult to think that Trigault would boldly adopt and publicly disseminate Bruno's philosophy prohibited in 1600. I would rather consider that Trigault and Bruno shared a common intellectual background, i.e., the Combinatory Art. However, it is still necessary to verify whether the Combinatory Art became a neutral and religion-free technique in Trigault's time, so that a Jesuit and a radical philosopher would adopt it in his works without hesitation.

To answer this question, the commentary of Francis Bacon (1561–1626) to the

⁴⁸ Ibid., 241–243.

⁴⁹ Wang, “Míngdài Děngyùnjiā Zhī Fǎnqiè Gǎiliáng Fāngàn 明代等韻家之反切改良方案 [Improvements of Fanqie Proposed by Phonologists in Ming Dynasty].”

⁵⁰ Jesuits, *The Jesuit Ratio Studiorum of 1599*, 24.

Renaissance Lullism provides some clues. Bacon criticized the logical defect of Renaissance Lullism harshly as “a junk-shop,” and the Combinatory Art as pseudo-science and “fake erudition.”⁵¹ Rossi points out that the attacks from Descartes and Bacon were not unique in their time, but they both belonged to the trend to attack the occult fashion of the late Renaissance.⁵² However, the critique cited above cannot fully represent Bacon’s attitude to the Combinatory Art and also to the art of memory. Bacon proposed a reformation to the art of memory, assigning new tasks to it. He believed that vast knowledge was the prerequisite to intellectual achievement, and a reformed art of memory could assist this objective.

“Pre-notion” and “emblem” are the two parts of Bacon’s new method.

Bacon’s “pre-notion” is similar to “*loci*” in the classical mnemonics, but it is more close to a classification system and functions as a coordinate to define the infinite knowledge into manageable pieces. Therefore, the number of pre-notions should be finite, and this finiteness is compatible to the Combinatory Art, which also generates a finite number of combinations. The “places” made by the pre-notion are filled with emblems. In Bacon’s usage, emblems make intellectual ideas sensible, so they are no longer abstract but perceptible. Bacon further suggests that gestures and hieroglyphics seem to be ideal for emblems because they represent sense without mediation of sound.⁵³

Bacon’s proposal and Bruno’s usage of the Combinatory Art agreed to each other in an interesting point: they stripped away Lull’s philosophical reasoning from the Lullian Art; only

⁵¹ “There hath been also laboured and put in practice a method, which is not a lawful method, but a method of imposture: which is, to deliver knowledges in such manner as men may speedily come to make a show of learning, who have it not. Such was the travail of Raymundus Lullius in making that art which bears his name; not unlike to some books of typocosmy, which have been made since; being nothing but a mass of words of all arts, to give men countenance, that those which use the terms might be thought to understand the art; which collections are much like a fripper’s or broker’s shop, that hath ends of everything, but nothing of worth.” Francis Bacon, *The Advancement of Learning*, 2 ed. (Oxford: Clarendon, 1880[1605]), 176.

⁵² Rossi, *Logic and the Art of Memory: The Quest for a Universal Language*, 104.

⁵³ *Ibid.*, 108.

the combinatorial nature was retained, and the letter combinations became cues to denote places. Bacon's revisionist proposal implied that the polemical issue was the occult application of the Combinatory Art, but the Art itself was fine.⁵⁴ This fact explains why the Combinatory Art survived from the attacks of the church and the intellectuals in the late Renaissance and extended its influence to the seventeenth century.

Indeed, Trigault could hardly have been influenced by Bacon. Bacon's ideas cited above appeared after 1600, and there is no evidence suggesting Trigault and Bacon ever exchanged any idea. Therefore, I should only consider Bacon's proposal as a representative of the intellectual trend in Trigault's time. However, Bacon's attitude to the Combinatory Art suggests a possibility to apply the Combinatory Art to linguistics. Human language, suggested by modern generative linguistics, is constituted by a limited number of constituents.

There is a primitive Renaissance diagram which exploited the constitutional nature of language to aid memory. It was the diagram of Publicius for the memory of Latin syllables (Figure 2.4). According to Romberch's commentary, to align the letters inscribed on the central squares and on the peripheral wheels can derive letter combinations representing Latin syllables.⁵⁵ Although the rotating central square could be a Lullian influence, I rather notice Richard Fishacre's mnemotechnique to arrange Latin words through syllables (see p.20). Moreover, Publicius' diagram lacked letter "Q." It was probably caused by the limited usage of "Q," which only precedes "V" in Latin, making it worthless to apply any artificial memory.

A more mature model was the *Fünffacher Denckring der Teutschen Sprache* (Figure 2.5)

⁵⁴ Ibid., 111.

⁵⁵ Romberch, *Congestorium Artificiose Memorie*, 58. Discussion and annotation, see Mary J. Carruthers and Jan M. Ziolkowski, *The medieval craft of memory: an anthology of texts and pictures*, Material texts (Philadelphia: University of Pennsylvania Press, 2002), 226–231.

of German words. They are (from the center to the periphery)

1. the 48 fore-syllables (Vorsylben),
2. the 50 initial and rhyme letters (Anfangsbucjstab und Reimbuchstaben),
3. the 12 middle letters (Mittelbuchstaben),
4. the 120 ending letters (Endbuchstaben), and
5. the 24 after-syllables (Nachsylben).

According to the German rhyming rule in Harsdörffer's time, the alignment of letters on the third and fourth wheels creates a rhyme, and the second wheel moves against the rhyme to form words.⁵⁶ For example, the combination of -au- (on the third) and -m- (on the fourth) creates -aum-, and one may find rhyming German words, such as *Schaum* ('foam'), *Raum* ('space'), *Flaum* ('down'), *Baum* ('tree'), *Zaum* ('bridle'), and some other nonsense rhyming words by turning the second wheel. The syllables on the first and the fifth wheels are prefixes and suffixes for derivation and inflection, which do not participate in rhyming. In practice, the *Denckring* is a rhyme dictionary to assist poetic composition. In Harsdörffer's theory, nevertheless, the *Denckring* is a visualization of the German language because the *Denckring* can generate all actual and potential German words through repeating the combination.⁵⁷

⁵⁶ Jan C. Westerhoff, "Poeta Calculans: Harsdorffer, Leibniz, and the 'Mathesis Universalis'," *Journal of the History of Ideas* 60, no. 3(1999): 465.

⁵⁷ *Ibid.*: 465–466.



26. 3. 3. 3.
 der
 Gindar
 Dittan
 wo a. d
 au the
 pofft ab
 pab's ab
 Dndig
 in laim
 Pllam

ges: dann suche ich den vierten Ring AaB/ Aabb/ Aabb/ 1c. blinde oder
 deutungslose Wörter/bis auf das ch/ Nach/ Aquisgranum, eine benamte
 Stadt in Niderland / Aal/ eines Fisches und eines Schusters Werkzeug
 Namen, Aas(cadaver)&c.

Ttt 3

ab

Figure 2.5 Fünffacher Denckring der Teutschen Sprache

Source: Beinecke Rare Book and Manuscript Library of Yale University.

The rationale of the *Denckring* is a co-operational product of Harsdörffer and his friend, German linguist Justus Georg Schottel (1612–1676).⁵⁸ Harsdörffer’s linguistics treated each word as a combination of letters and focused on anagram, which reorder the letters of one word to form another. For example, the anagrams of ROMA are AMOR. Harsdörffer described the formation of anagrams by manipulating wood pieces inscribed with letters.⁵⁹ This method is basic but inefficient because one needs to not only identify the existence of anagrams, but also check the phonetic validity of combinations. Schottel’s primitive thought of “morpheme”⁶⁰ provided a solution. Schottel’s “morpheme” is not equivalent to the morpheme in modern linguistics but rather a part of the word literally constituted by one or more letters. When the letters are grouped to the possible consonant clusters or syllables in German, their combinations are deductively and phonetically possible German words. The *Denckring* was then the product derived from Harsdörffer’s combinatorial thought on language and Schottel’s primitive morphology.

I have done a review of Trigault’s intellectual background from the classical rhetoric taught in the Jesuit schools to the seventeenth-century linguists’ application of the Combinatory Art to language description. This review implies that many techniques employed in Trigault’s lexicography find their origin in the method of *loci*, a mnemotechnique transmitted through the rhetoric education since antiquity. The method of *loci* provides a general principle to organize things to aid memory and oration, and the incorporation of rhetoric in the medieval pedagogy also made the art of memory become a *mentalité*, the way of thinking, in the republic of letters. The convergence of the art of

⁵⁸ The linguistic thought of Schottel, see Nicola McLelland, “Justus Georgius Schottelius (1612–1676) and European Linguistic Thought,” *Historiographia Linguistica* 37, no. 1–2 (2010). For Schottel’s influence on Harsdörffer, see Westerhoff, “Poeta Calculans,” 461.

⁵⁹ Westerhoff, “Poeta Calculans,” 464.

⁶⁰ Namely, *Stammwörter* (rootwords) and *Nebenwörter* (auxiliary words). *Ibid.*: 459.

memory and other philosophical trends, including the Combinatory Art proposed by Lull in the fourteenth century, derived branches of new ideas in the Renaissance. Some of them were rejected as “occult,” and they were suppressed and criticized from the Catholic Church and its contemporary intellectuals. However, the Combinatory Art, as a mechanism, survived from the suppression and inspired early modern scientific methods in Trigault’s time. It was the atmosphere in which Trigault completed his education before his departure to Asia, and it is very likely to have influenced Trigault’s conception of the Chinese language and his lexicography in the *Ulmoçu*.



CHAPTER 3

CHINESE AS AN IDEOGRAPHIC SCRIPT IN TRIGAULT'S EYES

The art of memory taught in the classical rhetoric comprises of image and place to store and retrieve things and words in practitioner's memory. With the aids of the Combinatory Art and alphabetization, Trigault applied the art of memory to lexicography and created an orderly arranged framework to place the images of the *Ulmoçu*: Chinese characters. However, it would be unsatisfactory for our discussion to assume that Chinese characters are mnemonic images. This equation requires validation since no phenomenon in the early phase of cultural encounter should be taken for granted. This issue could be more complicated in the Sino-European encounter because both civilizations could have contribute their theories of writing system to Trigault and eventually influenced his understanding of Chinese characters.

Recent criticism on the common misconceptions of Chinese writing suggests that Trigault was the critical figure in the formation and the dissemination of these mistakes. His analogy between Chinese characters and Egyptian hieroglyphs became a legacy in sinology until the twentieth century to be conceptualized as, to quote John DeFrancis, “the ideographic myth” and “the universality myth.”¹ In fact, the Egyptian hieroglyph had already impacted the Renaissance intellectuals since the discovery of Horapollo's treatise on the hieroglyphs in 1419,² becoming a source of ancient

¹ John DeFrancis and George Kennedy are the most renowned scholars in clarifying myths about the Chinese script. See DeFrancis, *The Chinese Language: Fact and Fantasy*; George A. Kennedy, “The Butterfly Case (Part 1),” in *Selected Works of George A. Kennedy*, ed. Tien-yi Li (New Haven, Conn.: Far Eastern Publications Yale University, 1964). Some Chinese scholars still maintain the particularity of the Chinese script and develop alternative theories to support it, such as Péngpéng Zhāng 張朋朋, *Wénzì Lùn 文字論* (Beijing: Hànyǔ Jiàoxué Chūbǎnshè, 2007).

² For the English translation, see Horapollo, *The Hieroglyphics of Horapollo Nilous*.

knowledge and symbolism in the Renaissance culture. Experiencing this culture in the formative age, Trigault's hieroglyphic analogy is an important clue to investigating his understanding to Chinese characters and should be addressed in our discussion.

In this chapter, we are going to analyze and reconstruct Trigault's understanding of Chinese characters in two stages. First, we follow Koerner's principle of seeking direct references in Trigault's works and scrutinize them in the Chinese tradition or in the unique sociolinguistic environment in the Sinosphere to identify pieces of evidence validating the claim that Chinese characters are images to be "placed" in the *Ulmoçu*. Then, we will discuss how the Renaissance philosophy of language was involved in the art of memory and provided missionaries' a ground of considering the ideographic script and eventually influenced Trigault's lexicography.

3.1 Trigault's Understanding of Chinese Characters

Trigault might have had some awareness of the Chinese language and its script before his departure from Europe in 1607. Trigault might also have some idea about Chinese from other missionaries or sailors. As Trigault devoted to preach in Asia, the latest description about China was the *History of the Great and Mighty Kingdom of China and the Situation Thereof* by the Spanish Augustinian Juan González de Mendoza (c. 1540 – 1617), first published in 1585.³ Mendoza adopted travelers' reports of the sixteenth century to present the curious knowledge about China available in his time, including the Chinese script. According to Mendoza, Chinese used a very difficult writing system which employed no alphabet but assigned figures to depict every concept:

³ Juan Gonzalez de Mendoza, *The History of the Great and Mighty Kingdom of China and the Situation Thereof* (London: Hakluyt Society, 1853).

You shall finde verie fewe in this kingdome but can both write and reade, yet haue they not the alphabet of letters as we haue, but all that they doe write is by figures, and they are long in learning of it, and with great difficultie, for that almost every word hath his character..⁴

Mendoza argues that, unlike the European writing systems that represent what people actually speak, the Chinese language is better understood in writing than in speaking because it has many homophonous syllables.⁵ The Chinese characters in Mendoza's book were terribly printed due to limited technology, but it offered an idea that the Chinese script is distinctive from the European counterparts.

