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Introduction

Repeating mnemonic rhymes is like ruminating. A cow chews on its grass several times before digesting it. That is exactly how painters handle the contents of a rhymed formula. You learn it by heart, and as time goes by, you keep revisiting the formula in your mind. As you make progress in your painting, its full meaning and use are slowly grasped.

This statement by the Shanghai painter Li Zhongxin 李忠信 (b. 1945), who immigrated to Brazil in 1988 and later taught me Chinese painting, describes the function of mnemonics in applied arts not as a static reference, but as codified knowledge that the painter actively engages in the mind to slowly unravel its content. His comment was based on experience, reflecting his own education in Shanghai, where his training to become an artist had also involved the use of transmitted mnemonics. The slightly unsavory but comical image of a cow regurgitating grass and chewing it over and over again, meant to stand for the mental processes of the practitioner, became etched into my memory. In fact, this metaphor of “rumination” in many ways captures the findings of this study of Chinese mnemonics.

The practice of memorisation in general played a crucial role for scholars in China, who had to pass the imperial service examinations in order to obtain an official post and gain the status associated with it. The desire to literally retain important passages from the scriptural canons was related to the nature of the examinations, which demanded from the examinees the ability to recognise and explicate phrases from canonical works. While the literature addresses memorization practices related to the examinations, such practices have not been discussed in the broader context of Chinese society and culture. A good memory was also valued in the field of crafts, where memory aids focused on explicating technical skills and procedures came to cover a range of content different from that considered important by scholars. Memorization was a central concern of practitioners for the transmission of practical knowledge and was thoroughly explored to help students in the process of learning new skills.

The present study takes a diachronic approach to investigate the role of memory in the transmission of practical knowledge in China, with a focus on the fields of calligraphy and painting. Literati painting was granted a status comparable to that of calligraphy during the Song dynasty (960-1279), when

the scholarly elite came to regard both as high forms of art.¹ Thus, unlike other forms of craft, which continued to be perceived as minor occupations, theories and manuals specializing in these two arts proliferated and were widely disseminated. Chinese painters and calligraphers recorded in writing the mnemonic techniques that aided them in the learning and teaching of their craft. The relative abundance of sources dedicated to the transmission of practical processes within these two fields invites an investigation of the different practices of memory across time and the social contexts in which they were enacted. This abundance also permits a comparative analysis of the functions of mnemonics across several sources and between the two fields.

This analysis focuses on memory aids in textual and visual formats, such as rhymed formulas (*jue* 訣) and charts, recorded in manuals and theories from the Ming (1368-1644) and Qing (1644-1911) dynasties. This period is particularly interesting because of the flourishing of private printing during the Ming and the continuous expansion of literacy during the Qing, which yielded publications from socially diverse groups that provide a broader view of education and individual training of skills. While not all treatises and practical manuals included mnemonic content, many works of the period featured such formulas. The present study takes case studies as its point of departure to discuss the specific circumstances under which memory aids circulated and how they developed over time, providing insight into the social dynamics of knowledge transmission. The question at its core is: how do memory aids reflect the society that produced them? It thus tackles *what* was considered worth remembering or better forgotten and *how* mnemonics were rendered effective over time.

Theoretical Framework

Existing theories on mnemonic techniques have been developed almost exclusively from studies of classical European and Christian sources. Frances Yates' pioneering effort analyzed treatises on mnemonics from ancient Greece to the Renaissance period, exploring techniques such as "memory palaces."² Rossi added historical depth to the analysis of mnemonic systems, describing in detail how intellectual trends transformed the use and understanding of such systems.³ In their study of monastic rhetoric, Mary Carruthers and Jan

¹ Bush. 1971. *The Chinese Literati on Painting*, chapter 1. Paintings produced by craftsmen,

² Yates. 1966. *The Art of Memory*.

³ Rossi and Clucas. 2006. *Logic and the Art of Memory*.

