

Transcultural Lenses: Wrapping the Foreignness for Sale in the *History of Lenses*



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Abstract This chapter investigates the advertising rhetoric used in the *History of Lenses*, a booklet describing eleven kinds of foreign optical devices. The descriptions reveal several characteristics of the way that Western artifacts were perceived and transformed in Chinese popular culture. I explain why the devices' illustrations do not represent the tools but instead depict a series of stereotypical artifacts inscribed with marginally relevant commentary about the function of these lenses. First, I explain that illustrated artifacts such as perforated rocks, bronze mirrors, letter papers, and handscrolls are used as visual tropes to assimilate the optical devices into Chinese conventional discourses on artifacts and body. Second, I analyze the rhetoric of ethos, which refers to religious efficacy and moral authority for commercial promotion. Third, I show that the illustrations evoke particular sensory experiences by mobilizing the established cultural tropes linked to specific cultural practices. In summary, although the compiler Sun Yunqiu (1650–after 1681) praises some of the devices' Western origins, I show that the display of indigenous tropes is used to reduce the foreignness of certain artifacts and to assimilate them into the cultural inventory. This booklet on transcultural lenses exemplifies the formation of a genre of illustrated pamphlets in the context of transcultural encounter, which was facilitated by trade and missionary activity in the early modern world.

This chapter results from a surprising encounter with a highly specific material, *History of Lenses* (*Jingshi* 鏡史), an illustrated woodblock booklet about eleven kinds of lenses.¹ Written by a Chinese lens maker, Sun Yunqiu 孫雲球

¹Historians of Science, including Joseph Needham and Sun Chengsheng, first noticed this booklet and studied it as a technological treatise. See Sun Chengsheng, "The Diffusion and Impact of Western Optics in Ming and Qing China," *Studies in the History of Natural Sciences* 3 (2007): 363–76. Sophie Volpp, a Chinese literary scholar, first brought the *History of Lenses* to my attention. One more thorough study of the booklet was published after my completion of the current

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(c. 1629–1662), in the mid-seventeenth century, the booklet includes eleven categories of lenses purportedly introduced by Jesuits missionaries after the 1580s.² The title of each category is followed by a short essay, then accompanied by an illustration. The theoretically provocative surprise is twofold. To a lesser extent, it is due to the fast pace at which the optic devices were commercialized and the crafting technique transformed and assimilated into the local repertoire of technology. But more puzzling is the presentation of the material itself, which provides little depiction of and information about the natural historical use of such optic devices. Instead, the lens maker elaborates profusely on their other efficacy.

The booklet and the illustrated optic devices stage a transcultural event, which took place during the whole process of the introduction, mutation, and popularization of the crafting technique and visual experience. Over the past two decades, there has been a major update in the scholarship analyzing the artistic interaction among regions and among the constructed borders of cultures, especially between Asia and Europe.³ How can we push forward the insights with which the study of Eurasian cultural encounter has challenged the a priori cultural entities and fixed cultural borders? How do we narrate the process by which cultural entities articulate themselves or emerge rather than the other way around—that is, the process of interacting with clearly defined identities?

Following the recent efforts in the investigation of transcultural relationships, this chapter aims to unpack the commercial strategies used in the presentation of transcultural lenses.⁴ Central to this method, I will consider the wandering artworks as the incarnation of sensual experience, opening time and space for the transcultural construction of values and significance. By analyzing the illustrated booklet on lenses as a whole, I wish to beam-split the relation of a transcultural interaction—for instance, the Sino-Jesuits encounter—into a spectrum of continuous cultural

chapter and the peer review of this anthology and therefore we are unfortunately unable to extensively refer to the article. Yet for the excellent translation and analysis, especially the use of Chinese literati's cultural tropes in the booklet, see S.E. Kile and Kristina Kleutghen, "Seeing through Pictures and Poetry: A History of Lenses (1681)," *Late Imperial China* 38, no. 1 (June 2017): 47–112. The current chapter is instead primarily concerned with the marketing strategy in the Eurasian encounter. As an intriguing phenomenon among the popular response to foreign lenses, some sections from the booklet made their way into a short story written by a literary entrepreneur. See Patrick Hanan, *A Tower for the Summer Heat* (New York, NY: Columbia University Press, 1998).

²I use the Chinese woodblock edition prefaced in 1681 and housed in the Shanghai Library. *The History of Lenses* have not yet been entirely translated into English.

³It suffices to mention only a few of the most recent summaries and theoretical interventions for the field related to China. Cheng-hua Wang, "Whither art history? A Global Perspective on Eighteenth-Century Chinese Art and Visual Culture," *The Art Bulletin* 96, no. 4 (2014): 379–94. Petra ten-Doesschate Chu and Ning Ding, ed., *Qing Encounters: Artistic Exchanges between China and the West, Issue & Debates* (Los Angeles: Getty Research Institute, 2015). Jonathan Hay, "Toward a Theory of the Intercultural," *Res: Anthropology and Aesthetics* 35 (1999): 5–9.

⁴Monica Juneja, "Circulation and Beyond: The Trajectories of Vision in Early Modern Eurasia," in *Circulations in the Global History of Art*, ed. Thomas DaCosta Kaufmann (London: Ashgate, 2015), 59–78.

differences, which were marked in a negotiation process among players with particular agendas in the marketplace.⁵

Landing this theorization on the very material in front of me, the parade of representations of Chinese bronze, screen, and garden in a book about lenses defies my expectation of telescope, microscope, or even kaleidoscope. Why do the illustrations not depict the actual devices at all? What are these representations doing here? To put it succinctly, I argue that the booklet mobilizes familiar cultural tropes to advertise the efficacy of the lenses for sale. In other words, the marketing strategy may explain a significant part of the composition and execution of the imageries vis-à-vis its relation to the accompanying text, which would never have been understood had we chased the scientific merit in such presentation. Instead of wondering at its stupefying irrelevance to science and the conspicuous absence of technological details, an analysis of the visual and textual rhetoric of early modern advertisement may serve to enrich our understanding of the transcultural making of lenses.⁶

The lenses did not simply move from Europe to be replicated and used in China. The materiality of lenses, contingent upon local primary source and craft traditions, was intrinsically entangled with the bodily efficacy they were purported to enhance. The transcultural lenses open a view of multiple agents, such as lens makers, business competitors, potential client, and missionaries, who each had their own sensual experience to negotiate; thus, each side leaves a mark of their own cultural expectation on the moving artifact. Without either defining or denying foreignness in a retrospective national framework, I seek to explicate how the cultural boundary has been demarcated with visual strategies such as spacing and composition as well as in textual reference. Most crucially, these strategies have been proportionated to the commercial purpose.