Whether or not Trigault had read Mendoza's description, he would experience the Chinese script as he arrived in China in 1610. Trigault must have been impressed by this "ideographic" writing, and this impression might have lead him to associate Chinese characters with the Egyptian hieroglyphs and to conclude the Chinese script and the Egyptian script are alike in representing sense through their graphs. In the description concerning Chinese liberal arts in *De Christiana Expeditione apud Sinas*,⁶ Trigault stated that Chinese people "employ ideographs resembling the hieroglyphic figures of the ancient Egyptians," and "every object has its own appropriate symbol."⁷ Thus, to the readers of the late Renaissance, this statement indicated that the Chinese

⁴ Ibid., 121..

⁵ Mendoza also mentioned the practice of writing observed in Philippines that suggests Mendoza's information might be transferred through the Spanish cross-Pacific route. See Ibid., 120–122.

⁶ Luis Joseph Gallagher's English translation was published in 1942, and the translator believes that this volume is Trigault's ethnological and sociological study that familiarizes the reader of Ricci's memoir with a general understanding of Chinese history and culture. Nicolas Trigault, *The China that Was; China as Discovered by the Jesuits at the Close of the Sixteenth century*, trans. Louis J. Gallagher (Milwaukee: Bruce Pub. Co., 1942), v.

⁷ Ibid., 42.

script is a possible model for the Universal Language, which is intelligible across spoken languages and represents the true knowledge. As DeFrancis points out, the popularity of Mendoza work and Ricci's memoir edited by Trigault disseminated the ideographic myth among European scholars since the seventeenth century.⁸

Trigault also observed morphological compounding in Chinese that an idea can be presented by compounding several characters. This feature made the number of Chinese characters not exceed seventy or eighty thousand, and to acquire about ten thousand characters is sufficient to begin writing.⁹ In spite of the exaggerated number of characters, Trigault's observation of the compounding feature was correct. To modern linguists, this feature leads them to challenge the notion of ideographic Chinese. However, although Trigault observed this feature, he did neither achieve the critical insight to writing system in general that DeFrancis and Kennedy have done, nor did he develop any morphological insight.

After a decade of introducing the Chinese writing to European readers, Trigault stated a similar but elaborated idea to his Chinese readers in *the Preface of Liè Biānzhèng Pǔ* (*Liè Biānzhèng Pǔ Běnpǔ Xiǎoxù* 列邊正譜·本譜小序) of the *Ulmoçu*:

The approaches of the method [of writing] are classified into two kinds only. One is ideographic, and the other is glottographic. What is the ideographic writing? It is the writing that depicts the original ideas of things....In the unified China, the gauge and writing are united, and the writing is ideographic. Outside this unity, in the nearby countries, I know several countries in which writings are ideographic. Every character depicts sense and draws the sense, and the sound is

⁸ DeFrancis, *The Chinese Language: Fact and Fantasy*, 134.

⁹ Trigault, *The China that Was*, 42.

added afterward.¹⁰

Then, Trigault mentions somebody's request to judge the superiority of writing systems, and Trigault prefers the ideographic. The questioner thought it was Trigault's humbleness to the culture of the host country because glottographic script, such as the Roman alphabet, is easier to learn and represents language with two dozen characters only; isn't it a better system? Trigault's reply to this challenge explains his preference to ideographic writing:

The quality of writing is primarily conveying meaning. The broader the meaning a writing may convey, the better it is; the narrower the meaning a writing may convey, the worse it is. Therefore, ideographs can convey meaning without the voice, whereas glottographs cannot convey meaning without knowing its voice....If people use the Chinese ideographs that make people universally understand ideas, the sake of unified script can greatly spread in the world. Isn't it something pleasurable?¹¹

Where did Trigault's understanding of the Chinese script come from? Is it Trigault's own theory or his adoption of an existing theory from Chinese sources? Or does it reflect the prejudices of a man of the Renaissance vis-a-vis a foreign writing system? This issue is crucial for reconstructing Trigault's thinking, so we need to review not only Trigault's encounter of the Chinese native knowledge but also the European knowledge to ideographic writing in the seventeenth century.

First, I would start the discussion from the Chinese tradition which had been

¹⁰ *Ulmoçu III, 2b* 其法所從之路，總分兩端而已。從物之意，一也；從口之音，一也。從意者何？萬物之類，每有本號，像其意者是。.....中華一統，車書會同，其字從意。一統之外，鄰近諸國，於還聞有幾國，字皆從意，每號像之繪之，後加其音耳。

¹¹ *Ulmoçu III, 3b* 字之妙，傳意為主，傳意之寬，字妙之長也，傳意之窄，字妙之短也。今從意之字，不待其音，自能傳意，從音之字，未知其音，不能傳意.....普天下人意所通，果一一用中文從意之字，同文之理，行且大通於天下矣，寧不深可幸哉？

cited in the *Ulmoçu*. Examining these titles gives us a more reliable source about Trigault's awareness of the Chinese native linguistics in establishing his own linguistic thought. In the the *Ulmoçu*, Trigault explicitly mentions four Chinese language references. These are:

- *Hóngwǔ Zhèng Yùn* 洪武正韻 (*The Standard Rimes of Emperor Hongwu; HWZY*),
- *Gǔjīn Yùnhuì Jǔyào Xiǎobǔ* 古今韻會舉要小補 (*A Minor Supplement to the Extracts of the Ancient and Contemporary Rime Conglomerate; YHXB*),
- *Zhèngyùn Hǎipiān* 正韻海篇 (*ZYHP*), and
- *Wǔyīn Piānhǎi* 五音篇海 (*WYPH*).

These titles are rime books (*yùنشū* 韻書) and dictionaries (*zìshū* 字書) published in the late sixteenth and early seventeenth centuries. The distinction of rime books and dictionaries is not important for our purpose as the difference is usually determined by editorial purpose, and sometimes by modern scholars' research interests, rather than the user's actual practice. The reason is that a user could find both meaning and pronunciation under each entry in the dictionary of rime book, so both lexicographic genres could answer inquiries for sound or meaning. In fact, the convergence of dictionaries and rime books characterized the Chinese lexicography in the Ming Dynasty (1368–1644).¹² It is clear that Trigault considered these references as dictionaries because the design of *Liè Biānzhèng Pǔ* 列邊正譜 was an index to find characters in the *HWZY* and the *YHXB*, and he had no need to look for pronunciations since the *Ulmoçu* had already rendered pronunciations in the Roman

¹² Jifú Níng 甯忌浮, *Hànyǔ Yùنشū Shǐ: Míngdài Juǎn* 漢語韻書史：明代卷 (Shanghai: Shànghǎi Rénmín Chūbǎnshè, 2009), 474–481.

alphabet. We have already known that the *HWZY* and the *YHXB* are purely dictionaries and contain no information about traditional Chinese linguistics. Here, we will focus on the *ZYHP* and the *WYPH*, which were popular dictionaries in Trigault’s time, and their appendices offered practical knowledge of the Chinese language.

Trigault mentioned *Zhèngyùn Hǎipiān* and *Wǔyīn Piānhǎi* in *the Dialogue of Liè Biānzhèng Pǔ* (*Liè Biānzhèng Pǔ Wèndá* 列邊正譜問答).¹³ They are not the full titles of the mentioned dictionaries but Trigault’s abbreviations. According to *the Dialogue of Liè Biānzhèng Pǔ*, the *ZYHP* and the *WYPH* classify characters by their radicals (*bùshǒu* 部首). However, the *ZYHP* arranges the radicals by their meanings, whereas the *WYPH* arranges radicals by their pronunciations. We may label the schema in the *ZYHP* the thematic and the schema in the *WYPH* the phonetic. Table 3.1 shows the classification of *jīn* 金 ‘gold’ in these schema.

Character	Schema	Radical	Group	Radicals in the same group	The volume of the group in 篇海類編 or 五音篇海
金	Thematic	jīn 金	Treasure 珍寶類	金玉寶珎	Volume 15
	Phonetic	jīn 金	Jiàn-mǔ ping-shēng 見母平聲	金斤高戈交弓干瓜巾龜 甘門工 ㄩ 傘京光	Volume 2

Table 3.1 The place where *jīn* 金 “gold” situates in dictionaries arranged by thematic and phonetic schema

These schemas are complicated and difficult to use, even for native speakers. Trigault complained that the *WYPH* arranged character radicals according to their pronunciation, which forced the user to spend extra labor to learn how to read the radicals for using this dictionary. Alternatively, the *ZYHP* arranged character radicals in a thematic schema, which usually confused the user. Therefore, although

¹³ *Ulmoçu I* 100a.

Trigault praised the *ZYHP* and *WYPH* for their immense character collections, he only cited the volume and page numbers of the radicals for the *WYPH*. For the *ZYHP*, however, Trigault left the volume and page numbers blank, so his reader could fill the numbers with his own version of the *ZYHP*.¹⁴ These clues help us to identify the mentioned dictionaries from the vast publication of dictionaries in the late sixteenth and early seventeenth centuries. So far, we can be certain that the *WYPH* is a reprint or a variation based on *Wǔyīn Lèijù Sìshēng Piānhǎi* 五音類聚四聲篇海 ‘A Categorical Collection of the Five Scales and the Chapters Ocean of the Four Tones’ compiled by the thirteenth century phonologists Hán Xiàoyàn 韓孝彥 and his son Hán Dào zhāo 韓道昭 around 1200 CE.¹⁵ The dictionary *ZYHP*, which arranges radicals thematically, has not yet been identified, but the thematic radical arrangement and the phonetic notations of *Piānhǎi Lèibiān* 篇海類編 meets Trigault’s description.¹⁶

Precise identification of the *ZYHP* and the *WYPH* is impossible with the limited information provided by Trigault, but it is unnecessary for our purpose. Many dictionaries adopted *hǎipiān* (lit. ‘ocean chapter’) or *piānhǎi* (lit. ‘chapter ocean’) in their titles to imply their immense collections of characters, and they were all popular and practical linguistic references in the sixteenth and seventeenth centuries. They

¹⁴ It implies there were many similar editions in the market, and all these editions classified the radicals with a common system.

¹⁵ Here, I refer to Xiàoyàn Hán 韓孝彥, *Dà míng Chéng huà Dīng hài Chóng kān Gǎi bìng Wǔ yīn Lèi jù Sì shēng Piān* 大明成化丁亥重刊改併五音類聚四聲篇, ed. The Editorial Board of Sīkù Quánshū Cúmù Cóngshū 四庫全書存目叢書編纂委員會, vol. 187, Sīkù Quánshū Cúmù Cóngshū 四庫全書存目叢書 (Tainan Hsien: Solemn Culture Business Co, 1997[1467]).

¹⁶ Lián Sòng 宋濂, *Piānhǎi Lèibiān* 篇海類編, ed. The Editorial Board of Sīkù Quánshū Cúmù Cóngshū 四庫全書存目叢書編纂委員會, vol. 187, Sīkù Quánshū Cúmù Cóngshū 四庫全書存目叢書 (Tainan Hsien: Solemn Culture Business Co, 1997[late1500s]). The editor of Sīkù Quánshū pointed out that the authorship of this title was faked for marketing purpose. Ibid. 795.

offered not only the meaning and pronunciation of character, but also some practical linguistic knowledge in their appendices, which are mostly placed in the initial volumes (such as Figure 3.1). The linguistic knowledge usually includes the history of Chinese script and its styles, the six types of Chinese characters, the eight development stages of Chinese script, and the scholars, which made contributions to the study of the Chinese script. Sometimes the appendices also introduce some help to read *fǎnqiè* 反切, the traditional notation of pronunciation, some mnemonic idioms of the four tones, and the 36 *zìmǔ* 字母, as well as lists of “graphical minimal pairs”¹⁷ and “difficult” characters in the classics. These are indeed useful information for Chinese learners. The appendices in different dictionaries usually resemble each other. It suggests that these contents were commonly accepted knowledge, allowing publishers to adopt existing theory in their products.

European missionaries would acquire these popular dictionaries for learning Chinese. A popular dictionary titled *Hǎipiān Tǒnghuì* 海篇統匯 (1621) was probably purchased by a missionary in China and is currently kept in the Vatican Library.¹⁸ Kircher’s *China Monumentis* also presented different forms of Chinese characters with figures adopted from *Wànbǎo Quánshū* 萬寶全書, an encyclopedia for ordinary people.¹⁹ The acquisition of these reference books suggests that seventeenth-century missionaries used popular dictionaries and encyclopedias to learn

¹⁷ By “graphically minimal pairs,” we mean a pair of Chinese characters that differ from each other by only one stroke. For example, mù 木 ‘wood’ and běn 本 ‘root’ form a graphically minimal pair.

¹⁸ Xiǎopíng Yáo 姚小平, “Fàndìgāng Túshūguǎn Suǒ Cáng Ruògān Míng-Qīng Yǔyán Wénzì Shū 梵蒂岡圖書館所藏若干明清語言文字書 [Notes on Several Chinese Philological Books in the Vatican Collection],” *Yányǔ Kēxué* 言語科學 [*Linguistic Sciences*] 5, no. 6 (2006).

¹⁹ Lundbæk, *The Traditional History of the Chinese Script: From a Seventeenth Century Jesuit Manuscript*, 48–50.

篇海類編附錄條目	字學淵源 三條	經史引證 二條	古書盛衰存亡譜	蒼頡始製文字	伏羲始分六書 六條	歷代字分八體 八條	總述來源譜	聲分清濁	聲辨清濁	清音四聲	濁音四聲	辨聲要訣	三十六字母切韻法	切字要訣	翻切呼調歌	三十六字母反切圖	直指玉鑰匙門法 二十條
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Figure 3.1 The List of Appendices of *Piānhǎi Lèibiān* 篇海類編

Source: Lián Sòng 宋濂, *Piānhǎi Lèibiān* 篇海類編, ed. The Editorial Board of Sīkù Quánshū Cún mù Cóngshū 四庫全書存目叢書編纂委員會, vol. 187, *Sīkù Quánshū Cún mù Cóngshū* 四庫全書存目叢書 (Tainan Hsien: Solemn Culture Business Co, 1997 [late1500s]) 338.