Ziolkowski further developed Yates' approach and defended the creative character of memory-based knowledge, showing how even after the dissemination of printing in Europe, an outstanding memory and the ability to recollect passages from books continued to be associated with originality.⁴ Scholars have also recognized the central importance of images as mnemonic aids. Lina Bolzoni devoted herself to the study of images of memory in sixteenth-century Italy, while Gerhard Strasser and Susanne Rischpler have given substantial attention to the study of mnemonic illustrations, focusing on Bible illustrations and emblems in medieval Europe.⁵ Also worth mentioning is Anna Maria Busse Berger's study tackling the specific practices of European medieval chant and composition of polyphonic music.⁶ It stands out from the majority of studies for connecting the craft of memory to the practices of another art form. Yet, the mnemonic practices proposed in Europe were not intended for a broad audience and rarely became widespread, distinguishing them from the Chinese memorization practices.

Researchers in the field of sinology have begun to study Chinese sources through a similar lens. The mnemonic qualities of children's primers have long been a focus of Chinese scholars, pioneered by Zhang Zhigong's 張志公 efforts.⁷ Among Western scholars, Michael Lackner, Marta Hanson and Andrea Bréard stand out for their studies on the Chinese use of images as memory aids for remembering texts and procedures. Lackner translated Matteo Ricci's (1552-1610) *Western Art of Memory*, which attempted to introduce western visualization techniques to Chinese audiences and remains a rare exception of a text in Chinese that tackles the issue of memory directly. The treatise was, however, not as well received in sixteenth-century China as the Italian Jesuit might have hoped. Chinese scholars rejected the treatise politely, remarking that "though the precepts are the true rules of memory, one has to have a remarkably fine memory to make any use of them."⁸

⁴ Carruthers and Ziolkowski. 2002. *The Medieval Craft of Memory*, 3. Carruthers has also published two monographs on practices of the "art of memory," including the use of images. Carruthers. 1990. *The Book of Memory*. Carruthers. 1998. *The Craft of Thought*.

⁵ Bolzoni and Parzen. 2001. *The Gallery of Memory*.

⁶ Busse Berger. 2005. *Medieval Music and the Art of Memory*.

⁷ His work on pedagogical materials was published twice with minor alterations. Zhang. 1991. *Zhang Zhigong wenji 4*; and Zhang. 1992. *Chuantong yuwen jiaoyu jiaocai lun*.

⁸ Spence. 2012. *The Memory Palace of Matteo Ricci*, 4. Spence, who takes a narrative approach to discuss Matteo Ricci's life in China, has also contributed immensely to the study of this treatise. He discusses its polite rejection by scholars. Lackner and Ricci. 1986. *Das vergessene Gedächtnis*. Lackner also comments on the treatise and its rejection by the Chinese in Lackner. 1996. "Jesuit Memoria, Chinese Xinfu," 206-7. Hosne has also addressed

Nonetheless, images played an important role in the transmission of the Christian Gospel in China.⁹ Lackner also investigated the use of graphics (*tu* 圖) as aids for understanding and remembering the content of the classics during the Song dynasty (960-1279). However, as Lackner himself pointed out, the content of such graphics refers to classical texts and is unintelligible for anyone without previous knowledge of these texts.¹⁰ Another approach is presented in Hanson's study on mnemonics in the field of medicine during the Tang (618-906) and Ming dynasties. Her focus lies on hand- or palm-mnemonics (*zhang jue* 掌訣) used by physicians to recall procedures of medical diagnosis.¹¹ Bréard's study of rhymed mnemonics in the field of mathematics includes the analysis of several graphs for calculation and divination from the Song to the Ming.¹² In addition to these three scholars, who have combined visual and textual mnemonics in their studies, Christopher Nugent has laid the groundwork for specialized research on mnemonic techniques for poetic composition during the Tang and addresses its oral qualities.¹³

What these scholars have not engaged, however, is a second line of inquiry into memory practices that has developed in parallel to the study of the "arts of memory" and their formal qualities. The study of collective or social memory has gained tremendous momentum in recent years. What began with Maurice Halbwachs' seminal work *On Collective Memory* was developed by scholars such as Jan Assmann and Pierre Nora into complex theoretical frameworks for the analysis of memories sustained by members of

reliance on images that should "stand for" other things as one of the reasons for the unenthusiastic reception of the treatise. Hosne. 2018. "Matteo Ricci's Occidental Method of Memory (Xiguo Jifa)."