⁵One page entitled (literally) “Western Distance Painting” (or translated as “Perspectival Picture of the West”) from the booklet is evoked by Wang Chen-Hua to show the presence of Western landscape in Jiangnan region. Wang, “Whither art history,” 386. Kristina Kleutghen mentions the *History of Lenses* to point out the popularity of locally made optical devices in urban Chinese cultural landscape. Kristina Kleutghen, “Peepboxes, Society, and Visuality in Early Modern China,” *Art History* 38, no. 4 (September 2015): 764. By contextualizing the picture back in the booklet, this chapter intends to show the range of rhetorical strategies of cultural differentiation.

⁶Lin Li-chiang points out some major advertising strategies in her meticulous study of two ink-maker’s manuals. First, ink-makers invite famous literati users to contribute laudatory essays to be included in the manuals. Second, ink-makers appealed to ethos, that is, the promotion of ink-maker’s integrity and quasi-literati status. See Lin Li-chiang, “The Proliferation of Images: The Ink-stick Designs and the Printing of the Fang-shih mo-p’u and the Ch’eng-shih mo-yuan” (PhD diss., Princeton University, 1998). See also Lin Li-chiang, “The Conflict between the Huizhou Ink-makers Cheng Chun-fang and Fang Yu-lu,” in *Sinologie Française, Livres et imprimés des gens de Huizhou*, ed. Michela Bussotti and Zhu Wanshu (Paris: Ecole Française d’Extrême-Orient, Zhonghua shuju, 2008), 121–97.

The Business of Lenses

Commercialization, especially advertisement, is a conceptual condition under which the transcultural encounter via optical devices took place in the Chinese context. There is actually a large amount of scholarship on the commerce and consumer society in early modern China,⁷ and scholars have investigated cultural entrepreneurs, especially in the business of commercial publication.⁸ Based on this socio-economic mapping, we are still in need of analytical categories to tease out the impact of commerce on the form of artifacts. Advertisement or promoting strategy is still our blind spot.⁹ Some overarching surveys on “mass informing” (*guang gao* 廣告) cover both political propaganda and commercial advertisement. These general survey-textbooks are more interested in categorizing the kinds of media used in broadcasting rather than the intricate rhetoric and strategy that made advertisements effective.¹⁰

In the context of the court culture, the negotiation of the culturally marked visual experience catalyzed by the introduction and transformation of linear perspective and *chiaroscuro* at the Qing court has attracted strenuous investigation.¹¹ The dazzling court spectacle tends to foreground imperial decorum as the decisive magnetic field where the multicultural presence configures itself. However, there have been more recent discussions of intercultural encounters in art in the local society of the lower Yangtze delta.¹² Wang Cheng-hua, for instance, has traced the presence of European pictorial technique in Suzhou prints.¹³ Yet the dynamic of the commoners’ market, which has been a multivalent shaping force of transcultural

⁷For example, see Timothy Brook, *The Confusions of Pleasure: Commerce and Culture in Ming China* (Berkeley: University of California Press, 1998).

⁸Cynthia Brokaw mentions the book selling and distribution in *Commerce in Culture: The Sibao Book Trade in the Qing and Republican Periods* (Cambridge, Mass.: Harvard University Asia Center, 2007), 235–40 and 535–48.

⁹There are quite a few histories of advertisement written in Chinese language, most of which are large chronological surveys. For instance, Yang Haijun 楊海軍, *Zhongguo Gu Dai Shang Ye Guang Gao Shi* 中國古代商業廣告史 (*History of Pre-Modern Commercial Advertisement in China*) (Zhengzhou: Henan Daxue Chubanshe, 2005). They do not provide detailed analysis of specific cases. Wu Jen-shu 巫仁恕 vividly describes the banner advertisements scattered in the urban space in *Youyou fangxiang: Ming Qing Jiangnan chengshi de xiuxian xiaofei yu kongjian bianqian* 優游坊廂: 明清江南城市的休閒消費與空間變遷 (*Roaming in the Marketplace: Leisure Consumption and Spatial Transformation in Cities of Jiangnan During Ming and Qing Dynasties*) (Taipei: Zhongyang yanjiuyuan jindaishi yanjiusuo, 2013), 119–34.

¹⁰Zhao Chen 趙琛, *Zhongguo guanggao shi* 中國廣告史 (*The History of Chinese Advertisement*) (Beijing: Gaodeng jiaoyu chubanshe), 2005.

¹¹The latest contribution is Kristina Kleutghen’s *Imperial Illusions: Crossing Pictorial Boundaries in the Qing Palaces* (Seattle: University of Washington Press, 2015).

¹²Kristina Kleutghen, “Chinese Occidenterie: The Diversity of ‘Western’ Objects in Eighteenth-Century China,” *Eighteenth-Century Studies* 47, no. 2 (January 2014): 128–31.

¹³Cheng-hua Wang, “Prints in Sino-European Artistic Interactions of the Early Modern Period,” in *Face to Face: The Transcendence of the Arts in China and Beyond*, ed. Rui Oliveira Lopes (Lisbon:

differentiation, is largely left out of the picture of the highly centralized social structure of the court.