Chinese language and culture. Are they also the source from which Trigault obtained the ideographic notion of the Chinese script?

However, scrutiny of the appendix text of extant popular dictionaries rejects this hypothesis. The Chinese traditional view of its script was never extremely biased toward the visual and semantic aspects of writing. These common texts maintain the view that Cāngjié 蒼/倉頡 created the Chinese script, and Fúxī 伏羲 classified the

characters into six types (*liùshū* 六書; lit. ‘six writings’) by the method of creation: (1) *xiàngxíng* 象形 (pictographs), (2) *huìyì* 會意 (compound ideographs), (3) *xíngshēng* 形聲 (phonetic compounds), (4) *zhǐshì* 指事 (ideographs), (5) *jiǎjiè* 假借 (loan characters), and (6) *zhuǎnzhù* 轉注 (derivative cognates).²⁰ The order of these six types suggests the believed primitiveness of each type. *xiàngxíng* is the most primitive and uses pictograms to depict things. For things that pictograms cannot handle, simple or compounded ideographs are employed, and then *xíngshēng* and *jiǎjiè*, phonetic methods, grasp the residual ideas. This theory has been credited to Xǔ Shèn 許慎 (ca. 58–ca. 147), the scholar who conducted the first systematic research of Chinese characters in the second century. This classical knowledge does not radically describe Chinese characters as ideographic but clearly states both semantic and phonetic principles. Since the phonetic principles *xíngshēng* and *jiǎjiè* are parts of the classical view of Chinese script, traditional Chinese knowledge should have allowed Trigault to avoid the view that the Chinese script stood exclusively for meanings the way he believed the Egyptian hieroglyphs did, if he simply repeated the existing Chinese theory. Therefore, it is plausible that Trigault’s ideographic notion was an invention in the Sino-European encounter. As Bruce Rusk points out, the Sino-European encounter made both European and Chinese people reconsider their views of written language.²¹ This remark exactly describes Trigault’s case.

²⁰ All the translations of terminology, except the one of *zhuǎnzhù*, is Y. R. Chao’s. Yuen Ren Chao, *Language and Symbolic Systems* (Cambridge: Cambridge University Press, 1968), 103–104.

²¹ Bruce Rusk, “Old Scripts, New Actors: European Encounters with Chinese Writing, 1550–1700,” *East Asian Science, Technology, and Medicine* 26(2007).

3.2 A *Mentalité* about Chinese Characters in Sinosphere

A new proposal is necessary to explain Trigault's conception of Chinese script. We believe that in *De Christiana Expeditione apud Sinas* and *Siju Ulmoçu*, Trigault expressed a *mentalité* of the pre-modern Sinosphere,²² the group of language communities that had adopted the Chinese script in history. This *mentalité* originated from experience with the diversity of language and uniformity of writing in East Asia. Travelers could induce ordinary theories from their naïve observations to explain this situation that two speakers of different languages can communicate with writing Chinese characters. Traditional Chinese lexicography and Jesuits' Chinese learning, which both treated Chinese characters as basic units, could reinforce these myths with which European travelers were preoccupied, contributing to the formation of Trigault's ideographic view of Chinese writing.

The Jesuits were one of a few groups that traveled across linguistic borders in the sixteenth and seventeenth century. Unlike peasants, who either were illiterate or had rare chance to encounter speakers of unintelligible languages, these travelers crossed linguistic borders for trade, governance, delivery, religious mission, or other purposes, and they frequently met people speaking different languages in other provinces or countries. These travelers could notice this phenomenon as soon as they had their first encounter with foreign speakers, that the best medium of communication was neither gesture nor jargon with heavy accent, but writing Chinese characters, as long as their interlocutors were also literate in this script. This situation is still true in today's East Asia. East Asian travelers experienced the convenience of talking through Chinese characters and easily induced a notion that Chinese script constantly denotes meaning,

²² The definition of *mentalité*, see Footnote 26 of Chapter 1, p. 9.

and these characteristics allowed people speaking different languages to communicate. This *mentalité* was also shared by Trigault and the co-compiler Wáng Zhēng 王徵, who was also an official and traveler in the seventeenth century. In recent decades, this *mentalité* was aptly conceptualized by DeFrancis as “ideographic myth” and “universality myth.” According to DeFrancis, these myths are inferential fallacies of which people forget they had learned the meaning through spoken language when they established an association between a particular meaning and graph.²³ In fact, the earliest record of the universality of Chinese script, reported by the Dominican friar Gaspar da Cruz in the mid-sixteenth century, exactly fits DeFrancis’ criticism. It was the observation of da Cruz in Cauchimchina:²⁴

The purser of the ship, who was a China [sic], was writing a letter to the Louthias of the country, asking them to order that we be given provisions for our money. When I saw him writing the letter, I said to him, “why are you writing a letter, because it will be enough to ask them by word of mouth?”

He replied to me that they would not understand him by word of mouth. I let him finish writing the letter, and then asked him to write the ABC for me. He wrote down only four characters. I asked him to write out all the letters of the ABC, and he told me that he could not do it then and there, as there were more than five thousand. I at once divined what it might be, and asked him, “What do you call this first character?”

He replied, “*Tiem.*”

²³ John DeFrancis, *Visible Speech: The Diverse Oneness of Writing Systems* (Honolulu: University of Hawaii P, 1989), 34.

²⁴ It should not be confused with the former French colony Cochinchina in southern Vietnam. In Portuguese, Cauchimchina refers to Tonkin, the northernmost part of Vietnam. See the footnote in Charles Ralph Boxer, ed. *South China in the Sixteenth Century: Being the Narratives of Galeote Pereira, Gaspar da Cruz, Martín de Rada; (1550-1575)* (London: Hakluyt, 1953), 64.

I asked him, “What does *Tiem* mean?”

He answered me, “‘Heaven’, -- and this other ‘earth’, and this other ‘man’.”²⁵

Da Cruz’s story is very similar to Shargorodskii’s witness of the “Yukaghir Love Letter” in 1895 during his political exile in Siberia.²⁶ Da Cruz forgot that he had learned meanings through spoken language by the Chinese purser, and the Chinese purser was not aware that he and his Vietnamese recipient had both learned the meanings of Chinese characters through their own spoken languages. In fact, Chinese script does not manifest meaning without spoken languages, as Trigault falsely claims in the *Ulmoçu*, but it requires the mediation of language to interpret the text. This crucial point was forgotten by da Cruz and Shargorodskii; they casually associated a character and its respective meaning after they had heard the meaning from somebody.

However, after modern criticism of early modern misconceptions in the light of contemporary linguistics, it is necessary to note that the association of Chinese characters and their respective meanings had been embedded in Chinese pedagogical and linguistic tradition for millennia, and the Chinese print industry of language references also rooted in and supported this tradition. The language learning of Michele Ruggieri 羅明堅 (1543–1607), one of the first Jesuits to learn Chinese, reveals how this tradition worked in early missionaries’ Chinese learning.

Ruggieri went over the elementary education in literacy taught to Chinese children at that time. His documents, kept in the Vatican Library, show that his tutor wrote 306 individual characters as well as many common phrases in the pages,

²⁵ Ibid., 162.

²⁶ DeFrancis, *Visible Speech*, 24–35.

indicating that Ruggieri had undergone the traditional Chinese literacy education taught across East Asia.²⁷ The pedagogy starts with elementary texts like *Sān Zì Jīng* 三字經, *Bǎi Jiā Xìng* 百家姓, and *Qiān Zì Wén* 千字文, collectively called *Sān-Bǎi-Qiān* 三百千, and advances to various versions of *zázi* 雜字,²⁸ which deliver practical knowledge suitable to particular localities. Ordinary people usually ended their literacy education with *zázi*, and *zázi* could serve as a practical reference or even as an encyclopedia in their daily lives.²⁹ These texts also served to teach Chinese as a foreign language. Japanese either imported or copied existing texts to learn Chinese.³⁰ The function of Ruggieri's literacy materials is also similar to that of the *Sān-Bǎi-Qiān* and *zázi*. The pedagogy of these traditional materials is to teach practical knowledge through the learning of the characters, delivering cultural heritage in the shortest time.

From a linguistic perspective, this pedagogy pays more attention to the semantic and graphic aspects of Chinese than to the phonetic aspect. The cross-linguistic

²⁷ Xīpíng Zhāng 張西平, *Ōuzhōu Zǎoqí Hànxué Shǐ* 歐洲早期漢學史 [The Early History of European Sinology] (Beijing: Zhōnghuá Shūjú, 2009), 45–54.

²⁸ *Zázi* had been a common introductory text for literacy. Wu Hui-fang classifies the *zázi* in the Ming and Qing Dynasties into two major kinds, according to their applications in a student's learning procedure. The *zázi* books for an elementary student usually list common lexemes with or without semantic classification. The other kind of *zázi* books list not only lexemes but also their explanations, but the range of lexical collection is limited to ordinary people's life. The latter kind of *zázi* could function as concise encyclopedia. See the discussion of Hui-fang Wu 吳蕙芳, "Shìzì Rùmén: Míng-Qīng Yǐlái De Zázi Shū 識字入門：明清以來的雜字書 [The Premier to Literacy: The Zázi Books since Ming and Qing Dynasties]," *Xīngdà Lìshǐ Xuébào* 興大歷史學報 (Bulletin of the Department of History of National Chung Hsin University) 16(2005): 243.

²⁹ Hui-fang Wu 吳蕙芳, *Míng-Qīng Yǐlái Míngjiān Shēnghuó Zhīshì De Jiāngou Yu Chuāndì* 明清以來民間生活知識的建構與傳遞 [The Construction and Transfer of Vernacular Daily Knowledge Since Ming and Qing Dynasties] (Taipei City: Taiwan Xuesheng Shuju, 2007).

³⁰ Hui-fang Wu 吳蕙芳, "Jiānghù Shíqí Líúchuán Rìběn De Yībù Zhōngguó Shìzì Shū: Zēngdìng Rìyòng Biànlǎn Zázi 江戶時期流傳日本的一部中國識字書：增訂日用便覽雜字," *Shūmù Jìkān* 書目季刊 (Bibliography Quarterly) 41, no. 1 (2007).

acceptance of these materials proves this bias. It is evident that this pedagogical bias contributes to formation of the ideographic myth; nevertheless, the Jesuits, when they had achieved an advanced comprehension of Chinese, should have proceeded to use the dictionaries and rime books that native Chinese literati were using. In these dictionaries and rime books, single characters represented each entry, and most modern Chinese dictionaries continue this lexicographic tradition. Although modern linguists would prefer to call the leading character a syllabic-morpheme,³¹ it was considered the basic unit of phonetic or semantic analysis in traditional Chinese linguistics. This linguistic tradition and the Chinese native pedagogy reinforced the ideographic myth, and this myth was the core information delivered in Trigault's statement: "Chinese characters draw things to represent senses, and people then add sound to the characters."³²

Therefore, the investigation of the early development of "ideographic and universality myths" suggests that Trigault's conception of ideographic Chinese script was not a simple adoption of any existing Chinese theory, but a description of the *mentalité* generated in the unique sociolinguistic context of East Asia. Chinese reference books maintained the traditional lexicography of using Chinese characters at the head of an entry, and this conservative lexicography made western observers ignorant of the vastness of phono-semantic compounds and phonetic-loans, eventually reinforcing this *mentalité*. If we can say Trigault adopted something, it must be *mentalité*, later called the "ideographic myth" and the "universality myth" in our time.

³¹ Chao, *Language and Symbolic Systems*, 102.

³² *Ulmoçu III*, 2b 字皆從意。每號像之，繪之，後加其音耳

3.3 The European Imagination of Ideographic Scripts

The discussion in the previous sections explains why Trigault considered the Chinese script ideographic, but this is not satisfactory for our investigation. What has not yet been answered is the intellectual heritage that formed Trigault's prior knowledge about ideographic scripts. This leads us to examine the Renaissance philosophy of language and the Renaissance notion of Ancient Egypt as the source of God's hidden knowledge. These notions involved the flourishing Hermeticism, Neoplatonism, and other occult ideas.

The Renaissance had inherited two ideas about language from antiquity: Aristotle's conventionalism and Plato's idealism. A philosophical idealism of language was the basis of Renaissance enthusiasm for Egyptian hieroglyphs. Platonic idealism believes there is a perfect, transcendental reality of Forms, or the Idea inherent in every individual. If this situation is maintained, there should be no language variation; however, there indeed is variation. In order to account for the diversity of languages, Plato proposed the notion of a name-giver in every community. This name-giver would be able to perceive reality perfectly and translate the perceived things to the language of a particular community. Since the name-givers have perfect perception, the names they give should mirror reality; however, since every community has different name-givers, names differ from one community to another, creating the diversity of language.³³ The Christian philosophers fused Plato's name-giver with Adam in *Genesis*, who, according to the Bible, named everything brought to him by God.³⁴ Therefore, the Renaissance scholars also used "Adamic

³³ Law, *The History of Linguistics in Europe from Plato to 1600*, 19–23.

³⁴ Genesis 2:19–20

language” for the perfect language that mirrors the transcendental reality of Forms. Here, we recall Trigault’s definition of ideographic writing that it “depicts the original ideas of things.”³⁵ The idea of *Běnhào* 本號 is not Chinese-origin but very likely a translation of Plato’s transcendental reality of Forms. If Chinese characters really depicted the Form, it could be Adamic language that the Renaissance scholars eagerly searched for in order to solve the problem of language diversity.