⁹ Qu discusses the use of imagery that conflates narrative events into one image and provides numbers to associate text passages with details in the illustrations. Visual support and sequencing surely aided followers in remembering the key episodes in the gospel. See Qu. 2012. "Konfuzianische Convenevolezza in chinesischen christlichen Illustrationen."

¹⁰ Lackner. 2000. "Was Millionen Wörter nicht sagen können," 214. Lackner makes similar arguments in a later article: Lackner. 2007. "Diagrams as an Architecture by Means of Words."

¹¹ Hanson. 2008. "Hand Mnemonics in Classical Chinese Medicine." Hanson has published several articles on the importance of hand mnemonics in medical practice, and she also addresses hand seals in Buddhist practice in Hanson. 2017. "The Mysterious Names on the Hands and Fingers." Homola has also addressed palm mnemonics in divination practices. 2015. "Ce que la main sait du destin." Hayek studied the use of hand mnemonics in divination in Japan, but he traces the content of the manuals back to China. 2018. "Correlating Time Within One's Hand," 538-555.

¹² Bréard. 2019. *Nine Chapters on Mathematical Modernity*, chapter 6.

¹³ Nugent. 2010. *Manifest in Words*.

groups, memories imposed on groups by institutions and the instrumentalization of the past. Assmann examines the role of writing in ancient cultures and the effects of trauma on societies, while Nora scrutinizes the role of the historian and the use of “sites of memory” in constructing meaningful narratives of the past in France, addressing social and political questions.¹⁴

Nora’s concept of “sites of memory” may be indebted to the mnemotechniques developed by rhetoricians from the Renaissance, who associated complex ideas with imaginary places in order to remember them. However, beyond the use of visual references or places to recollect ideas, the two theoretical frameworks developed for the study of memory rarely overlap in research. In fact, Hutton suggests that the line of inquiry that addresses mnemonic techniques, as adopted by Yates and Rossi, has been limited to the study of tasks that were rooted in the tradition of rhetoric and oral performance. With the appearance of the printed book and the dissemination of images, this system that organized knowledge according to protocols of orality decayed. Thus, only the reliance on images to convey knowledge is said to have been sustained and incorporated into theories for the study of cultural memory.¹⁵ Similar views on a theoretical chasm between the study of mnemonics and cultural memory have also been presented in more recent scholarship. Jeffrey Olick and Joyce Robbins suggest that memorization techniques are relevant to the history of memory, yet consider such forms of remembering to be less relevant today.¹⁶ Even Carruthers describes cultural memory and the cultivation of memory as different “territories” that address very different matters and only share “a few general principles of how humans best store and recollect (through location and narrative chiefly).”¹⁷ This theoretical gap is narrower in the field of Chinese studies, in which scholars such as Kenneth Brashier have explored early forms of commemorative remembrance and discussed mnemonic practices and the formal qualities of codified knowledge about the past.¹⁸

¹⁴ Halbwachs and Coseriu. 1992. *On Collective Memory*. Assmann, 2013. *Das kulturelle Gedächtnis*. Nora. 1989. "Between Memory and History." Burke also addresses the role of the historian and discusses the key forms through which memory is transmitted in a society. Burke. 1997. *Varieties of Cultural History*, 43-59.

¹⁵ Hutton. 1993. *History as an Art of Memory*, 10-12.

¹⁶ Olick and Robbins. 1998. "Social Memory Studies," 113.

¹⁷ Carruthers. 2014. "Moving Back in Memory Studies," 279.

¹⁸ Brashier. 2014. *Public Memory in Early China*. Company also addresses commemorative practices for the retention of past events. Company. 2009. *Making Transcendents*.

The present study hopes to bridge this gap between the theories of cultural memory and memory aids by offering a perspective from the field of crafts, in which collective memory was not only constructed, but also taken as the premise for pedagogical materials. It thus addresses changes in intellectual trends rather than the remembrances and re-enactments of the past. Utilizing concrete historical examples from late imperial China, it argues not merely for the interconnectedness of the two frameworks, but for their interdependence in the transmission of practical knowledge. The cases analyzed in the present study provide clear evidence that intellectual effort and creativity proved necessary not only to grasp practices of painting and calligraphy, but also to transmit this knowledge. The authors discussed here elaborated mnemonics by taking social demands and common knowledge into account, and it is through their creative pedagogical efforts that both collective and individual memory came together.