Therefore, in order to set the stage we need to first understand the status quo of making and selling lenses as a business in the late seventeenth to mid-eighteenth century.¹⁴ How were the makers trained after Jesuits missionaries came to China? Who might buy the lenses and for what purpose? What level of technology was employed? Fortunately, the booklet can illuminate us in this respect.¹⁵

With the information from four elaborate prefaces to the booklet, we are able to trace how the author, Sun Yunqiu, a skillful lens maker, started the business. The prefaces show Sun's financial difficulty and talent in craftsmanship.¹⁶ His career pattern represents that of many educated men who were not able to serve in the government in early modern China. They made a living by developing specialized skills in tutoring, legal service, technology, and art.¹⁷ Some of these frustrated *hommes de lettres* eventually excelled in a field of knowledge other than traditional Confucian learning. Both the content and organization of their knowledge had to be appealing in the commercial market. Sun Yunqiu and his peers mastered these marketable skills. Like many of his contemporaries, Sun Yunqiu took the civil examinations twice but did not succeed. The failed official-want-to-be therefore had to learn to retool his skill in writing and his knowledge in the marketplace, a process that should be understood as the diversification of profession among the male educated elite.¹⁸ In order to support his mother, Sun traded medicine and lived in the Tiger Hill (*Hu Qiu* 虎丘) area in Suzhou, one of most dynamic commercial hubs on the southeast coast of China. His lens making master, Zhu Sheng, was also famous for painting orchids, and was commissioned to make a section in *Mustard Seed Garden Manual of Painting* (*Jieziyuan Huazhuan* 芥子園畫傳), an influential painting manual, which itself was compiled by the relative of a literati entrepreneur,

University of Lisbon, 2014), 438–42. See also Cheng-hua Wang, “A Global Perspective on Eighteenth Century Art and Visual Culture,” *Art Bulletin* 96, no. 4 (2014): 386–90.

¹⁴The section ‘Optics’ in Joseph Needham’s *Science and Civilisations in China*, IV Physics, [78–124] provides a detailed survey of all kinds of optic devices available in premodern China but it is not a business history of lenses, particularly for early modern China.

¹⁵For Bo Jue 博朱 (c. 1628–1641), another important lens maker whose product might have been in a military campaign, see Wang Shiping, Liu Hengliang, and Li Zhijun, “Bo Jue and his telescope,” *China Historical Materials of Science and Technology* 18, no. 3 (1997): 26–31.

¹⁶His family lost their property in the social commotion during the upheaval between the dynastic transition between Ming to Qing. After the death of his father, a local magistrate, the family could barely afford a decent burial so Sun Yunqiu “found the place for the grave and built everything on his own.” (Orig. “擇地定穴, 皆所手造”).

¹⁷Pierre Etienne-Will focuses on training books for specialized knowledge in law and taxation. See Pierre Etienne-Will 魏丕信, “Ming Qing shiqi de guanzhenshu yu Zhongguo xingzheng wenhua 明清時期的官箴書與中國行政文化 (The Administrative Culture in Official Handbooks in Ming and Qing China),” trans. Li Bozhong 李伯重, *Qingshi yanjiu* no. 1 (1999): 3–20.

¹⁸A considerable number of frustrated *hommes de lettres* commercialized their calligraphy and painting. See James Cahill, *The Painter's Practice: How Artists lived and worked in traditional China* (New York: Columbia University Press, 1994).

Li Yu 李漁 (1610–1680).¹⁹ In summary, unsuccessful candidates left out of governmental officialdom were particularly active in the market of cultural production. Thus, a person like the author could market his products by using his knowledge of the repertoire of cultural activities for decently educated literati.

The skill of making lenses is very different from the knowledge of literary tropes. How did a man of words learn to make lenses? The author's experience shows us that both learning from books and as an apprentice are indispensable. Talented in mathematics and geometry, Sun was able to acquire the skill for making lenses and overtook most competitors in a short period of time. In 1672, he obtained a copy of Johann Adam Schall von Bell's *Explanation of the Telescope* (*yuanjing shuo* 遠鏡說).²⁰ And in an itinerary tour to Wulin (now Hangzhou), he learned in person from a few lens makers, including Zhu Sheng 諸昇, Mr. Yu (俞生), Mr. Gao (高生), Mr. Chen (陳生). Most importantly, he calibrated the models supplied by Zhu Sheng with the optical principles in von Bell's treatise and expanded the inventory of products into seventy-two types.²¹ He could also customize the glasses for clients with various visions.²² Later, I will explain how product differentiation was a salient strategy used in the booklet.

Sun's products soon prevailed among all his competitors both because of their superior quality and, I think, because of his interpersonal skills. In fact, Zhu Sheng, one of his masters, betrays his insecurity in front of his disciple by remarking that Sun Yunqiu is "modest and reserved"²³ and "holding back and hiding flamboyance like a good merchant when he interacts with people."²⁴ Sun is believed to have obtained the favored optical method from Li (Ricci) and Tang (von Bell) in the craft of lens making. After a few years, his products gained considerable publicity and were widely sought after: "People from everywhere heard about them and followed them. They did not hesitate to go cross hundreds of miles to purchase them with a fortune."²⁵ Hundreds of miles in the radius from Suzhou covers the area of the lower Yangtze delta, the most prosperous region of late imperial China where his potential customers were located. It is clear that these urban lens makers did not dissimulate the merits of the technology introduced by the Jesuit, von Bell. On the contrary, they highlighted the insight of Western experts in order to promote their own products.

¹⁹Wang Gai, *The Tao of Painting, a Study of the Ritual Disposition of Chinese Painting: with a Translation of the Chieh tzu yüan hua chuan, or Mustard seed garden manual of painting, 1679–1701*, trans. Mai-Mai Sze (New York: Pantheon Books, 1956).

²⁰Johann Adam Schall von Bell, "Yuanjing shuo 遠鏡說 (On the Telescope), trans. Tang Ruowang 湯若望," *Yi Hai Zhu Chen* 59, no.156. Coll. in Tingyi Tang. Publ. between 1796 and 1820.

²¹The first preface, written by Zhang Ruoxi in *The History of Lenses* (1681), 4.

²²Zhang, *History of Lenses*, 4.

²³Orig. "謙抑韜晦."

²⁴Orig. "與人相接, 如良賈深居, 務匿瑤彩." The second preface written by master Zhu Sheng in *The History of Lenses* (1681), 2–3.

²⁵Orig. "而四方聞聲景從, 不惜數百里重價以相購." Postscript to *The History of Lenses* (*jing shi ba* 鏡史跋), 2.

For this purpose, Sun Yunqiu significantly refashioned von Bell's *Treatise* in one of his entries in the booklet.