A competing theory of Platonism is Aristotle’s language philosophy, and Aristotle’s theory can better address language diversity than that of Plato. Aristotle suggests that human impressions of the external world are universal to every individual, but spoken words denote impressions arbitrarily, so human languages differ. Aristotle’s conventionalism was the major trend of language philosophy in Europe until the Renaissance.³⁶ In the Renaissance, European expeditions and the expansion of vernacular languages into wider domains presented more language diversity and induced more communication obstacles, leading Europeans to recall God’s punishment of the collapse of the Tower of Babel.³⁷ This fear was revealed in the linguistic purism associated with Latin in the Renaissance. After antiquity, Latin was still the *lingua franca* among the learned in Europe, but the absence of native speakers and a normative power made Latin diversified in the late Middle Ages. To “correct” this diversity, humanists proposed reformations of the Latin curricula. One of these reformations was to restrict Latin students to use only the Latin from

³⁵ *Ulmoçu III 2b* 萬物之類，每有本號，像其意者是。

³⁶ Law, *The History of Linguistics in Europe from Plato to 1600*, 28.

³⁷ *Ibid.*, 262–263.

Classics.³⁸

Therefore, even though people had generally accepted that the meaning of language is conventional, Renaissance thinkers were uncomfortable with this situation. In language practice, conventionalism created language diversity and interfered with people's communication. In philosophy, conformity to conventionalism places ideas under the command of language and obstructs scientific and philosophical pursuit; therefore, late Renaissance scholars regarded Plato's idealism to correct this "unnatural" conventionalism in human language. They hoped to find the perfect language reflecting transcendental ideas, and this perfect language would then be free of the "chaotic" diversity of spoken languages. Egyptian hieroglyphs and Chinese characters, suggested by philosophers like Francis Bacon, were good candidates for this language.³⁹

3.4 Allegoric Interpretations of Egyptian and Chinese

Bacon's recommendation represents a general understanding of Chinese characters in Trigault's time (see Section 3.1), and his comparison of Egyptian hieroglyphs and Chinese characters suggests they share an ideographic nature. I will thus focus on Egyptian hieroglyphs, which had once been considered ideographic representing hidden knowledge common to human beings before European thinkers found out that Chinese also met their expectations. This common ground between Egyptian and Chinese was then considered the basis of the Universal Language.

³⁸ Kristian Jensen, "The Humanist Reform of Latin and Latin Teaching," in *The Cambridge Companion to Renaissance Humanism*, ed. Jill Kraye, *Cambridge Companions to Literature* (Cambridge: Cambridge University Press, 1996), 63–81.

³⁹ Thomas C. Singer, "Hieroglyphs, Real Characters, and the Idea of Natural Language in English Seventeenth-Century Thought," *Journal of the History of Ideas* 50, no. 1 (1989): 67.

Therefore, Trigault's analogy between the Egyptian and the Chinese scripts achieved two things simultaneously: he incorporated an exotic script into an existing European knowledge category, and he proposed the idea that the "Chinese hieroglyphic characters"⁴⁰ represent the Universal Language.⁴¹

The supposed resemblance between Chinese and Egyptian scripts had been recognized by some European intellectuals in the late sixteenth century. In Ricci's letter to Father Passionei in 1597, Ricci assumed that his friend in Italy was aware of the resemblance and provided little information about the Chinese script.⁴² This simple introduction was further developed into a more detailed account of the Chinese language in Ricci's memoir edited by Trigault, *De Christiana Expeditione apud Sinas*. Both Ricci and Trigault compared Egyptian hieroglyphs with Chinese characters. This comparison not only incorporated the exotic, less familiar script in East Asia into the existing European knowledge system, but also disseminated the ideographic and universality myths in the European intellectual community. In order to understand Renaissance thinkers' understanding and enthusiasm for ideographic script and universal language, it is necessary to review Horapollo's manuscript about Egyptian hieroglyph as well, since it was the basis on which the ideographic myth established.

⁴⁰ It is the term used by Kircher. The Latin original is "characteres Hieroglyphici Sinensium." See Athanasius Kircher, *China Monumentis* (Amstelodami: apud Joannem Janssonium Waesberge & Elizeum Weyerstraet, 1667), 225.

⁴¹ William S. Heckscher, "Renaissance Emblems: Observations Suggested by some Emblem-books in the Princeton University Library," *Princeton University Library Chronicle* 25(1954); Erwin Panofsky, "Titian's Allegory of Prudence: A Postscript," in *Meaning in the Visual Arts* (Chicago: University of Chicago Press, 1982).

⁴² Ricci, *Lì Mǎdòu Shūxìn Jí* 利瑪竇書信集 [*Letters of Matteo Ricci*], 244. In this letter, Ricci also mentions that his treatise on the art of memory is dedicated to Passionei, even though it had been published in China. Ibid. 242. However, it was not Ricci's first time to make analogy between Chinese characters and Egyptian hieroglyphs in the 1597 letter to Passionei. Ricci had mentioned this analogy in the 1592 letter to Father Fabio de Fabi, but he did not assume that his addressee had any knowledge about Chinese characters. See Ricci, *Lì Mǎdòu Shūxìn Jí* 利瑪竇書信集 [*Letters of Matteo Ricci*], 109.

Horapollo lived perhaps in the fifth century, and his manuscript written in Greek is the only piece recovered from antiquity that introduced the Egyptian hieroglyphs during the Renaissance. Horapollo caught the last usage of the Egyptian hieroglyphs, but these usages were quite different from those of their heyday. In the fifth century, the Egyptian hieroglyphs lost the religious function in Christianized Egypt and were preserved by only a few priests living in the ancient temples. These priests played with this ancient script as a series of literary experiments, making connotations from combinations of graphs. These experiments expanded the meaning of the existing words and highlighted the semantic aspects of the hieroglyphs. In Horapollo's manuscript, the bias to meaning was further amplified because the manuscript contains no generic hieroglyphs but descriptions of hieroglyphic phrases. With a limited number of hieroglyphic tokens scattered in Europe, European readers could only imagine how Egyptian hieroglyphs were written or composed. Moreover, Horapollo's interpretations of the hieroglyphs were not precise. He provided his commentary with allegoric interpretation rather than word-by-word glossing, and he completely neglected its phonetic aspects, which had not been correctly deciphered until Champollion's effort in the early nineteenth century. Through Horapollo's mediation, Renaissance scholars saw a purely semantic writing system that required allegoric imagination to access its true meaning.⁴³

Horapollo's manuscript influenced Renaissance visual culture significantly. In the sixteenth century, many collections of pseudo-Egyptian hieroglyphs appeared across Europe. These Renaissance inventions were inspired by Horapollo and incorporated more contemporary and ancient symbols to make images. Although these images look very different from the actual hieroglyphs on obelisks erected in

⁴³ Eco, *Serendipities*, 53–75.

continental Europe, they were still called hieroglyphs in the different collections, such as Pierio Valerino's *Hieroglyphica* published in 1556.⁴⁴ This flourishing symbolism inspired by Egyptian hieroglyphs then became the heuristics of image-making in the Renaissance.⁴⁵

The parallel trend of this enthusiasm in hieroglyphs was the emblem. An emblem is constituted of three elements: motto, picture (or *impresa*), and epigram. A motto is a brief title, generally shorter than five words. A picture is associated with a designated motto, but their relationship should be complementary to each other rather than descriptive; a motto must not simply describe the associated picture. In an analogy, the picture is the body and the motto is the soul of an Emblem. Finally, the task of an epigram is to join a pair of motto and picture and to reveal its implication. The epigram is usually the first element determined in composing emblems, and then picture and motto are devised.⁴⁶ Emblem composition was integrated into the Jesuit curriculum since the 1599 *Ratio Studiorum*.⁴⁷ In Flemish Jesuit colleges, students composed emblems in the highest class, and their products were collected and published with professional engravings.⁴⁸ Trigault was probably involved in this activity when he taught in Ghent.

In the Renaissance, it was believed that hieroglyphs and emblems are similar in manipulating symbols: they stimulate ideas without verbal explication, and the

⁴⁴ Pierio Valeriano, *Hieroglyphica, Sive, De Sacris Aegyptiorvm Literis Commentarii* (Basileae [Basel]: Michael Isengrin, 1556).

⁴⁵ Panofsky, "Titian's Allegory of Prudence: A Postscript," 146–168.

⁴⁶ Heckscher, "Renaissance Emblems," 56–57.

⁴⁷ Jesuits, *The Jesuit Ratio Studiorum of 1599*, 47, 77–78.

⁴⁸ Daniel Russell, "The Fortunes of Alciato's Emblems," in *Encyclopedia of the Renaissance*, ed. Paul F. Grendler (New York: Charles Scribner's Sons, 1999), 266.

intrinsic meaning of a hieroglyph or an emblem should be interpreted allegorically. In fact, allegoric interpretation was the interpretation strategy of early Egyptologists. However, this strategy ignored the inherent grammar of Egyptian writing and replaced it with the interpreter's imagination or free association, making it impossible to achieve a correct interpretation or to discover a universal language and the hidden knowledge.

Since the late sixteenth century, the reports about Chinese characters were brought to Europe through the globalizing network of European marine powers. Now they knew Chinese had been used for millenniums, and its script was used across dialects and languages. The missionaries in East Asia, whether aware of the enthusiasm for a perfect language or interested in Egyptology, employed strategies similar to those of deciphering the Egyptian hieroglyphs to learn Chinese characters, and their evaluations of Chinese script exactly reflected the appreciation of Egyptian hieroglyphs in the Renaissance.⁴⁹

This strategy was revealed for the first time in *Xīguó Jifǎ*, written by Ricci in 1595. In the fourth chapter of *Xīguó Jifǎ*, Ricci introduces methods for making mnemonic images to memorize Chinese characters. To memorize the characters belonging to *xiàngxíng* 象形, the most primitive type according to Ricci, one may simply take the image of the indicated thing to form a mnemonic image. To memorize the characters belonging to *zhǐshì* 指事, such as 本 *běn* 'root; origin', one can imagine a man lying on a straight-standing tree. If the man is at the top of the tree, the

⁴⁹ The influence of the Renaissance Egyptology to the early Sinology lasted among missionaries. A later example is French Jesuit Joachim Bouvet (1656–1730), who believed himself capable to reveal the inner meanings of Chinese characters, because he had learned Hebrew cabbala, Pythagorean philosophy, Platonism, and the Egyptian hieroglyphs in his youth. All these subjects were relevant to the Renaissance Egyptology. Knud Lundbæk, *Qīngdài Lái huá Chuánjiàoshì Mǎ Ruòsè Yánjiū* 清代來華傳教士馬若瑟研究 [Joseph de Prémare, 1666–1736, S.J.: *Chinese philology and figurism*], trans. Zhen Li and Jie Luo (Zhengzhou City, China: Dàxiàng Chūbǎnshè, 2009), 10, 148.

image of 末 *mò* ‘end’ is made.⁵⁰ To memorize the characters belonging to *huìyì* 會意, Ricci proposed illuminations of the sun and moon to memorize 明 *míng* ‘brightness’;⁵¹ the image of three people living together to represent 众 *zhòng* ‘crowd’;⁵² a forehead with a single eye to memorize 見 *jiàn* ‘to see’.⁵³ More suggestions for memorizing Chinese characters and phrases are also introduced in this chapter. Ricci expanded the application of methods introduced in Chapter Four to more characters in chapter six as sample images to demonstrate the art of image-making. The samples in chapter six fuse rebus puns and pictographic interpretations to create memory images for 112 characters and 10 solar terms (*jiéqì* 節氣).⁵⁴

Six decades after Ricci presented *Xīguó Jìfǎ* to obtain the governor’s (*xúnfǔ* 巡撫) endorsement, Intorcetta *et al.* wrote a short article titled *On the Chinese Script (De Sinarum Literis)* and planned to insert it in the Latin translation of *the Doctrine of the Mean (Zhōngyōng 中庸)* as a supplement to the passage of the Emperor’s authority to decide the form of characters.⁵⁵ This article had never been published until the

⁵⁰ Ricci, “*Xīguó Jìfǎ* 西國記法,” 190. 「本」、「末」兩字，皆以大木一枝直立，有一人緣其根而坐，則為「本」之象，緣其顛而屈，則為「末」之象。

⁵¹ *Ibid.* 以日月並耀。

⁵² *Ibid.*, 191. 以三人同居。

⁵³ *Ibid.* 以雙目豎生額上，炯彪四望。

⁵⁴ *Ibid.*, 204–213.

⁵⁵ Knud Lundbæk, “Foreword,” in *The traditional history of the Chinese script: from a seventeenth century Jesuit manuscript* (Århus, Denmark: Aarhus University Press, 1988). The commented text in *the Doctrine of the Mean*:

No one but the Emperor has the right to deal with the ceremonies, to make laws, and to decide

English translation and annotation by the Danish Sinologist Knud Lundbæk published in 1988. The Jesuit exemplified the compound ideographs (*huìyì*) like his contemporary students of Chinese. Characters referring to mental states comprise the majority of his examples. For 忍 *rěn* ‘patience’, he said the character shows a 刃 *rèn* ‘sword’ threatening 心 *xīn* ‘heart’; for 忘 *wàng* ‘forgetfulness’, the cease or destruction (亡 *wán* ‘to lose; to destruct; to die’) of heart; for 惑 *huò* ‘doubt’, the indetermination (或 *huò* ‘or’) of heart. The Jesuit showed special interest in 盤 *pán*, which is part of a mythical hero’s name, *Pángǔ* 盤古. The reason is obvious: 舟 *zhōu* ‘boat’, one of the radicals of *pán*, inspired the Jesuit’s association with Noah’s Ark. Finally, the Jesuit concluded that a reader could learn many moral lessons from these compound ideographs.⁵⁶ In these cases, we find many resemblances between the study of Egyptian hieroglyphs and Chinese characters. That supports the argument that missionaries’ strategies and interpretations of Chinese characters were highly influenced by Renaissance Egyptology.