This analysis is based on my conviction that practical knowledge, like any other form of knowledge, can, to a great extent, be codified and transmitted.¹⁹ This transmission, however, relies not only on the comprehension and retention of theories, but on the bodily internalization of standards. Such “incorporated practices,” which are a form of memory, are acquired through training, repetition and introspection.²⁰ The materials used in this study are mainly printed books and how-to manuals. Their content was consciously adapted to best allow students to acquire skills without the presence of a teacher to instruct them on practical matters. The mode of presentation was consciously designed, so that the student would be able to make progress even without oral feedback or demonstration. It is the prescriptive quality of such works and their creative pedagogical approaches that distinguish them from the materials that have been studied by historians of memory to date. Whereas the European art of memory tells students *how* to remember information, regardless of the actual content, Chinese

¹⁹ Valleriani discusses the codification processes of practical knowledge, pointing out that what was recorded in manuals and treatises had undergone a selection and been adapted to a structure of knowledge by the authors. 2017. “The Epistemology of Practical Knowledge.”

²⁰ I will make use of the term as described by Connerton, who discusses the difference between “inscribed” and “incorporated” practices in his chapter on “Bodily Practices” (2009. *How Societies Remember*, 72-104) Connerton’s rendering of incorporated practices relies on the analysis of the transmission of motor skills and behavioral standards among members of groups, including their reception by reading audiences. The variety of examples he provides allows for a broader understanding of the transmission of practices beyond the restrictive notions of bodily control presented in Foucault’s study on “docile bodies.” 2019. *Surveiller et punir*, 159-199.

mnemonics provide easy-to-memorize formulas on specific subjects. As these formulas employ common knowledge to convey specific practices to the reader, they engage collective memory to facilitate individual memorization. Broader frameworks of knowledge shared by society or specific groups shaped Chinese memory aids.

While education and training are underrepresented subjects in scholarly debates on Chinese art history, historians of Chinese art and printing culture have recently begun investigating how-to manuals. For example, J.P. Park's and Kobayashi Hiromitsu's 小林宏光 overarching surveys of painting manuals make invaluable contributions to understanding Ming trends in printing and consumption of cultural commodities.²¹ Park connects the popularity of manuals to the growing agency and purchasing power of Ming dynasty urban classes, who craved knowledge of polite pastimes such as painting and calligraphy, as these could help them garner social status.²² He addresses the reception of such books by the scholarly elite and analyzes the images contained in such manuals. Kobayashi situates the production of manuals within the development of illustrated books and woodblock illustrations, discussing not only the content of manuals, but also the participation of artists in the production of woodblock illustrations in general, tying the creation of such books to broader social contexts.²³ Despite their noteworthy contributions, however, Kobayashi and Park do not address the role memory played in the codification and transmission of practical knowledge.

Another lacuna is that most studies barely address the format in which knowledge was presented and how it was adapted over time. Most existing research describes the content of manuals as static and contrasts the mnemonic function of the formulas with the ideal of originality that dominated the rhetoric of the late Ming elite.²⁴ The cases presented here indicate, however, that mnemonic formulas were constantly altered and that both their reception and their social function varied over time. Authors were not only introducing new elements in transmitted formats; they were also

²¹ Another work that provides a handy list of manuals from the Ming and Qing is Zhou. 2011. *Wenmai yu jiangxin*. Zhou also draws parallels between manual illustrations and imagery on end products, such as on ceramics and architectural decorations.

²² Park. 2012. *Art by the Book*, 213-216.

²³ Kobayashi. 2017. *Chūgoku hanga shiron*. See in particular part 4 of his work, on the history of painting manuals. Section 3 is devoted to painters as participants in the production of woodblock illustrations.

²⁴ Park. 2012. *Art by the Book*, 190-212.

selective in their choices of what to preserve, often deliberately omitting some elements and purposely allowing qualities that used to be important to be forgotten. With the social and intellectual shifts that occurred from the Ming to the late Qing dynasty, it became common for authors and publishers to adapt transmitted knowledge to their own agendas. I argue that even the scholarly elite came to perceive memory aids and formulas not only as carriers of practical knowledge, but also as symbols of identity. By the end of the Qing, the social role of mnemonic aids had become as indispensable to craftsmen as their function to transmit practical standards.