The Rhetoric of Efficacy

As a general promoting strategy that shapes the poiesis of the illustration and the textual description in the booklet, technical information is drastically eliminated so that the booklet focuses on the effect that users experience with the optic devices.²⁶ Rhetoric, the term that Joachim Kurtz uses to comment on such early modern handbooks captures their gist. Instead of transferring knowledge, they are “simplified versions of such treatises circulated in cheap reprints by commercial publishers and instrumental in raising popular interest in and understanding of useful techniques.”²⁷ My analysis will demonstrate the ways in which this knowledge was simplified. More specifically, the populist rhetoric in the booklet on lenses aims to augment the readers' desire to purchase. The illustrations are not representations of the tools but rather a series of stereotypical artifacts and landscapes inscribed with marginally relevant textual commentary on the function of these lenses. I argue that the author mobilizes various cultural tropes from the established repertoire of motifs, which are often used in the woodblock decorations of the day, first to make sense of the effect of these lenses, second to convince the reader about the efficacy of the lenses, and third to persuade them to buy them. Eight out of the eleven illustrations feature inscribed artifacts and often include a poem in the upper left of the composition. Only two illustrations feature landscape paintings with minimum inscription and only one leaf of illustration contains a female figure. The transcultural relationship in the booklet is not merely in the interaction between two cultural entities, but in the strategic cultural configuration of the familiar and the foreign.²⁸ The author's presentation of the telescope is a particularly revealing example of this, as he ostensibly retains its Western origin not for the sake of technical information but for its marketability. The textual entry introducing the telescope, “Lens for Distance” (*yuan jing* 遠鏡), is the most elaborate in the treatise, as if the author wanted to prepare the reader to view an extraordinary “Western Painting of a Distant View”

²⁶As for how different quality and forms of illustration make segmented market niches in the period, see Robert Hegel, “Niche Marketing for Late Imperial Fiction,” in *Printing and Book Culture in Late Imperial China*, ed. Cynthia J. Brokaw and Kai-wing Chow (Berkeley: University of California Press, 2005), 235–66.

²⁷Joachim Kurtz, “Framing European Technology in Seventeenth-Century China: Rhetorical Strategies in Jesuit Paratexts,” in *Cultures of Knowledge: Technology in Chinese History*, ed. Dagmar Schäfer (Leiden: Brill, 2012), 211.

²⁸For an analysis of a similar transcultural demarcation in prints, see the inclusion and remediation of biblical illustrations in ink-makers' manuals in Lin Li-chiang's dissertation, “Proliferation of Images,” 214–24. The difference is that the imitated Western images are much more identifiable in Lin's case, but the underlying agenda of remediation is more multivalent.

(or Perspectival Picture of the West, *xi yang yuan hua* 西洋遠畫) by adding a textual frame (Fig. 1). Unlike other illustrations in the booklet, this leaf bears no inscription and no seal, which renders the Western landscape print paradoxically frameless. Although the image does not come from von Bell's treatise, it very likely had a European model.²⁹ Here the author overtly acknowledges von Bell's treatise on telescopes, from which he lifted fragments of exact expressions. Examining the selected textual expressions and the omissions, we find that this rewritten entry is primarily concerned with instructing the readers on how to properly use the telescope by adjusting its length according to the user's vision and on how to clean it. The entry explains only a little of the structure of the device but by no means aims to discuss the optical principles involved. The textual explanation makes no reference to any trope from the familiar Chinese cultural repertoire. This is one of the three entries that explicitly acknowledges the Western origin of the lenses.³⁰ This entry on the telescope refers readers to von Bell's *On the Telescope* and to the work of a contemporary lens maker, Bo Jue 薄珏, for the technical details.³¹

Unlike the presentation of other lenses in the treatise, the entry and illustration on telescopes makes little effort to tout its efficacy, but instead directly shows what one might see through the device. The avoidance of Chinese cultural tropes should be understood in the context of the popularity of telescopes among the Chinese during this time. The visual experience of space compressing, which was brought by telescopes, was hardly a novelty by the early seventeenth century in China.³² There is even a short story written to marvel at the visual experience that a telescope provides and how the optic device is turned into an object of cult.³³ Both the length of the entry on telescopes and the cultural transparency suggest a keen and familiar expectance from the readers. Unlike other illustrations, which all bear legible signatures and sometimes seals, this "Western Painting of a Distant View" is completely anonymous. The author or designer of the illustration does not intend to describe this visual experience with indigenous metaphor, nor does he feel the need to justify the experience with moral rhetoric. In this sense, the relatively simple transcultural framing of the telescope may actually suggest a wider cultural

²⁹ Anna Grasskamp provides a detailed analysis of the reframing of European images in this leaf and identifies a few possible Dutch sources. Anna Grasskamp, "EurAsian Layers: Netherlandish Surfaces and Early Modern Chinese Artefacts," *Rijksmuseum Bulletin* 63, no. 4 (2015): 370–1.

³⁰ The others are about the camera obscura and reading glasses.

³¹ Zheng Cheng, "Bo Jue and his Astronomical Works," *The Chinese Journal for the History of Science and Technology* 36, no. 2 (2015): 142–57; Huang Yinong 黃一農, *Liangtou she: Mingmo Qingchu de diyidai Tianzhu jiaotu* 兩頭蛇：明末清初的第一代天主教徒 (*Two-headed Snakes: The First Generation of Catholic Converts in Late Ming and Early Qing China*) (Xinzhu Shi: Guoli qinghua daxue chubanshe, 2007), 175–228.

³² Dai Nianzu 戴念祖, "Ming Qing zhi ji wang yuanjing zai Zhongguo de chuanbo ji zhizao 明清之季望遠鏡在中國的傳播及製造 (The Spread and Manufacture of Telescope in China)," *Yenching Journal of Chinese Studies* 9 (2000): 123–50.

³³ Patricia Sieber, "Seeing the World Through 'Xianqing ouji' (1671): Visuality, Performance, and Narratives of Modernity," *Modern Chinese Literature and Culture* 12, no. 2 (Fall 2000): 1–43.