In his comment on the presentation of Chinese characters by Martino Martini (Wèi Kuāngguó 衛匡國 1614–1661), Mungello points out that European students of Chinese commonly overemphasized the semantic aspect of the Chinese script.⁵⁷ Ricci and Intorcetta *et al* did not escape from this bias. Mungello’s criticism also pertains to Trigault, who clearly classified Chinese as ideographic, and the argument about the

the form of the characters. Now, all over the Empire, the distance between the wheels of carriages is the same, books are written with the same characters, and the rules of conduct are the same.

非天子不議禮，不制度，不考文。今天下，車同軌，書同文，行同倫。

⁵⁶ Lundbæk, *The Traditional History of the Chinese Script: From a Seventeenth Century Jesuit Manuscript*, 10–13.

⁵⁷ David E. Mungello, *Curious Land: Jesuit Accommodation and the Origins of Sinology* (Honolulu: University of Hawaii Press, 1989), 131.

priority of graph (“the sound is added afterward”) indicates that Trigault considered the phonemic aspect as a supplement to writing rather than an integral part. I believe this bias can find its root in the trend inspired by Egyptian hieroglyphs and the convergence of hieroglyphs and emblems during the Renaissance. Trigault inherited and internalized these ideas, and then developed his conceptualization of Chinese characters as images. Thus, when Trigault compiled the *Ulmoçu*, he did not need to create images because his thinking had led him to conceive of Chinese characters as images. Thus, we have validated Trigault’s understanding that Chinese characters are images, and this understanding was influenced by the ideas about Ancient Egypt and the Universal Language in the Renaissance.



CHAPTER 4

THE LEXICOGRAPHY OF THE *SIJU ULMOÇU*

After the review of Trigault's intellectual background in the previous chapter, now I am turning to the embodiment of the art of memory in the *Siju Ulmoçu*. I have pointed out that the art of memory offered a model to Trigault's lexicography (see Section 2.2, p.22), and the Combinatory Art allowed Trigault to use the romanization of Chinese sound for signifying places of Chinese characters (see Section 2.4, p.20). These methods helped Trigault to invent a new system to organize Chinese characters. Trigault processed the ideographic myth and the universality myth like other early Jesuits. However, these myths to the Chinese script became heuristics to treat Chinese characters as images, so he could place these "images" into the memory-places. Regardless of whether Trigault's knowledge of Chinese or Egyptian languages was correct or not, he successfully applied alphabetical place-making to index Chinese characters and invented a simplified method to retrieve their meanings from two existing Chinese dictionaries.

I will begin this chapter with the crucial element of the *Ulmoçu*, the romanization of Mandarin Chinese, of which Trigault humbly said that he "stole" this method from his Jesuit brothers.¹ In fact, Trigault was the earliest Jesuit who systematized and theorized the Chinese romanization system. Then, I will discuss the technique of the Combinatory Art applied in the *Ulmoçu*, including the phonetic wheels and the tabulation combinations. Finally, I will demonstrate how to use this dictionary and point out again how the art of memory influenced Trigault's design of the *Ulmoçu*.

¹ *Ulmoçu I*, 1b.

4.1 Romanization: The Crucial Component of the *Siju Ulmoçu*

One of Trigault's intentions was to prepare an easy-to-use dictionary. A user of this new dictionary was supposed to more efficiently retrieve sound and meaning than users of Chinese dictionaries in the early seventeenth century. As Trigault complained in the *Ulmoçu*, it was difficult to use the dictionaries compiled with the traditional Chinese lexicography.² In order to compile an improved dictionary for Chinese literati, who were Trigault's target readers and potential converts, he had to invent a methodology to mediate the European methods and the Chinese language. Trigault was aware that the compilation of the *Ulmoçu* was a correction of the defects of Chinese literary tradition and this correction was based on the Combinatory Art and alphabetization.

In fact, the principle in Trigault's lexicography is identical to the method of using loci, i.e., employing places and images to aid memory. In Trigault's eyes, Chinese characters are ideographic images representing meaning. What was left to do for Trigault was to create places for these exotic ideographs. Among various place-making methods developed in medieval and Renaissance Europe, the architectural mnemonics used by Ricci in *Xīguó Jīfǎ* was not a proper option for the *Ulmoçu* (see Section 2.1, p.20). The architectural mnemonics encourages practitioners to find their own memory places, so each complex of memory places and images is at best a personally crafted system. This feature determines that Trigault cannot adapt the architectural mnemonics to compile a lexicon for the public. On the other hand, the symbolic place-making developed since the Middle Ages offered a practical alternative. As I have mentioned in Chapter 2.3, a series of symbols with natural or pre-established order is also useful for memory because the practitioner may look for information back and forth in this naturally ordered series of places. This principle had been mentioned as early as

² *Ulmoçu I*, 99a-101a.

Aristotle's *On Memory and Recollection*.³ Alphabetization, which was revitalized in Europe in the eleventh century,⁴ is one of the methods to organize alphabetically written symbols. Since European languages adopted alphabetical writing, it is an obvious choice for the lexicographical organization. In the case of the *Ulmoçu*, however, symbolic place-making may quickly meet shortage of symbols for denoting places. The result is one needs to associate many items with a single symbol. The Combinatory Art is a solution to this defect. It combines existing symbols and theoretically creates infinite number of symbols to denote places. In the late Renaissance, the integration of Combinatory Art and morphology allowed linguists to render a holistic representation of language in a single diagram. In the case of German, Hardörffer invented the *Fünffacher Denckring* (see Section 2.5). In the case of Chinese, it was Trigault who designed the Universal Phonetic Wheel (*Wànguó Yīnyùn Huótú* 萬國音韻活圖, lit. 'moving picture of the phonology of ten thousand countries') and the Sinitic Phonetic Wheel (*Zhōngyuán Yīnyùn Huótú* 中原音韻活圖, lit. 'moving picture of the phonology of the central state') which provided holistic images of human languages in general and of the Chinese language in particular.

Thus, Trigault needed romanization to bridge European mnemonic and Chinese characters. At this point, the romanization eventually became the crucial component in the *Ulmoçu*. The romanization system played a dual role in the *Ulmoçu*. First, it transcribes Chinese syllables and allows the user in avoiding the difficulty and ambiguity of *fǎnqiè*. Secondly, it adapted the art of memory to Trigault's Chinese lexicography and facilitates

³ Aristotle, "On Memory and Reminiscence," 173–175.

⁴ Alphabetization can be used as early as the invention of alphabet, but absolute alphabetization in Greek letters had not been practiced in the second century. There is a great gap of alphabetization between the antiquity and the Middle Ages. According to Daly's survey, the alphabetical arrangement of Papias in 1053 is the earliest extant of alphabetization. Papias did not claim an invention for his alphabetization, but he did believe he made certain advancement. Thus, we can say alphabetization was "revitalized" in the medieval Europe. Daly, *Contributions to a History of Alphabetization in Antiquity and the Middle Ages*, 71–72.

Trigault's symbolic place-making, i.e. the alphabetically ordered places of Chinese characters, so a user can painlessly find a syllable and the characters listed under it in the *Ulmoçu*. Thus, the romanization system must be considered the most important component in the *Ulmoçu*. Without this system, Trigault could neither transfer the art of memory to his Chinese lexicography nor present the sound of Mandarin Chinese precisely, and the *Ulmoçu* would not gain its unique status in the history of Sino-European cultural encounter, as well as in Chinese historical linguistics. The value of the romanization in the *Ulmoçu* had already caught modern linguists' attentions since Luó Chángpéi's seminal article, and linguists have published many studies on the reconstruction of historical Mandarin as recorded in the *Ulmoçu*.⁵ As pointed out at the beginning of this thesis, I am not attempting to further investigate Mandarin historical phonology through the romanization. Rather, I treat romanization as an interface transferring the art of memory to Chinese lexicography.

Trigault adopted the Jesuit romanization schema that had gradually been developed since Ruggieri and Ricci's first attempts of learning Chinese. This development consists of a series of works that are hard to consider as complete linguistic treatises, but they are rather missionaries' attempts to transcribe the Chinese language. Among these works, Ruggieri and Ricci's manuscript of *the Portuguese-Chinese Dictionary* (ca. 1585), Ricci and Lazzaro Cattaneo's manuscript of *the Chinese-Portuguese Dictionary* (1598),⁶ and Ricci's *Xizì Qíjī* 西字奇蹟 (The Miracle of the Western Characters; 1605)⁷ are the extant sources

⁵ See Section 1.4.

⁶ The introduction and analysis to these bilingual dictionaries, see Paul Fu-mien Yang 楊福綿, "The Portuguese-Chinese Dictionary of Matteo Ricci: A Historical and Linguistic Introduction," in *Proceedings of 2nd International Conference on Sinology, Section on Linguistics and Paleography* 中央研究院第二屆國際漢學會 議論文集：語言語文字組（上、下冊），ed. Editorial Board of the 2nd International Conference on Sinology (Taipei: Academia Sinica, 1989).

⁷ Matteo Ricci, "Xizì Qíjī 西字奇蹟," in *Lì Mǎdòu Zhōngwén Zhèyì Jí* 利瑪竇中文著譯集, ed. Zhū Wéizhēng 朱維錚 (Hong Kong: City University of Hong Kong Press, 2001[1605]), 293–335.

documenting this development. However, even the latest work, Ricci's *Xizì Qǐjī*, the Jesuit schema had not yet used a systematic system and lacked consistent tone marks. Trigault credited Cattaneo with the development of the tone marks in the *Ulmoçu*.⁸ Here, I also assume that Cattaneo was the key person to clearly distinguish the initials and the finals as they are in the *Ulmoçu*, if Trigault had simply adopted his fellow Jesuits' system as he claimed. Unfortunately, this speculation is unverifiable, as the crucial source, Cattaneo's *Vocabularium sinicum, ordine alphabetico europaeorum more concinnatum et per accentus suos digestum*,⁹ has not yet been recovered. Although I am not able to precisely credit the systematization of the Jesuit romanization to Cattaneo or Trigault, in the *Ulmoçu*, we can at least observe a clear pattern for the transcription of initials and finals, which are also the phonological categories in the Chinese tradition.

4.2 From the Combinatory Art to Language Description

Trigault's two phonetic wheels are the theoretical heart of the *Ulmoçu*. Through the combinational operation of these phonetic wheels, all Chinese syllables are spelled out in romanization, and these romanized syllables then indicate entries in the following volume. Trigault placed the wheels at the foremost pages and spent a long discourse explaining the combinational nature of romanization, and its advantages in phonetic description and lexicography. This arrangement indicates not only his conformity with the local tradition that commonly places theoretical texts in the first volume, but also the importance of these phonetic wheels in the *Ulmoçu*. The wheels are important in terms of two disciplines: phonetics and lexicography. However, the existing literature about the *Ulmoçu* mostly

⁸ *Ulmoçu I*, 49a.

⁹ Yves Camus, "Jesuits' Journeys in Chinese Studies," in *World Conference on Sinology 2007* (Renmin University of China, Beijing 2007), 4.

focuses on phonetics, but lexicography has been neglected until very recent years. In order to discuss the lexicographical role of Trigault's phonetic wheels, I shall provide a short description here.

The Universal Phonetic Wheel is made up of one circle and five concentric wheels. Each wheel is divided into 30 compartments, and 29 out of 30 compartments are filled with the 29 distinctive vowels and consonants written in Roman letters, including the digraph <ch>, which Trigault treated as a distinctive letter in this romanization system. All wheels start with five vowels—a, e, i, o, u—followed by 24 consonants. To the 24 vowels and consonants used in Chinese, Trigault attached the Chinese characters to indicate their names. In sum, there are 29 western letters on a wheel, and the 30th compartment is left empty for an operational purpose. Figure 4.1 displays the contents of one concentric wheel. The letters on all the five wheels are identical, and according to Trigault, their alignment can generate all syllables from all languages worldwide. Nonetheless, the indication of tones requires an additional circle, which is placed at the center of the Wheel.

What follows the Universal Phonetic Wheel is the Sinitic Phonetic Wheel, which is made of three concentric wheels. This is an adapted phonetic wheel, which is reminiscent of the *fǎnqiè* tradition of China. The Peripheral Wheel is divided into 50 compartments, and each of them is filled with a Chinese final. For example, <iuen>, which is the only four-letter final, and eventually forms a five-letter syllable with some initials, occupies the fiftieth compartment of the peripheral wheel. The wheel in the middle represents the 20 initials and is accordingly divided into 20 compartments. Each compartment contains a romanized initial, and their names are indicated by a Chinese name.

西號	a	e	i	o	u	ç	'ç	ch	'ch	k	'k	p	'p	t	't
中字	Y	額	衣	阿	午	則	測	者	捨	格	克	百	魄	德	忒
西號	j	v	f	g	l	m	n	s	x	h	b	d	r	z	
中字	日	物	弗	額	勒	麥	搦	色	石	黑	○	○	○	○	

Table 4.1 The letters of a concentric wheel on the Universal Phonetic Wheel. The last compartment is intentionally left blank by Trigault.