Jan Assmann's approach to cultural memory provides a useful framework to understand ritualized actions as carriers of memory, yet his suggestion that the learning of action or skill occurs solely through acts of imitation effectively reduces the human ability to learn and incorporate meaningful practices to a merely formal and external process.²⁵ Assmann's description of embodied memory as diffuse communicative memory is not helpful to study the transmission of embodied knowledge and skills.²⁶ Both Maurice Halbwachs and Paul Connerton provide more appropriate frameworks to analyze embodied memory in the context of crafts and skills.

The concept of "collective memory" as developed by Halbwachs offers a means for analyzing the social role of memory as a determining factor in the construction of individual identity. His discussion of memory in the context of the family illustrates how practices were transmitted and treasured by several generations of families, which is helpful to understand the social relevance of memory during the Qing dynasty. Unlike Assmann, who uses the term "mimetic memory" (*mimetisches Gedächtnis*) to delimit the scope of action within "cultural memory," Halbwachs' broader use of the concept of "collective memory" does not categorize action and embodied skills as a distinct category of memory transmission.²⁷ Connerton also underscores that since embodied memory is never detached from other processes of remembering, a distinction between the two forms should only be drawn for heuristic purposes.²⁸ He provides a useful framework for analyzing internalization as a means for the transmission of memory within societies,

²⁵ Assmann claims that it is in "cultural memory" that this "mimesis" takes place. 2013. *Das kulturelle Gedächtnis*. 20. Olick and Robbins describe Assmann's "mimetic memory" as "the transmission of practical knowledge from the past," but this is not how Assmann describes it. Olick and Robbins. 1998. "Social Memory Studies," 111.

²⁶ Assmann. 2008. "Communicative and Cultural Memory," 117.

²⁷ Halbwachs and Coser. 1992. *On Collective Memory*, 54-83.

²⁸ Connerton. 2009. *How Societies Remember*, 79.

especially of bodily practices. Connerton's understanding of skills as embodied memory—as something that can be remembered by the hands and muscles and not only the mind—offers a key to understanding how Chinese mnemonics facilitated the transmission of artistic practices.

Halbwachs' concept of "collective memory" also helps to explain the pedagogical approaches of several authors of mnemonic formulas discussed here, who rely on knowledge shared by society to introduce new concepts and information. Unlike mnemonic techniques developed in Europe, which trained individuals to construct and compose their own personal images for the retrieval and use of memories, authors in imperial China took what was already close at hand to help their students in the process of memorization and embodiment. As knowledge became decentered and detached from a specific teacher, the references authors used to construct analogies had to be widely acknowledged in society if they were to fulfill their pedagogical function. Instead of relying on images as simple placeholders for ideas, these authors appropriated intellectual constructs, schemata and cosmological views already embedded in society to facilitate the learning process of their intended readers. Analyzing the analogies that structured Chinese mnemonics makes it possible to draw conclusions about the social background of both producers and audience of the sources discussed in the present study.

Methodology and Concepts

This study is structured around case studies that rely on textual and visual materials from a variety of sources, such as privately printed treatises and encyclopedias, imperially sanctioned publications, manuscripts, paintings with inscriptions, and rubbings. A close reading of these sources, with a special focus on their paratexts, shows the relationship between memory and artistic knowledge in different social contexts. The analysis of the formal qualities of these mnemonic aids, such as the interaction of text and image, reveals ways that knowledge was codified and shaped. Both textual and visual analyses are combined in this study to present a holistic view of the publications. Beyond the sources in which mnemonics are featured, biographical materials, gazetteers and published notes (*biji* 筆記) are used to shed light on the background of those who were centrally involved in their production and dissemination.