Fig. 1 *Xi yang yuan hua* 西洋遠畫 (Western Painting of a Distant View or Perspectival Picture of the West), from Sun Yunqiu 孫雲球, *Jingshi* 鏡史 (*History of Lenses*), 1681, main text, 5

acceptance. In comparison, the experience brought by camera obscura and microscope, as I will analyze below, required heavy-handed or even cryptic cultural translation, and the author did not have a chance to expound on their usage. Both anonymous foregrounding or heavy-handed cultural translation, contradictory as they may seem, serve the same purpose, which is to represent the experience that a customer could expect. It is significant that the entry on telescopes does not speak to any targeted customer, while the wording of many other entries clearly pitches to a particular market.

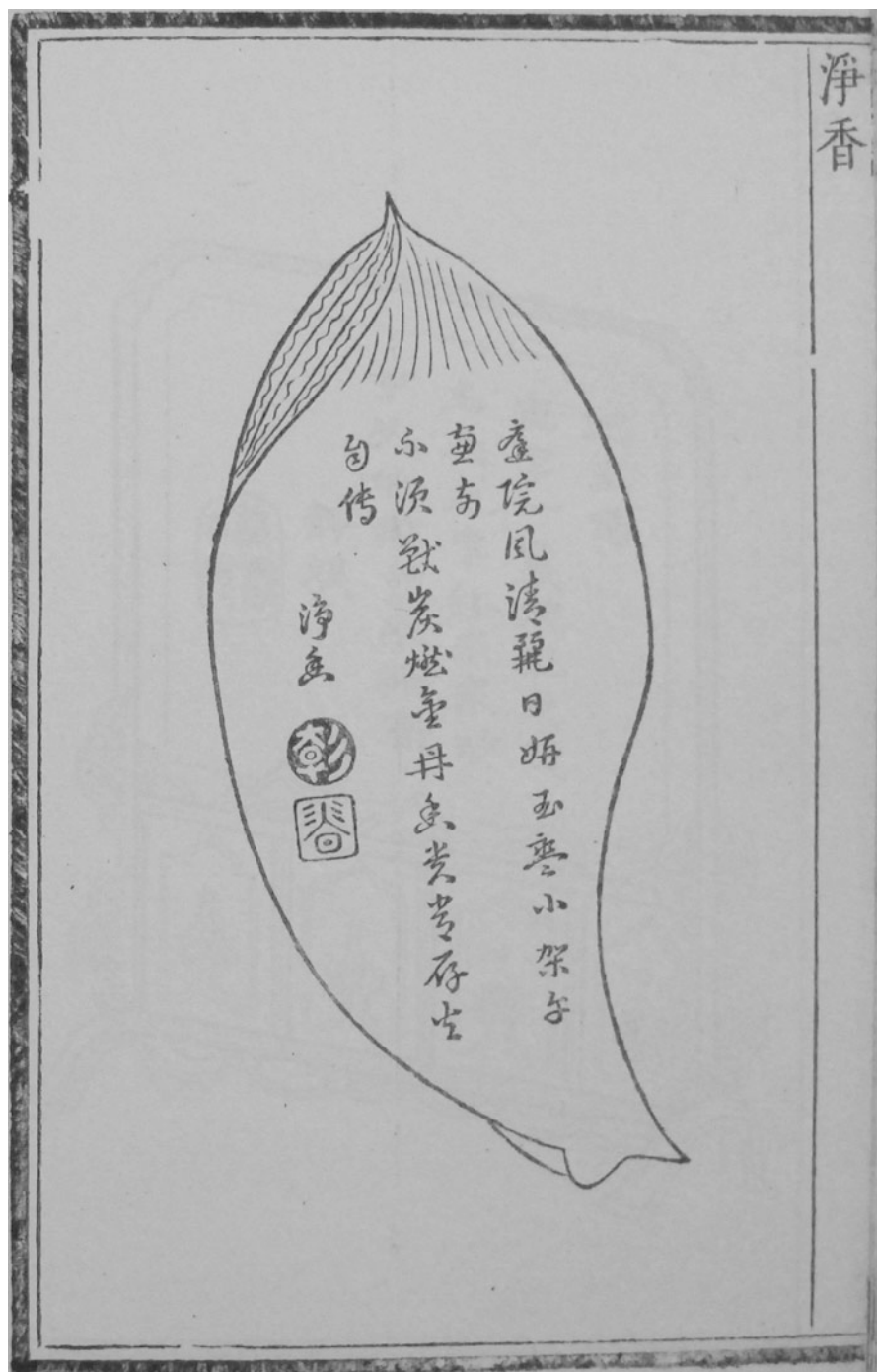
Information and Rhetoric

If information concerning the lenses is underplayed in the booklet, what new visual experience does the author want to convey, and how does he market it? The author was able to make actual lenses but the entries spare no words to explain the raw materials, the making process, tools, or mathematical and optical principles.³⁴ The author does not seem to believe that empirical and technical explanation alone would convince the readers about the effect of lenses. Instead the illustrations and the texts evoke religious discourse and ancient moral authority as a means of promotion. No matter how outlandish such experience looks to us, and probably also to contemporaneous European users, by organizing the convention of literary and pictorial tropes, Sun Yunqiu tried to forge an equivalence between the desirable bodily experience for potential customers and the experience that they could expect by using these foreign lenses.³⁵

The designer of the illustrations maximizes the variety of calligraphic scripts in order to enhance the visual impact of the text in the forms of inscriptions and poems. Thus, the text is not only a carrier of information, the highlighted calligraphic quality of it is intended to affectively impress the reader, and each kind of script evokes the conventionalized genres that are often associated with them in the reader's mind (Fig. 2). For instance, a couplet describing fragrance is rendered as being written on lotus leaf in running script. We can also find a fanciful version of seal script on the

³⁴A scholar reported to have seen dated lenses with Sun Yunqiu's inscription in 1930. The telescope is a collapsible three folding monocular, 1.2 m in length and 10 cm in diameter. Wang, Liu, and Li, "Bo Jue and his telescope," 28.

³⁵The term, bodily experience or sensorial experience, is established in the cultural studies of senses, pioneered by the Concordia Sensoria Research Team led by David Howes. This community of anthropologists and interdisciplinary scholars is prolific. I only draw on their insight insofar as the cultural and social formation of senses is concerned, that is to say, "sensory experience is permeated with social values." The partition and manipulation of sensual experience with words and images (e.g. advertisement) show how cultural memory is forged into nature. David Howes, ed., *Empire of the Senses: The Sensual Culture Reader* (Oxford: Berg, 2005), 1–17. See also David Howes, "Sensorial Anthropology," in *The Varieties of Sensory Experience: A Sourcebook in the Anthropology of the Senses*, ed. David Howes (Toronto: University of Toronto Press, 1991), 167–91.