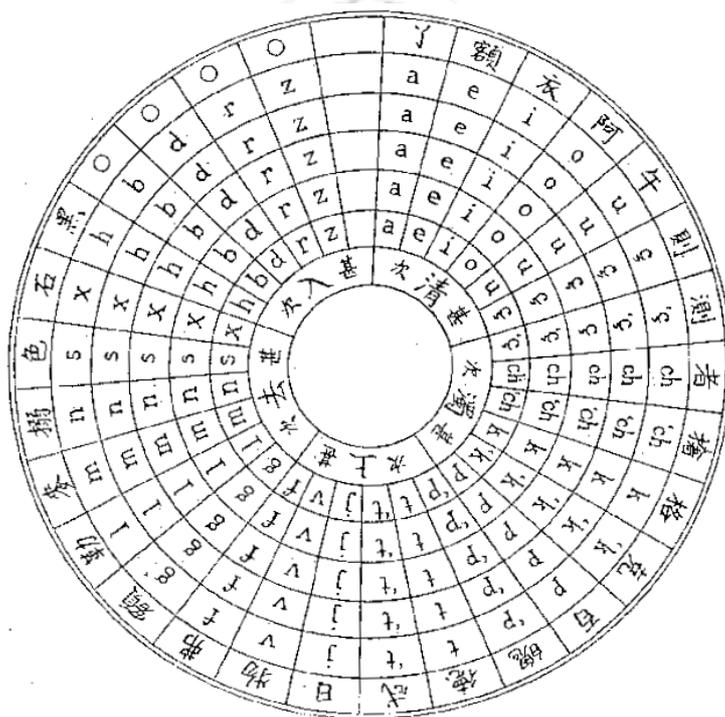


Figure 4.1 The Universal Phonetic Wheel

Source: Luó 羅常培, “Yēsūhuìshì Zài Yīnyǔnxué Shàng De Gòngxiàn 耶穌會士在音韻學上的貢獻 [The Jesuit contributions to Chinese Phonology],” 280.

As for the supersegmental features, the core wheels of both Phonetic Wheels represent the five tonal categories: *qīngpíng* 清平, *zhuópíng* 濁平, *shǎngshēng* 上聲, *qùshēng* 去聲, and *rùshēng* 入聲. Each tonal category further distinguishes *shèn* 甚 and *cì* 次. Both features are Trigault’s genuine ideas, but the interpretations of their phonetic realizations are a matter of controversy. Luó Chángpéi conjectures that *shèn* and *cì* were invented to distinguish Mandarin-specific apical vowels from normal vowels.¹⁰ Zēng Xiǎoyú 曾曉渝 further reconstructed a $\varepsilon/\ə$ - $\text{ɔ}/o$ distinction in *rùshēng* syllables.¹¹ Both studies suggest that *shèn* and *cì* are supplements for the distinction of phones, which Roman alphabets cannot represent properly.



¹⁰ Luó 羅常培, “Yēsūhuìshì Zài Yīnyùnxué Shàng De Gòngxiàn 耶穌會士在音韻學上的貢獻 [The Jesuit contributions to Chinese Phonology],” 283–285.

¹¹ Cited in Wang, “Phonology of Late Ming Dynasty Mandarin Reflected in Hsi Ju Erh Mm Tzu,” 41.

alphabetical combinations, but he ignored the philosophical details of Lullian wheels. These combinations denote not only places but also the pronunciations of the images (Chinese characters) in them. The Lullian syntax to interpret and arguing ideas was completely neglected by Trigault.

However, the number of the possible combinations in the Universal Phonetic Wheel is great and exceeds the number of actual syllables in Chinese.¹⁴ Trigault's solution is the Sinitic Phonetic Wheel on which the finals have been combined in advance. For these finals, Trigault borrowed *shè* 攝, an existing term in Chinese phonetics. In contrast to the universalism in the previous wheel, this phonetic particularism is similar to Harsdörffer's *Fünffacher Denckring*. On the *Denckring*, Harsdörffer placed possible consonant clusters, vowels, and affixes in German with which, theoretically, one may render all possible German words. I do not argue that Harsdörffer influenced Trigault, which was impossible. Neither do I argue that Trigault inspired Harsdörffer, which is unverifiable. Rather, it is more likely that Trigault, Harsdörffer, and their contemporary thinkers who employed similar wheels for argumentation, such as Giordano Bruno, were all influenced by the Combinatory Art. In other words, Trigault's phonetic wheels are "cousins" of the thinking devices flourishing in the late Renaissance. They share the intellectual ancestor: the Combinatory Art rooted in Lullism.

4.3 Combinations and Tabulations of Syllables

Referring to the combination process of the Universal Phonetic Wheel, Trigault gave it a vivid and metaphoric term: *shēng* 生 *lit.* 'to bear'. He employed kinship terms to call the phonetic elements participating in combinations. Initials are called *fù* 父 'father', finals *mǔ* 母 'mother', and their combinations, i.e., syllables, *zǐ* 子 'son'. The finals are further

¹⁴ Trigault might miscalculate the number, but the correct number still great.

classified into generations by the number of letters. The simplest one-letter finals retain *mǔ*, indicating they belong to mother's generation (i.e., one-letter finals, ex. <u>). To bear the next generation, other letters are attached to one-letter finals, and that bears the son's generation *zǐmǔ* 子母 (i.e., two-letter finals, ex. <ia>, <ie>, <io>, <iu>, <im>, <in>). Then, they bear the grandson's generation *sūnmǔ* 孫母 (ex. <iue>, etc.) and finally grand-grandson's generation *zēngsūnmǔ* 曾孫母 (<iuen>; this is the only one.)¹⁵

Although the Universal Phonetic Wheel is capable to render all syllables of human languages, too many possible combinations are absent in Chinese. Trigault used the Universal Phonetic Wheel to explain the Combinatory Art but he did not intend to develop a practical instruction of operation. This highlights the demand for the more efficient Sinitic Phonetic Wheel. With the Sinitic Phonetic Wheel, one needs only turn the middle wheel (representing initials) and the central wheels (representing supersegmental elements), and make alignments with the peripheral wheel. For example, *Qùshēng* and <k> aligned with <iuen> and that generates <kiuen>.¹⁶

The combinations generated by the Sinitic Phonetic Wheel are collected in the two phonetic tables which directly follow the phonetic wheels: the General Table of Phonetic Coordinate (*Yīnyùn Jīngwěi Zǒngjú* 音韻經緯總局, Figure 4.3) and the Complete Table of Phonetic Coordinate (*Yīnyùn Jīngwěi Quánjú* 音韻經緯全局, Figure 4.4). The term *jīngwěi* 經緯 (*lit.* 'longitude and latitude') implies these tables demonstrate combinations through columns and rows. These phonetic tables do not function in lexicography, but Trigault used them for demonstrating the Combinatory Art and its advantage in explaining the phonology

¹⁵ *Ulmoçu I*, 38b.

¹⁶ It's Trigault's example. *Ulmoçu I*, 5a.

of Chinese.¹⁷

The General Table of Phonetic Coordinate is made of the 50 Chinese finals on the columns and the 15 Chinese initials on the rows. They together make 750 possible combinations, and the sum of these elements is 815 (50 finals + 15 initials + 750 combination).¹⁸ The number of possible combinations does not equal the actual number of syllables in Chinese. For each actual syllable, Trigault placed a Chinese character in the cell as the representative of its homophonous characters.¹⁹ For the rest of the possible syllables, which are not associated with any Chinese character, Trigault put the characters representing their finals and initials in the cells. This design implies his romanization is compatible with the Chinese *fǎnqiè* tradition and even surpasses it in precise description.



¹⁷ One may speculate whether these combination tabulations were influenced by *Yùnjìng* 韻鏡. It is hard to be the case because *Yùnjìng* was once lost in China. Today's facsimile copies are based on a Japanese edition. It was unlikely for Trigault to see it in the early seventeenth century. Moreover, Trigault's arrangement of initials, finals, and tones is different from *Yùnjìng*, and Trigault did not say anything about "grade" (*děng* 等) in the *Ulmoçu*, which is a significant category in *Yùnjìng*. The study on the arrangement of *Yùnjìng*, see David Prager Branner, ed. *The Chinese Rime Tables: Linguistic Philosophy and Historical-Comparative Phonology* (Amsterdam: John Benjamins, 2006).

¹⁸ *Ulmoçu I*, 14a.

¹⁹ *Ulmoçu I*, 29a.

The second table is the Complete Table of Phonetic Coordinate, made of the 265 finals and the 20 initials. In this table, the sum of the initials, finals, and combinations is 5585, but only 104 finals and 1403 combinations are associated with Chinese characters.²⁰ Comparing these two tables, I find Trigault distinguished tones, vowel quality (i.e., *shèn* 甚, *cì* 次, *zhōng* 中), and aspiration (i.e., *qīng* 輕 ‘unaspirated’ and *zhòng* 重 ‘aspirated’) that increase the number of the finals from 50 to 265, and of initials from 15 to 20. Trigault did not fill the cells with which no character is associated and left them blank. However, he still pointed out that letters can serve to represent these syllables if necessary.

As we have seen in Ramon Lull’s *Ars Magnus* (Figure 2.2, p.32), tabulation is the traditional method to demonstrate the power of the Combinatory Art. In the *Ulmoçu*, Trigault applied this technique to describe Chinese phonology and to link syllables with characters, revealing the power of the Combinatory Art in linguistics. However, it is inevitable to generate many redundant combinations, which denote impossible or unused syllables in describing a particular language. I think of Harsdörffer’s *Denckring*. Harsdörffer claims that the *Denckring* can generate all the German words. If the *Denckring* renders a non-sense combination, it is not the problem of the *Denckring* or the German language, but it is German linguists’ fault that their laziness results possible combinations lack a corresponding actual meaning.²¹ Trigault, on the other hand, took an alternative rhetoric by humbly saying that the actual syllables are the real treasure of Chinese.²²

²⁰ *Ulmoçu I*, 30a.

²¹ Westerhoff, “Poeta Calculans,” 461. Ironically, the *Denckring* cannot render “Sprache” (‘language’) because it lacks <spr> on its rings.

²² *Ulmoçu I*, 7a.

4.4 Trigault's Alphabetical Order in Liè Yīnyùn Pǔ

The syllables generated by the phonetic wheels denote the places for Chinese characters listed in the *Liè Yīnyùn Pǔ*, the second volume of the *Ulmoçu*. In this volume, each romanized syllable serves the heads of entries, under which homophonous characters are listed. These entries must be properly arranged to allow more efficient and simpler retrieval than in contemporary Chinese dictionaries. Trigault's solution was alphabetization that employed the pre-established alphabetical order to arrange syllables, thus creating an index of Chinese characters that was supposedly more easily accessible.²³ The alphabetical order and the alphabetization pattern are Trigault's specific designs to the Chinese language and differ from the convention adopted in today's dictionaries of European languages. To facilitate our discussion, I would use "Trigault's order" to refer to the alphabetical order, and "Trigault's alphabetization" to the alphabetization to arrange syllables in the *Liè Yīnyùn Pǔ*.

Today, to alphabetize items implies to sort them in the order <a, b, c, d, e....>. It is not necessary to write all the 26 letters here because it is generally accepted that what follows <e> is <f> and the last three letters are <x, y, z>. Trigault's order is different. All letters for vowels (i.e., <a>, <e>, <i>, <o>, <u>) are moved to the beginning of the alphabets, and the consonants follow the vowels in a unique order. Figure 4.5 compares Trigault's order and today's conventional order of Roman alphabet. I am unable to explain the rationale with which Trigault made this alternation. Probably, Trigault moved the vowels to the beginning to

²³ Today's alphabetical order had its prototype in the Ugaritic Cuneiform Alphabet. Dated to 1300 BCE, the Ugaritic alphabet is the ancestor of the Roman alphabet. A tablet unearthed in 1949 shows the Ugaritic alphabetical order. The transliteration of this tablet reads:

a b g h d h w z h t y k š l m d n z p s q r t ġ t u s₂

We can find <a> precedes as in Roman alphabet, and the order of <k>, <l>, <m>, <n>, <p>, <q>, and <r> is still retained today, if we ignore several interrupting letters. With this evidence, it is certain that today's alphabetical order had been partially formed three millennia ago. Barry B. Powell, *Writing: Theory and History of the Technology of Civilization* (Oxford: Wiley-Blackwell, 2009), 157.

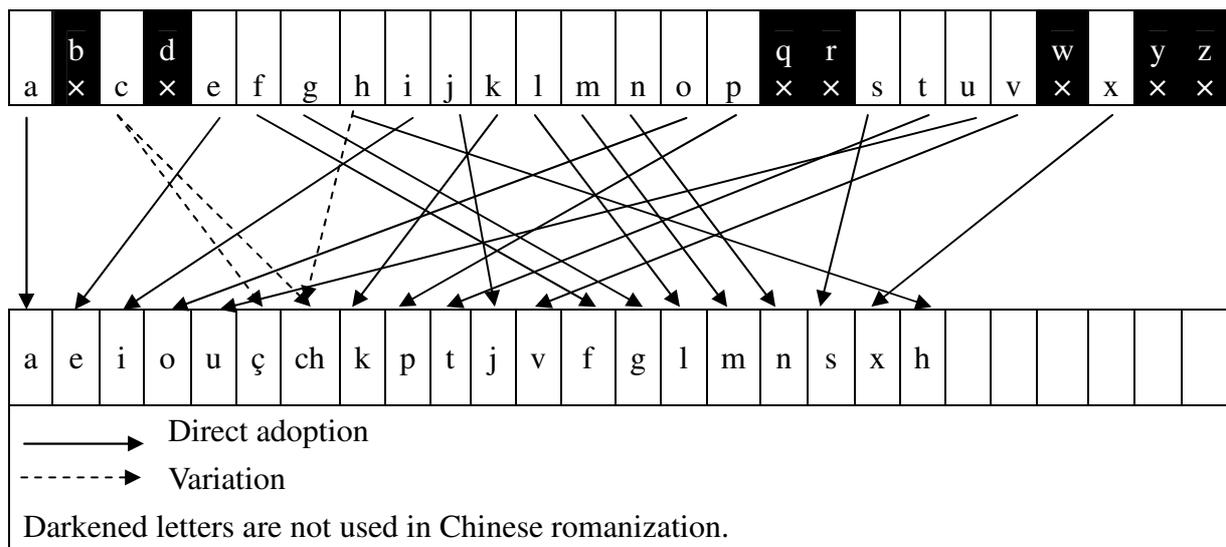


Figure 4.5 Trigault’s rearrangement of the Roman alphabet. This figure compares the Roman letters in the common alphabetical order and the Chinese romanization in the *Siju Ulmoçu*. Besides moving the vowels to the beginning, I find no clear pattern of adopting the alphabetical order. Note that this figure ignores aspiration.

highlight their importance, for the vowels are the most frequently used letters in Chinese romanization. However, the order of consonants looks idiosyncratic and reveals no clue to explain it.