The limitation of sources to print and manuscript materials cannot be circumvented in a historical study that seeks to analyze mnemonics within the

social context of a period. Although the oral transmission of mnemonics must also have taken place in parallel and some rhymes might still be in use to this day, the meaningful context in which they were created can hardly be inferred from them alone. Thus, the focus here is not on historical developments and cognitive changes introduced by the shift from oral to written cultures, as it is in Goody's study.²⁹ The oral component of Chinese mnemonics is understood mainly as a means to achieve the goal of memorization and internalization of knowledge. Vocalizing came as a step that succeeded reading or hearing someone else recite the mnemonic text. While oral transmission can explain some discrepancies between renderings of the same mnemonic rhyme in different editions, editors and authors often consciously adapted texts that had been passed down according to their own agendas. Changes in transmitted texts, whether subtle or drastic, were often conscious and closely related to the presentation of the content. The study of changes introduced to mnemonics by the printed format benefits from the theories proposed by Walter Ong. Ong has shown that intellectual processes connected to writing and print also shaped the perception and performance of orality.³⁰ This study shows that it is much more fruitful to conceptualize the oral component of mnemonics in Chinese treatises as permeated by cognitive habits connected to reading and, furthermore, as the product of print culture, rather than simply a vestige of oral culture.

As mentioned above, analogies used in mnemonics and treatises are taken as a means to understand broader intellectual trends. The study of analogies undertaken here is inspired by Draaisma's study of the various analogies used in Europe and the United States over time to describe the mental process of recollection.³¹ Although the Chinese did not develop such diverse characterizations of individual remembrance and their study would be less revealing than Draaisma's, his approach to analogies provides access to the intellectual and social contexts of different periods. The role of analogies in Chinese mnemonics goes beyond a discussion of the physiological process of remembering. While most Chinese memorization processes relied on repetition and recitation, and authors took vocalization into account, broader connections meant to aid the student in recollecting and understanding practices were constructed through analogies.

²⁹ Goody. 1987. *The Interface Between the Written and the Oral*.

³⁰ Ong. 1977. *Interfaces of the Word*, 90.

³¹ Draaisma and Vincent. 2000. *Metaphors of Memory*.

The connection between mnemonics and practical knowledge lies at the core of this study. “Practice” is used here in its broadest sense—as the engagement with abstract or material objects by means of a method, training or planning that yields concrete or intangible results. This definition thus includes human performances, such as teaching or music. These activities are understood as practices because they require the externalization of training, habits or conscious processes of the mind in their bodily execution. The practices studied here are rooted in the fields of calligraphy and painting, and they generate both tangible and intangible results. Rather than producing “works of art,” they aim to develop skills and the internalization of the standards explicated in the mnemonics through the production of tangible sketches and drafts. Thus, not only the drafts, but also the trained body is regarded as a result of these practices.

It is important to establish a broad understanding of what constitutes “practice” in this study because most definitions of practice in current scholarship would exclude cognitive and memory practices. Pamela O. Long refers to practices as procedures and actions that involve hands-on processes to create a final product, while Pamela Smith highlights the interaction with concrete materials as a key feature of practice in her studies. Smith discusses the centrality of practice in processes of abstraction from form to principles.³² Dagmar Schäfer has applied a broad concept of “technology” to address differences in practices according to cultural context, yet the focus continues to be on “technical processes, work and artifacts, and how they were controlled and organized.”³³ Such conceptualizations have been invaluable to the study of local appropriations of practical knowledge as well as institutions and political bodies involved in practices and production. Yet, frameworks for studying practices that have a material output do not address certain aspects of practices that have no tacit outcome.

Mary Carruthers acknowledges the importance of the “craft of thought” in her study of medieval monastic mnemonics in Europe. She employs the

³² Long refers to practice in the context of crafts, in which craftsmen and artisans apply their skills to create a product. Long. 2011. *Artisan/Practitioners and the Rise of the New Sciences*, 4. Smith discusses practice as a moment of interaction with concrete matter, an “inductive processes in which a set of experiences is generalized to form a more widely applicable rule.” Smith. 2016. “The Codification of Vernacular Theories of Metallic Generation in sixteenth-century European Mining and Metalworking,” 371. Smith’s successful “Making and Knowing Project” has shown how important it is to experiment with materials when studying historical manuals and recipes. See also Smith, Meyers and Cook. 2014. “Introduction: Making and Knowing,” 8-9.