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Fig. 2 *Feng xiang jing* 焚香鏡 (Incense Burning Lens), from the *History of Lenses*, main text, 8

surface of an intact piece of jade, which illustrates a reading class (*Tong guang jing* 童光鏡) for young examinees.³⁶ The “Encomium of Self-restraint in Privacy,” which illustrates microscopes, is inscribed with a clerical script that is often associated with monuments.³⁷ On the other hand, the depiction of artifacts, landscape, and the figure attempts to symbolize and to imbue the extraordinary effect of each lens with familiar cultural tropes.

Pictorial Commentary

Instead of representation, the illustrations can be regarded as pictorial commentary for the entries on lenses. Commentary as a flexible genre entails various relations between the main text and the paratext. Commentaries might explain the main texts, but they are usually random associations between any detail in the main text and the commentator’s evaluation, moral critique, anecdotes, and so on. The kinds of associations that Sun Yunqiu chose to build between lenses and familiar cultural tropes reveals these rhetorical strategies.

By employing Buddhist and Daoist tropes, some illustrations convey to the reader, or the potential owner, the efficacy of the lenses on the body. The effectiveness of the lenses is therefore transformed into efficacy in the religious context. For the first entry on presbyopic glasses (*hun yan jing* 昏眼鏡), with which elderly people could see more clearly, the illustration features a *chintamani* or *ruyi zhu* (如意珠), a wish-fulfilling pearl, radiating in flames and fixed on a *ruyi* scepter. A four-syllabic verse printed in clerical script laments the inevitable deterioration of vision because of aging, which medicine cannot help. However, the presbyopic glasses offered an “efficacious method” (*ling fa* 靈法) to recover vision: “It is only by means of the efficacious method, my visual spirit is restored.”³⁸ The signature “*zhi fei zi* 知非子” means “elderly people”. Composed of verse, artifact, signature, and seal, this illustration looks like a leaf about *chintamani* in a catalogue of collectibles. It does not explicitly refer to the presbyopic glasses. In other words, the illustration functions almost like a riddle, describing familiar bodily experience in a language familiar to educated elites while gesturing to an unknown artifact.³⁹ It is only by

³⁶Sun Yunqiu, *The History of Lenses* (1681), 3.

³⁷Sun, *History of Lenses*, 12.

³⁸Orig. “惟茲靈法，還我瞳神。” Sun, *History of Lenses*, 2.

³⁹The playful representation of an artifact, often literati’s stationery, without revealing its true identity is similar to riddle-like odes or essays on things (*Yongwu*) in Chinese literary history. For an early survey, see Richard C. Rudolph, “Notes on the Riddle in China,” *California Folklore Quarterly* 1, no. 1 (Jan 1942): 65–82. Riddles, especially poems and essays on artifacts, served a variety of purposes in different social contexts. A classic example is Han Yu’s “Biography of Mao Ying,” which is a political satire of literati hidden in a synecdoche of brush. See Han Yu 韓愈, *Han changli wenji jiaozhu* 韓昌黎文集校注 (*Annotated Literary Anthology of Han Changli*) (Shanghai: Shanghai guji chubanshe, 1986), 566–69. The fragments in the *History of Lenses* are distinct for

juxtaposing the illustration and the explanatory entry that the reader understands the artifact and its effect on the body.

Referring to the primordial mythology about the rocks used to repair the heavens, the second illustration fashions a lake rock (*hu shi* 湖石) in flames. Accordingly, the second entry on myopia glasses mentions that the device could make up for deficiency in eyesight: “For those who have defected vision because of congenital lack of sap, the lens fits their nature very well.”⁴⁰ The metaphorical meaning of the rock obliquely points to the effect of the myopia glasses. Nonetheless, sometimes the symbolic meaning of an artifact in an illustration does not even tangibly relate to the actual use of a particular device.

For the camera obscura and the microscope, the illustrations depict two almost entirely unrelated artifacts while the interpretation reveals what particular cultural conventions may render the lenses desirable to the Chinese audience. The “Light-absorbing Lens” (*she guang jing* 攝光鏡) is camera obscura: “To set the lens in an extremely dark chamber is the so-called observation of the moon in the West. A blank screen faces the lens. All close and distant, up and down, moving and still, large and small kind of things come on the screen. Meticulous and colorful, they look like real.”⁴¹ The juxtaposed illustration depicts a screen that is decorated with elaborate and patterned panels. The decorative motif framing the lower part of the screen is a common variation of lotus petals, which often connotes Buddhism. As the Buddhist verse on the screen articulates, owners are welcomed to use the setting for contemplation, which has nothing to do with an effort to make life-like images: “Buddhist Hymn on Reflection: Through a hole in the room, the reflection shines close. The master is settled in the middle. Toward him come the myriad ethereal things. It is good for meditation and enlightenment.”⁴² The signature succinctly summarizes the purpose of “quiet entertainment” (*jing yu* 靜娛).

Moral Authority as Commercial Rhetoric

Appealing to ethos or moral integrity often functions as a powerful rhetoric. The illustration of the microscope evokes the Confucian moral discourse of self-restraint in privacy. On an unrolled calligraphic scroll, we find the following: “Encomium of Self-restraint in Privacy: Nothing is more visible when it is hidden. Nothing is more magnified when it is minute. A gentleman who restrains himself in privacy should

their pretension to literati self-cultivation and yet their implicit commercial appeal. Moreover, the alluded lenses in the booklet, unlike the answers to average riddles, were not familiar artifacts.

⁴⁰Orig. “因先天血氣不足，視象不圓滿者，用鏡則巧合其習性。” Sun, *History of Lenses*.

⁴¹Orig. “鏡置極暗小室中，即西洋所謂月觀者是也。素屏對鏡，室外遠近上下，動靜大小物類俱入屏中。細緻體色，畢現如真。” Sun, *History of Lenses*, 9.