Trigault’s order becomes a strange feature in the *Ulmoçu*. The mnemonic principle of symbolic place-making requires the utilization of a pre-established, conventionalized order rather than introducing a new one. However, this deviation can be explained in the context of the early Sino-European encounter. When Trigault published the *Ulmoçu* for the Chinese literati, they did not know the Roman alphabet, so any alphabetical order could be the dominant order for alphabetization at this time.

This explanation implies that I assume that Trigault’s order in the *Ulmoçu* was the version that he transferred to Chinese literati. This speculation is verifiable through the

Yuǎnxi Qíqì Túshuō 遠西奇器圖說 (1627),²⁴ the physics treatise delivered by Johann Terrenz Schreck in Chinese with Wáng Zhēng's revision. In the *Yuǎnxi Qíqì Túshuō*, Wáng Zhēng marked the diagrams with the letters, which are arranged in the identical order to Trigault's order in the *Ulmoçu*. In the Convention of the *Yuǎnxi Qíqì Túshuō*, Wáng Zhēng explained his reason to adopt the Roman alphabet:

The notation has to make use of western characters. The western characters look difficult to memorize at a first glance. However, as they are difficult to memorize, readers would consult the list [of the alphabets] to get them. Nevertheless, there are only twenty distinctive signs. They are neither troublesome nor difficult.²⁵

This remark indicates that the readers of *Yuǎnxi Qíqì Túshuō* have to be familiar with the Roman alphabet and their order. In fact, the alphabetical order adopted in the *Yuenxi Qiqi Tushuo* is actually Trigault's order appeared in the *Ulmoçu* (Figure 4.6). Because the Chinese literati were not pre-occupied with a specific alphabetical order, they could acquaint Roman letters with any order through frequent consulting. The *Ulmoçu* lists the alphabet in Trigault's order on many pages. This arrangement encourages readers to consult these alphabet lists for becoming familiar with the alphabet and Trigault's order.

²⁴ Manuscript in National Central Library. Call Number 307.4 06863.

²⁵ *Ibid.* 號必用西字者。西字號，初似難記。然正因其難記，欲覽者怪而尋索，必求其得耳。況號只二十，形象各異，又不甚煩不甚難乎。

了額衣阿午則者格百德日物弗額勒麥搦色石黑
 k e i Δ u u k p 七 i 十 夕 儿 儿 儿

e 衣 l 阿 0 午 u 是也 同鳴則 s 測 者 ch 捨 ch 格
 k 克 k 百 p 鼻 p 德 t 忒 t 日 j 物 v 弗 f 額 g 勒
 [麥 m 搦 n 色 s 石 x 黑 h



Yuǎnxi Qíqì Túshuō
 1627

Siju Ulmoçu
 1626

Figure 4.6 A Comparison of the alphabets in *Yuǎnxi Qíqì Túshuō* 遠西奇器圖說 (left) and the *Siju Ulmoçu* 西儒耳目資 (right). The alphabetical orders are identical.

However, being familiar with Trigault's order is not enough to be a skilled user of the *Ulmoçu*, but a user is also required to understand Trigault's alphabetization, because Trigault did not simply arrange syllables in absolute alphabetization, which is the pattern applied in today's English dictionaries as well as DeFrancis's *ABC Chinese-English Dictionary*. Instead, Trigault classifies Chinese characters through a three-step procedure, which not only applies alphabetization but also employs tones and the length of letters to classify Chinese characters phonetically. This unique pattern involves three sequences: (1) the Roman alphabet in Trigault's order, (2) the five Chinese tones, and (3) the numbers of letters in one syllable. Among these sequences, (1) and (2) have a designated order defined by Trigault, and (3) can also be ordered from small to large. Thus, Trigault had three sequences to arrange the distinctive syllables of Chinese, and he applied these sequences to create subdivisions in which Chinese characters were placed. These subdivisions inherit the order from the three sequences and become the guidance for efficient collection and retrieval of Chinese characters. According to the analogy between the art of memory and lexicography, these subdivisions are like memory places arranged in a proper order. With these subdivisions, thousands of Chinese characters are grouped into smaller and smaller sets.

Classification of syllables into subdivisions requires three steps. The first step to create subdivisions for Chinese syllables, which I would call "the primary subdivision," classifies Chinese characters by their finals, regardless of tones. The primary subdivision groups the Chinese characters into 50 subdivisions. All 50 finals are presented in the *Yùnmǔ Mùlù* 韻母目錄, *lit.* "The Table of Contents of Finals" and "the List of Finals" (Figure 4.7). This list serves as the table of contents of the *Liè Yīnyùn Pǔ*, and it is also the place to observe Trigault's alphabetization applied in the primary subdivision. First, Trigault arranged the finals according to the length of finals. This step creates four subgroups that start with the five one-letter finals and 22 two-letter finals and 22 three-letter finals follow, and finally

comes the only four-letter final. Then, Trigault applied alphabetization to each subgroup of finals independently. That means, for example, the alphabetization of the two-letter finals does not affect the order of three-letter finals because the difference of length has classified them into two subgroups. Thus, two-letter finals always precede three-letter finals. Moreover, the alphabetization in the primary subdivision only involves five vowels and three ending sounds, namely <a>, <e>, <i>, <o>, <u>, <l>, <m>, and <n>. The result of the alphabetization in the primary subdivision is shown in the following table:

列音韻譜韻母目錄	
第一攝	韻母目録
第一攝	韻母目録
第二攝	韻母目録
第三攝	韻母目録
第四攝	韻母目録
第五攝	韻母目録
第六攝	韻母目録
第七攝	韻母目録
第八攝	韻母目録
第九攝	韻母目録
第十攝	韻母目録
第十一攝	韻母目録
第十二攝	韻母目録
第十三攝	韻母目録
第十四攝	韻母目録
第十五攝	韻母目録
第十六攝	韻母目録
第十七攝	韻母目録
第十八攝	韻母目録
第十九攝	韻母目録
第二十攝	韻母目録
第二十一攝	韻母目録
第二十二攝	韻母目録
第二十三攝	韻母目録
第二十四攝	韻母目録
第二十五攝	韻母目録
第二十六攝	韻母目録
第二十七攝	韻母目録
第二十八攝	韻母目録
第二十九攝	韻母目録
第三十攝	韻母目録
第三十一攝	韻母目録
第三十二攝	韻母目録
第三十三攝	韻母目録
第三十四攝	韻母目録
第三十五攝	韻母目録
第三十六攝	韻母目録
第三十七攝	韻母目録
第三十八攝	韻母目録
第三十九攝	韻母目録
第四十攝	韻母目録
第四十一攝	韻母目録
第四十二攝	韻母目録
第四十三攝	韻母目録
第四十四攝	韻母目録
第四十五攝	韻母目録
第四十六攝	韻母目録
第四十七攝	韻母目録
第四十八攝	韻母目録
第四十九攝	韻母目録
第五十攝	韻母目録
第五十一攝	韻母目録
第五十二攝	韻母目録
第五十三攝	韻母目録
第五十四攝	韻母目録
第五十五攝	韻母目録
第五十六攝	韻母目録
第五十七攝	韻母目録
第五十八攝	韻母目録
第五十九攝	韻母目録
第六十攝	韻母目録
第六十一攝	韻母目録
第六十二攝	韻母目録
第六十三攝	韻母目録
第六十四攝	韻母目録
第六十五攝	韻母目録
第六十六攝	韻母目録
第六十七攝	韻母目録
第六十八攝	韻母目録
第六十九攝	韻母目録
第七十攝	韻母目録
第七十一攝	韻母目録
第七十二攝	韻母目録
第七十三攝	韻母目録
第七十四攝	韻母目録
第七十五攝	韻母目録
第七十六攝	韻母目録
第七十七攝	韻母目録
第七十八攝	韻母目録
第七十九攝	韻母目録
第八十攝	韻母目録
第八十一攝	韻母目録
第八十二攝	韻母目録
第八十三攝	韻母目録
第八十四攝	韻母目録
第八十五攝	韻母目録
第八十六攝	韻母目録
第八十七攝	韻母目録
第八十八攝	韻母目録
第八十九攝	韻母目録
第九十攝	韻母目録
第九十一攝	韻母目録
第九十二攝	韻母目録
第九十三攝	韻母目録
第九十四攝	韻母目録
第九十五攝	韻母目録
第九十六攝	韻母目録
第九十七攝	韻母目録
第九十八攝	韻母目録
第九十九攝	韻母目録
第一百攝	韻母目録

Figure 4.7 The List of Finals in *Liè Yīnyùn Pǔ Yùnmǔ Mùlù* (Partial)

一字元母 <i>Yīzì yuánmǔ</i> Mothers	order	1	2	3	4	5			
	sign	a	e	i	o	u			
二字子母 <i>Èrzì zǐmǔ</i> Sons	order	6	7	8	9	10	11	12	13
	sign	ai	ao	am	an	eu	em	en	ia
	order	14	15	16	17	18	19	20	21
	sign	ie	io	iu	im	in	oa	oe	ua
	order	22	23	24	25	26	27		
	sign	ue	ui	uo	ul	um	un		
三字孫母 <i>Sānzì sūnmǔ</i> Grandsons	order	28	29	30	31	32	33	34	35
	sign	eao	eam	iai	iao	iam	ieu	ien	iue
	order	36	37	38	39	40	41	42	43
	sign	ium	iun	oai	oei	oam	oan	oen	uai
	order	44	45	46	47	48	49		
	sign	uei	uam	uan	uem	uen	uon		
四字曾孫母 <i>Sìzì zēngsūnmǔ</i> Grand-grandson	order	50							
	sign	iuen							

Table 4.2 The result of Trigault's alphabetization of finals

The next step, which I would call “the secondary subdivision,” groups the characters by their tones attached to the final. Trigault’s romanization has five tones, so each primary subdivision has five secondary subdivisions. Trigault sorted these five secondary subdivisions by the prescribed order: *qīngpíng* 清平, *zhuópíng* 濁平, *shǎngshēng* 上聲, *qùshēng* 去聲, and finally *rùshēng* 入聲. After the two steps of subdivision, a user can narrow range of search to several pages and greatly save the effort to flip around the pages for inquiry. Finally, “the tertiary subdivision” deals with the combinations of 20 initials and the final in the particular subdivision. These combinations are Chinese syllables, which denote places to list homophonous Chinese characters. All these syllables are alphabetically arranged in Trigault’s order.

With these subdivisions, a user may narrow his scope step-by-step to find the character. For example, if a user is looking for characters pronounced /kiñ/, he should first identify the final of this syllable, as Trigault recommended:

Now if you want to get the place of each sound, identify the final first. There is a method to identify finals. Final is what you hear when you lengthen a word and what resonates at the final. What resonates at the end of 江 *jiāng* is 央 *iāng*, and *iāng* must be the final of *jiāng*....all sounds follow this rule.²⁶

Then, the user opens the subdivision of/in/finals (created in the primary subdivision) and locates the Qingping Subdivision (created in the secondary subdivision), in which all characters rhyming in/iñ/ are placed. If the user is familiar with Trigault’s order, he would quickly focus on the place between <’ch> and <’k>, where the initial <k> is located. Finally,

²⁶ *Ulmoçu II*, 3b-4b. 今欲得每音每韻之位，先察其母，察其母有道，凡念字聲長所聞之餘，響於末者，母也。響於江音之末，央也。央音必是江音之母.....萬音萬韻無不如此。The romanization in this quotation is in Pinyin because Trigault does not provide the Jesuit romanization here. The Jesuit romanization of this sample syllable is <kiām>

he reaches the subdivision of /kiñ/ (created in the tertiary subdivision) and finds 18 characters, including some common ones, such as <巾> “a strip of cloth,” <今> “now; today,” and <金> “gold; money,” completing an inquiry in the *Liè Yīnyùn Pǔ*.

4.5 *Liè Biānzhèng Pǔ*, An Index to Local Dictionaries

In this section, I would turn to the third part of the *Ulmoçu*, *Liè Biānzhèng Pǔ* 列邊正譜. This part functions as an index for the meanings of Chinese characters in two major dictionaries: *HWZY* and *YHXB*. This design allows Trigault to limit the *Ulmoçu* in shorter length and to adopt existing Chinese dictionaries for securing the correctness of lexical entries. Nevertheless, Trigault had the idea to add semantic entries to the *Ulmoçu*. Intorcetta *et al.* reported that Trigault had a plan to add meaning for the *Ulmoçu*, but this plan was not implemented because of Trigault’s early death. However, according to the design of *Liè Biānzhèng Pǔ*, we know that even if Trigault had successfully completed the semantic entries, the product would have been another work but not the *Ulmoçu*, and it would be compiled for Europeans rather than for Chinese literati.