³³ Schäfer. 2012b. “Introduction,” 4.

term “craft” to describe activities that can have intangible results. A mental craft must also be “learned, and indeed can only be learned, by the painstaking practical imitation and complete familiarization of exemplary masters’ techniques and experiences. Most of this knowledge cannot even be set down in words; it must be learned by practicing, over and over again.”³⁴ According to Carruthers, the “craft of composition” relies on tools, such as “creative thinking,” that can only be created by the apprentice through “disciplined cognitive activity.” Carruthers emphasizes mental focus and repetition as a key quality of practice in monastic education, claiming that “it is ‘practice’ both in the sense of being ‘preparation’ for a perfect craft mastery [...], and in a sense of ‘working in a particular way’.”³⁵

In the context of Chinese mnemonics, practice also touches upon these two basic ideas. First, the content is practical and allows one to prepare for a specific task and craft, and second, the method for reaching the desired result is also prescribed. Carruthers’ concept of practice successfully combines both “how-to” instructions and the process of learning and developing intangible “tools.” Similar to Carruthers’ findings, repetition is central to the understanding of practice in Chinese mnemonics. The texts discussed in this study indicate that practice often began even before the brush was set to paper. While the content of mnemonics is craft-oriented and related to a specific occupation, the student is often reminded to let the content of a rhyme or song “ripen” (*shu* 熟) in the mind.³⁶ Several texts presented in this study emphasize the importance of familiarizing oneself with a rhyme before engaging the materials, while at other times, repeatedly copying something will also lead to a state of mental “ripeness.” Practice involved not only a skillful and trained hand, but also a skillful and trained mind. Understanding the implications of mnemonic formats and the pedagogical functions of texts is central to discussing practices that produce intangible results. Only through a study of different mnemonic aids can we uncover the “tools” and habits crafted in the practitioner’s mind.

³⁴ Carruthers. 1998. *The Craft of Thought*, 1-2.

³⁵ Carruthers. 1998. *The Craft of Thought*, 2-5.

³⁶ While discussions of practice in itself were featured in scholarly debates, especially of neo-Confucian scholars of the Ming dynasty who often used terms such as “experiencing” (*tiren* 體認) and “practicing” (*shijian* 實踐), practitioners and authors of manuals did not address practice as an abstract concept in their mnemonic compositions. Neo-Confucian views of practical affairs are briefly addressed in chapter 5. Neo-Confucian notions of practice in China and Japan are addressed in De Bary and Bloom. 1979. *Principle and Practicality*.

The chapters of this dissertation focus on the specificities of the case studies. Each offers a description of the historical context and presents different social dynamics in the transmission of knowledge, two aspects that must be explored individually and in detail. The comparative analysis presented in the conclusion illuminates the broader theoretical significance of the cases covered throughout the study. Although the theories and methods described here inform the analysis of the specific cases, I have refrained from discussing them at length in the individual chapters.

As fascinating as a comparative study would be, it is beyond the capacity of a single scholar with expertise in one field to conduct a thorough comparison between European and Chinese mnemonics. This would undoubtedly yield interesting findings, yet such an undertaking should best be initiated as a collaborative project involving scholars of both fields. While the present study is indebted to scholars of European mnemotechniques for their approaches and critical questions, it can only highlight the particular insights that are relevant for the study of Chinese mnemonics in relation to the transmission of practical knowledge.

Chapter Structure

The study is divided into three parts. **Part I**, consisting of **Chapter 1**, provides an overview of memorization techniques and strategies used in imperial China in a variety of fields. Unlike the European *Ars Mnemonica*, no overarching theory on memorization was ever formulated in imperial China. Instead, memorization strategies and practices were freely adapted in different fields of knowledge. Those who employed and transmitted them were not only members of the elite. Although memory practices were often adapted, each field sustained its own tradition and relied more heavily on certain methods. For this reason, the different approaches employed in different fields are discussed, in contexts ranging from imperial examinations to medicine and popular mathematics. This section also explores the perceived social value of memorization. Scholars referred to it as a skill and as a goal, but at the same time also pointed out the negative aspects of rote memorization.