⁴²Orig. “迴光偈：室中一竅，迴光近照，主人處中，紛來眾繚，可以坐禪，可以悟道。” Sun, *History of Lenses*.

engrave it and carry it.”⁴³ Although the illustration only plays with the idea of magnifying things and tries to link it with a Confucian virtue, the textual entry shows that the author not only knows what a microscope is and what it is used for, but also that he chose to make affective connection with the reader by referring to the long-standing moral authority of ancient rulers. Sun Yunqiu links “Burning Glass” (*huo jing* 火鏡) to sage minister *Si xuan shi* 司烜氏, who was in charge of any ritual related to fire in antiquity: “Minister of Zhou Dynasty, Si xuan shi obtained fire from the sun.”⁴⁴ Although the author also quotes contemporary empirical reason in his textual interpretation, the illustration only highlights the sage minister.⁴⁵ It depicts ancient bamboo strips mounted on an unfolding letter. A few lines of tetrasyllabic verses are inscribed on the strips, which end with the signature “ancient minister of fire” (*gu si zhou shi* 古司烜氏) and the seal of “Minister of Zhou” (*zhou guan* 周官) in intaglio, suggesting that the evaluation of the lens is the sage minister’s own words.⁴⁶

In summary, several illustrations reveal their varied, sometimes even arbitrary, relation to the textual entries on lenses. This paratextual relation can be understood through the contemporaneous practice of literary commentary.⁴⁷ The illustration as pictorial commentary uses familiar tropes of established rhetoric from religion and moral discourses to convince the reader about the efficacy and merit of the foreign lenses. The pictorial rhetoric of these illustrations resorts less to empirical elucidation than to the force of cultural affect.⁴⁸

⁴³Orig. “慎獨銘 莫見乎隱, 莫顯乎微, 慎獨君子, 銘之佩之。” Sun, *History of Lenses*.

⁴⁴Orig. “周官司烜氏取明火於日。” Sun, *History of Lenses*.

⁴⁵“Master Li Shizhen says, the fire generated from rocks damages vision.” Orig. “李時珍先生云, 石中之火, 損人頭目。” Sun, *History of Lenses*, 6.

⁴⁶Sun, *History of Lenses*, 7.

⁴⁷David L. Rolston, *How to Read the Chinese Novel* (Princeton, N.J.: Princeton University Press, 1990), 42–123.

⁴⁸The term “affect” is cited from affect theory, which has been retooled by a few critical theorists including Eve Sedgwick (gender theory) and Brian Massumi (media study) since the 1990s. It is based on Silven Tomkin’s psychological study from the 1960s. The affect theory provides a sophisticated perspective from which to analyze the emotion and sentiment encoded in sociopolitical events as well as in artifacts. For a discussion of the theoretical potential, see Melissa Gregg and Gregory J. Seigworth, ed., *The Affect Theory Reader* (Durham: Duke University Press, 2010), 1–25. For a critical review, see Ruth Leys, “The Turn to Affect: A Critique,” *Critical Inquiry* 37, no. 3 (Spring 2011): 434–72. This chapter on transcultural lenses only regards cultural affect as the subtle yet effective force that conventionalized cultural activities exercise upon judgment and consumptive choice.

Cultural Affect

Besides the employment of religious and moralistic tropes, to mobilize cultural affects also means to recall familiar and pleasant multisensory memory or imagination to the reader's mind by displaying pictorial tropes that are firmly associated with cultural practices and from which the sensory experience is conventionally generated.⁴⁹ Thus, the force of cultural affect lies not merely in readers' direct visual or haptic engagement with the artwork. The juxtaposition of texts and illustration affects the reader by means of triggering established sensorial association. For instance, "Incense Burning Lens" (*feng xiang jing* 焚香鏡) very likely refers to a convex lens crafted to focus light on a piece of incense cake and therefore to yield an even and subtle fragrance (Fig. 2). In order to vividly recall the olfactory experience of the popular cultural practice of incense burning among literati elites,⁵⁰ the illustration displays an enlarged lotus petal, inscribed with running calligraphic script: "There is no need of charcoal in beast shaped vessel to smelt elixir. The fragrant flame lasts and the light transport it. . ."⁵¹ The depiction of the lotus petal and the whole composition of this leaf takes a minimalist approach. The woodblock designer highlights the subtle undulating contour of the petal with a precise image that perfectly echoes the meaning of the signature, "pure incense" (*jing xiang* 淨香).

To recall several sensory experiences coupled with vision in a particular cultural practice, the illustration designer may choose a culturally coded image to invite the reader to re-experience the cultural scenario. For instance, a landscape illustration entitled "Sunset" (*xi yang tu* 夕陽圖) is appropriated to convey the experience of wearing sunglasses (*xi yang jing* 夕陽鏡) (Fig. 3): "Using the lens makes cool air permeate your skin and your hurt in eyes instantly ceases. Even if it is in scorching sunshine, it feels like dusk time in mountains."⁵² The landscape painting depicts a site populated with temples and mansions. The presence of many mountains implies that it is not an urban space but rather a suburban area for elite strolling or vocational retreat. Although a black and white woodblock print cannot fully represent the rich color of twilight, the image is culturally legible to the readers and easily calls to mind the haptic, visual, and even acoustic experience of hiking leisurely during sunset hours. This is the experience that the author persuades the readers that they could have if they wear a pair of sunglasses in scorching sunshine.

⁴⁹Dorinne Kondo's "The Tea Ceremony: A Symbolic Analysis" clarifies in detail how the ritualized sequencing of multisensorial experience encoded and evoked cultural value in the particular cultural scenario of the tea ceremony. Dorinne Kondo, "The Tea Ceremony: A Symbolic Analysis," in *Empire of the Senses: The Sensual Culture Reader*, ed. David Howes (Oxford: Berg, 2005), 192–211.

⁵⁰Incense burning is called "pure offering under the window facing south" (Orig. "南窗清供") in the text.

⁵¹Orig. "不須獸炭燃金丹, 香炎常存光自傳. . ." Sun, *History of Lenses*.

⁵²Orig. "用鏡則涼氣沁膚, 目痛立止, 雖炎炎烈日, 一如夕陽在山. . ." Sun, *History of Lenses*.