The method to find characters in the *Liè Biānzhèng Pǔ* is identical with the method in modern Chinese dictionaries. A user counts the number of strokes to find a radical and then the characters under a particular radical. This method of finding a radical is identical to the method appearing in *Zihui* 字彙 of Méi Yīngzuò 梅膺祚.²⁷ Although Mei’s work appeared before the *Ulmoçu*, I find no evidence proving that Trigault had referred to Mei’s dictionary. In fact, stroke-counting had not been regarded as a legitimate lexicography by his contemporaries until *Zhèng Zì Tōng* 正字通 and *Kāngxī Zìdiǎn* 康熙字典 adopted stroke-counting in the late seventeenth century. Moreover, the classifications of radicals

²⁷ *Zihui* was first published in 1615. The lexicography of *Zihui* is discussed in Jùn xūn wū 巫俊勳, *Zihui Biānzhuǎn Lìlùn Yánjiū* 字彙編纂理論研究 (Taipei County: Huā Mùlán Wénhuà, 2007).

between *Zihui* and the *Ulmoçu* are moderately different from each other. Trigault's contribution in analyzing radicals of Chinese characters is certainly beyond the scope of this thesis, because the art of memory seems to contribute nothing to this aspect and it deals with nothing in storage and inquiry that can find its root in the art of memory. Thus, I would not further address this issue here, but use an example to illustrate how to use the *Liè Biānzhèng Pǔ* to conclude our discussion.

Let us take the third character in Trigault's Chinese name, 閣 *gé*, for example. When a user is looking for the meaning of this character, he must analyze this character into two radicals: the semantic radical *mén* 門 and the phonetic radical *gè* 各. Then, he counts the number of strokes of *mén* 門, which is eight, so he can now turn to the index and find the page on which the characters under the radical *men* are listed; it is Page 114. Then, he counts the strokes of *gè* 各, which is six, and then he locates the cell in which *gé* 閣 is placed. In this cell, two sets of index numbers are listed under the character (閣) and under its romanization. The set of numbers under the Chinese character indicates it situates on the 16th leaf of the 15th volume of *HWZY* (Figure 4.8), and another set under the pronunciation indicates it is on the 12th leaf of the 28th volume of *YHXB*.

The last device to mention in the third volume is a pronunciation guide, *Wanzi Zhiyin Zonggang* 萬字直音總綱 (the General Table of All Characters and Their Homophones). This General Table is placed at the beginning of *Lie Bianzheng Pu* and serves as comparison between romanizations and Chinese characters. If a user finds 閣 but cannot read the romanization <kǒ>, he can refer to this General Table and get that 閣 and 葛 sound alike. As long as he knows the pronunciation of 葛, he can get the sound of 閣 or <kǒ>.

<p>下又蕭 僑 草履麻曰僑木 僑 同上史記馮驩 僑 極虐</p>	<p>僑 大笑不止也班固叙傳談笑大僑師古曰僑謂 僑 口上肉</p>	<p>僑 亦 僑 合錢飲酒又 僑 詩嘉青</p>	<p>○ 僑 厥縛切說文佳欲逸走也从又持之雙僑也又古右手</p>	<p>哉是 僑 後漢李固傳秦 僑 持也摸取 僑 大 僑 廣韻大</p>	<p>公名 僑 且又陌韻 ○ 各 葛鶴切 閣 樓閣舉閣又食皮曰</p>	<p>又閣閣倚歷歷也詩約之閣閣又迫隘不 格 不枝又止也又</p>	<p>行曰坻閣周禮注車有輶輶坻閣坻音紙 格 沮隔不行義縱</p>	<p>傳廢格沮事唐書其議遂格入留止不下也亦作閣唐史官閣</p>	<p>筆不下入角戲也吾丘壽王善格五韓非子嚴家無格虜又以</p>	<p>欽定四庫全書 洪武正韻 卷十五 去</p>	<p>找閣獸也吳都賦萬萬笑而被格協韻音閣又 格 格被也 ○</p>	<p>找也吳都賦峭格周苑無音合與陌韻通用 格 又袂也 ○</p>	<p>獲 鳥郭切丹也从丹 獲 尺蠖 獲 味 獲 收絲 獲 楚辭</p>	<p>求矩獲 ○ 霍 忽郭切山名國名又姓又與藿 藿 大豆葉又</p>	<p>藿 見玉篇 藿 廣韻地名說文飛聲兩而雙飛者其聲藿</p>	<p>攏 手反 攏 雲消貌說文雨止雲罷貌 攏 張弓弩滿亦作</p>
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Figure 4.8 The 16th leaf of the 15th volume of *Hóngwǔ Zhèngyùn* 洪武正韻. Gé 閣 is on the sixth column from right. Source: *Wényuāngé Sīkùquánshū Diànzǐbǎn* 文淵閣四庫全書 電子版/UniHan Digital Technology

CHAPTER 5

CONCLUSION

A new approach can expand the understanding to an old material. Treating the *Ulmoçu* as a carrier of a historical variety of Chinese, modern researchers had clarified the language variety and Trigault's terminology in this dictionary, making it one of the most-studied missionary works. This thesis takes an alternative approach to place the *Ulmoçu* back to its cultural context and to reconsider how this background influenced the compilation of the *Ulmoçu*. Finally, I found that Trigault's educational background offers the framework to deal with the Chinese script, and the Renaissance imagination to the Chinese script permitted him to transform the art of memory to a new lexicography of Chinese.

The art of memory is a part of rhetoric, which Trigault had studied in school, like many European pupils since the antiquity. The art of memory delivered in rhetoric course is based on "the method of *loci*" that employs a concrete and easy-to-access framework to locate the memory-images, which stand for the words or things to be memorized. Because the art of memory was taught as an elementary subject in the medieval Europe, it became a *mentalité* to organize ideas among the learned European. The application of the art of memory had also evolved over time. While Trigault was spending his student life at his hometown, new methods developed from the art of memory were available in the late Renaissance Europe. Among these new methods, the Combinatory Art and alphabetization influenced Trigault's lexicography. The Combinatory Art influenced Trigault's phonetic wheels and his tabulation of Chinese syllables. He used the former to demonstrate the advantage of the Jesuit romanization system, and the latter to analyze the Chinese phonology. These influences occupy the first volume of the *Ulmoçu*, *Yiyin Shǒu Pǔ* 譯引首譜.

The second volume of the *Ulmoçu, Liè Yīnyùn Pǔ* 列音韻譜, is an alphabetically arranged list of Chinese characters by their readings. Here, Trigault is clearly influenced by alphabetization, the method to arrange words in its alphabetical order. I also found that Trigault defined a new alphabetical order and a three-stage procedure specific to Chinese. In fact, alphabetization was also a mnemotechnique in the medieval Europe, and its application in the European lexicography also suggests the art of memory and lexicography share a common objective: they both seek a method of efficient storage and retrieval. For Trigault, these intellectual heritages were his toolkit in tackling the exotic Chinese script.

Moreover, I also justify Trigault and his contemporary Jesuits' belief about Chinese characters in Chapter 3. They treated these characters as ideographs that stand for ideas and represent meanings through allegorical ways. This belief, namely, the ideographic and universal myth, is not native in Chinese linguistics, which had never gone that far in understanding its own script, but originated from European travelers' observation and prior knowledge. In the Renaissance, there was a belief about the Universal Language, which is ideographic to allow people breaking language barriers in communication, and the Egyptian hieroglyphs were a possible candidate of this language in Trigault's time. Pre-occupied with this idea, Trigault and the early modern European travelers' observed the international intelligibility of the Chinese script and developed the idea that "the Chinese hieroglyphs" are also ideographic. In Trigault's lexicography, this idea permitted him to place Chinese characters in the places denoted by romanized syllables. Thus, he invented a new lexicography of Chinese that represent sound by Roman alphabet and arrange entries alphabetically. This lexicography has been demonstrated in Chapter 4.

To sum up, the approach taken in this thesis explores a new horizon in the study

on the *Ulmoçu* and underscores how a missionary's intellectual background contributes to his analysis of a foreign language. This thesis also qualifies the recent speculation about the Lullian influence on the *Ulmoçu*. Besides these findings, the discussion about the early modern European imagination to the Chinese script also hints a new question about the origin of ideographic and universal myth. As I point out in Chapter 3, the myth is not a simple adoption but a product of cultural encounter. Although I cannot further investigate this issue in this project specifically dealing with Trigault's *Ulmoçu*, it can be another question to answer in the future.



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APPENDIX 1

TRIGAULT'S NATIONALITY AND NATIVE LANGUAGE

Trigault is usually identified as French in the modern literature. From this identification, some scholars inferred that Trigault is a native speaker of French and argued Trigault's romanization was influenced by French spelling conventions.¹⁸⁴ However, this identification and inference are problematic. The most obvious counter-evidence is that Trigault's hometown, Douai, had never been under French regime throughout Trigault's life. Thus, it is necessary to clarify Trigault's native country and language.

Today's political and ethnic boundary of northwest Europe is very different from Trigault's time, and Luke Clossey criticizes that it is the worst to identify early modern missionaries in terms of today's political borders.¹⁸⁵ Although it could be better to consider how one thinks where he is from, it is not applicable to Trigault, because he referred himself to Belgium (*Belga* in Latin) on the cover of *De Christiana Expeditione apud Sinas*.¹⁸⁶ However, today's Belgium was not yet established until 1830, and Douai was under the Spanish crown until Spain ceded a part of the Spanish Southern Netherlands to France in 1668. Moreover, the alternative name of the Spanish Southern Netherlands is Flanders, or *Flandria* in Latin. According to this brief survey, it is possible to call Trigault a Belgian, Spanish, French, or Flemish, depending on the standard we adopt.

¹⁸⁴ Such as the argument of Lǐ Xīnkúí 李新魁 cited in Tán 譚慧穎, "Xirú Èrmùzī Yuánliú Biànxī 《西儒耳目資》源流辨析" [On the Formation and Effect of An Audio-visual Aid to Western Scholars], 42. Tán's own reasoning is also based on this assumption. See Ibid. 74.

¹⁸⁵ Clossey, *Salvation and Globalization in the Early Jesuit Missions*, 33.

¹⁸⁶ Cite the URL of the image on Gallica

Among these possible identities, we would choose Flemish and abandon the others for the following reasons. First, we agree with Clossey's criticism and would not use today's political boundary to determine Trigault's identity. This standard immediately crosses out "French" from the list. Second, "Belgian" is also inappropriate because it confuses historical Belgium as a geographical name and the modern Belgium as a political entity. Finally, although "Spanish" correctly describes Trigault from the Spanish Southern Netherlands, it is opposite to our intuition and the knowledge of Trigault's contemporaries. They shared a conventional wisdom that northerners, such as Belgian and German, are more capable to endure an extreme environment than southerners (e.g. Spanish, Iberian, and Italian).¹⁸⁷ Trigault's origin of the Southern Netherlands contributed to his appointment as a procurator, and this indicates that his contemporaries did not consider Trigault a Spanish man, even though some of them had the same king.¹⁸⁸

Besides the negative reasons, we also have positive reasons to call Trigault a Flemish man. In *Shèngjiào Xìnzhèng* 聖教信證 (*The Testimonies of the Holy Teaching*) compiled by Hán Lín 韓霖 (Hán Yún's younger brother), Zhāng Gēng 張賡, and probably their colleagues around 1678, Trigault and the missionaries from modern Belgium were all identified as Flemish (Fúländíyà-Guó rén 佛覽第亞國人), such as Philippe Couplet (Bó Yīnglǐ 柏應理 1624–1692) from Mechelen near Antwerp, and Ferdinand Verbiest (Nán Huáirén 南懷仁 1623–1688) from Pittem 30

¹⁸⁷ Logan and Brockey, "Nicolas Trigault, SJ: A Portrait by Peter Paul Rubens," 162.

¹⁸⁸ The Spanish king ruled Spain, Naples, and Portugal (since 1580) through Trigault's lifetime

kilometer away from Ghent. Mechelen and Pittem are both in today's Belgium.¹⁸⁹

Although this identification may be confused with today's Belgian-Dutch community of Flanders, it does not deviate from the fact that the greater Flanders is the region of Trigault's activity. For example, Trigault had taught rhetoric in Ghent, a Dutch-speaking city in Flanders.

After indentifying Trigault as Flemish, we turn to clarify Trigault's native language. According to the place of his hometown, we can narrow the scope to the two major languages spoken in Flanders: French and Dutch. Some scholars claim that he is a native speaker of French intuitively because modern studies about Trigault usually consider Trigault a Frenchman. However, this careless argumentation incidentally renders a correct conclusion. The evidence is Trigault's foreign language learning. When Trigault decided to join the overseas mission, he learned the languages that were useful for the mission in Asia, including Italian, Portuguese, and Dutch. If he were a native speaker of Dutch, why would he learn it? Therefore, with the evidences presented above, we can confidently state that Trigault is a French-speaking Flemish man.

¹⁸⁹. Lín Hán 韓霖 and Gēng Zhāng 張廣, "Shèngjiào Xìnzhèng 聖教信證," in *Tiānzhǔjiào Dōngchuán Wénxiàn Sānbiān 天主教東傳文獻三編*, ed. Hsiang-hsiang Wu 吳湘湘 (Taipei City: Taiwan Student Books 1984 [ca. 1667]). Couplet's and Verbiest's origins, refer to Pfister 費賴之, *Zàihuá Yēsūhuìshì Lièzhuàn Jí Shūmù 在華耶穌會士列傳及書目*, 311, 340.

APPENDIX 2

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