Parts II and III are each composed of three chapters on the fields of calligraphy and painting, respectively. The two parallel parts show how the concern with memory was a pervasive element in the creation of didactic materials and in the codification of artistic knowledge. The case studies

analyzed in each part illuminate the variety of roles memory played in the lives of the authors and in the educational materials they created, where it takes a variety of shapes. These differences are manifested in the way practical knowledge is conceptualized, the approaches taken to transmit this knowledge and the authors' efforts to shape their own identity before a broader public. The six cases complement each other, addressing different aspects of memory and changes over time.

Part II, "The Calligrapher's Memory," covers three case studies that discuss innovation and tradition in pedagogical materials for calligraphy aimed at individuals who had already achieved basic literacy. The first case study, **Chapter 2**, focuses on the development of the "eight methods of the character *yong*" (*yongzi bafa* 永字八法) during the Ming dynasty. It describes how an independent scholar and professional painter introduced graphic segmentations and popular references to produce accessible pedagogical material. It also discusses how writing was deconstructed into blocks of knowledge. This case's most striking feature, however, was not the popularity of the several manuals the author created, but the fact that his identity was quickly forgotten by society. Thus, this case addresses the increasing value practical knowledge was gaining during the Ming—at the cost of reduced regard for the identity of authors. The second case study, **Chapter 3**, considers a rhymed song-formula for learning cursive script that concerns itself with esthetic qualities of characters. The diachronic changes in mnemonic formulas, both in terms of content and materiality, are addressed here. Yet, it is the circulation and reception of this specific song, the *Hundred-Rhyme Song Formula For Cursive Script* (*Caojue baiyun ge* 草訣百韻歌) that reveals the shifts occurring in the field of calligraphy during the late Ming dynasty. This case shows that in all tiers of society, reference works and formal standards came to challenge the value of model works by masters of the past. The third case study, **Chapter 4**, covers privately published calligraphy treatises of the Qing dynasty. More specifically, it analyses the use of the grid as a tool to memorize the visual compositions of characters. The authors of the work addressed here lean heavily on lineages, both familial and scholarly, to promote the value of their contributions. While the practical content overlaps with their personal identities, it also becomes clear that the habits they inherited from earlier generations are continuously featured in their theories, even though their intellectual stance had changed dramatically.

Part III, The Painter's Memory, covers parallels to these issues in painting manuals and treatises through three case studies. The first case

study, **Chapter 5**, discusses how editors of practical manuals and popular encyclopedias of the late sixteenth century made efforts to simplify the language of elite instructional texts and at the same time sought to make craftsmen's painting knowledge accessible to elites. This case highlights how knowledge that did not originate from the elites began to circulate broadly in print as elite interest in practical knowledge grew. Concerning the development of mnemonic strategies, it discusses how painting knowledge was codified, streamlined and presented as part of a cohesive mnemonic system. **Chapter 6**, the second case study, discusses portraiture manuals published during the Qing, in which the authors develop innovative methods to teach portraiture techniques. In contrast to manuals from the sixteenth and seventeenth centuries, which highlighted the sequencing of painting steps, Qing authors relied on the student's existing knowledge to communicate new painting practices and procedures. Their theories and approaches to portraiture, despite aiming for similar outputs, take different approaches to the composition process and conceptualization of the face due to the different knowledge bases used to codify portraiture techniques. The last case study, **Chapter 7**, discusses how painting knowledge was historicized after the Taiping War (1850-1864), a civil war that left most of the cultural centers in the Jiangnan region in ruins. It focuses on one painter whose traumatic experience during the war and new audience of foreign students in Shanghai inspired him to write a rhymed painting treatise to create a monument to a lost tradition. This case can be tied to numerous other initiatives of commemoration that took place during this period. What sets it apart from the previous two cases is the historicizing role memory takes on in the composition of the treatise.

In the **conclusion**, I discuss parallel issues and intellectual trends evident in these six cases, including the valorization of practical knowledge during the Ming dynasty and the increasing social value attributed to mnemonics during the Qing. The broader contribution that the study of pedagogical materials can make to the field of memory studies is illustrated through the concepts of "anchoring" and "weaving," discussed in connection to the creation of mnemonics; "institutions," as represented by educational texts; and the value of "ruminating," which is highlighted as a process for internalizing practices and developing skills through memorization and repetition.