Fig. 3 *Xi yang tu* 夕陽圖 (Sunset), from the *History of Lenses*, main text, 10

Product Differentiation

Both the rhetoric of efficacy and the culturally affective strategy eventually contribute to augmenting the readers' desire to own these foreign but comprehensible lenses. To return to the comparison of illustrative paratexts and textual commentaries, the practice of publishing commentary had flourished since the second half of the Ming dynasty and coincided with a period of phenomenal commercialization. Previous scholarship relates the literati's enthusiasm for commentary to the crafting of civil examination essays. Much less attention has been paid, however, to the commercial rhetoric of many of these commentaries, especially the pictorial commentaries, as seen in the present case. In other words, my analysis of the transcultural configuration in this booklet teases out the implicit advertising rhetoric.

Customization is another prominent strategy employed in the booklet. Eight out of eleven entries include words suggesting the targeted client. For instance, Sun Yunqiu claims to be able to alter the presbyopic glasses and myopia glasses according to the vision of the customer: "He prepares the glasses according to your vision. Each customer obtain[s] what fit him the best."⁵³ And "He measures the capacity of individual vision and prepare lenses for them without slightest mistake."⁵⁴ "Reading glasses" (*tong guang jing* 童光鏡), are declared to be best for young people, mostly male civil examinees who read to prepare for the examinations: "This lens is suitable for youngman."⁵⁵ "The Burning Glass" might cater to merchants and officials who travel a lot: "It is easy to carry and therefore indispensable for traveling on boat and carriage."⁵⁶ A portable makeup mirror (*duan rong jing* 端容鏡) should be the "extraordinary treasure of [the] boudoir."⁵⁷ "Incense Burning Lens" is "indispensable for literati's pure offerings under the window facing south."⁵⁸ And "Microscope" enables "natural historians" (*bo wu zhe* 博物者) to "know what they did not used to know and see what they had never seen."⁵⁹ It is not a coincidence that the concluding sentences of eight entries are programed to identify the most suitable client. While the textual entries suggest potential customers, the illustrations are all the more suggestive in persuading readers to buy.

Seven out of eleven illustrations feature an artifact that is conventionally presented as a collectible luxury. Although the illustrations do not represent the lenses for sale, the artifacts, such as a fancy rock, a large piece of *bi* jade, rare bamboo strips mounted on an exquisite letter paper, a hardwood screen, and so on, perpetuate the psychological lure of ownership. The illustration for the makeup mirror is a pictorial synecdoche, as it portrays a lavishly dressed young lady,

⁵³Orig. "隨目置鏡,各得其宜." Sun, *History of Lenses*.

⁵⁴Orig. "量人目力廣隘,配鏡不爽毫釐." Sun, *History of Lenses*.

⁵⁵Orig. "此鏡利於少年." Sun, *History of Lenses*.

⁵⁶Orig. "便於攜帶,舟車途次尤所必需." Sun, *History of Lenses*, 6.

⁵⁷Orig. "香閨異寶." Sun, *History of Lenses*, 7.

⁵⁸Orig. "南窗清供似不可無." Sun, *History of Lenses*, 8.

⁵⁹Orig. "知所未知 and *jian suo wei jian* 見所未見." Sun, *History of Lenses*, 11.

which is often seen on contemporary decorative art, in order to signify the tiny mirror in her hand. Although the treatise also mentions the benefit of a makeup mirror for men “*xu mei bi bei* 須眉畢備,” the illustrator prioritizes the female figure because the image of a woman here is the objectified desire and therefore excites the desire for objects. To illustrate the last lens, “kaleidoscope” (*wan hua jing* 萬花鏡), the designer allegedly appropriates a leaf from *The Catalogue of Flowers* (*hua pu* 花譜) and seemingly focuses on the peony (Fig. 4). Yet the composition which foregrounds two peacocks and a fancy perforated rock, puts peonies in the background, suggesting an elegant garden estate. The inscribed poem, signed by the author himself, makes this real estate reference even more explicit: “The imperial beauty embosoms the fragrance as if they are curtain screens made of brocade. The immortal birds spread their wings to rival the flowers in blossom.”⁶⁰ Apart from stock literary allusions, many of the illustrated luxurious collectibles in the treatise also come from a repertoire of images.

Last but not least, I want to call attention to the similarities between the enumerative approach to representing artifacts in this treatise and Min Qiji’s twenty-leaf illustration to *The Romance of the West Chamber*, now in the Museum of East Asian Art in Cologne.⁶¹ This is very close to what Lin Li-chiang calls “an encyclopedic layout.”⁶² The program of illustrations like the one in the booklet on lenses, including collectibles such as rocks, small bronze vessels, letter paper, hand scroll, is used as a visual semiotic frame to assimilate the illustrated subjects into the indigenous cultural practice of connoisseurship; each artifact seemingly retrieves the association with a particular cultural activity. Depending on the selling point, the cultural program of artifacts in *The History of Lenses* may choose to distract the readers from the foreignness of the lenses. They direct the reader to the familiar cultural practice of the literati in order to minimize the heterogeneous nature of the illustrated topic. Moreover, the illustrations here attempt to translate the efficacy of the foreign lenses and attract the readers to buy. It is likely that the images in illustrations for a particular text may come from a larger pictorial repertoire that the designer also employed for other illustrated books.⁶³ While we are painstakingly deciphering the tenuous semiotic relationship between the text and the “illustrations,” we must also keep in mind the proper logic of images and the way in which they were selected and crafted to fit the “illustrated” texts.

⁶⁰Orig. “國色含香錦作帷，仙禽展翼鬥芳時。” Main text, 12.

⁶¹The album is fully reproduced in Edith Dittrich, Willibald Veit, and Arthur J. Jordan, ed. and trans., *Hsi-hsiang chi* = [Das Westzimmer] = *The Romance of the Western Chamber/Chinesische Farbholzschnitte von Min Ch’i-chi, 1640* (Cologne: Museum für Ostasiat. Kunst d. Stadt Köln, 1977).

⁶²Lin, *Proliferation of Images*, 105. Min Qiji’s twenty-leaf illustration is also inspiringly scrutinized by Jennifer Purtle, “Scopic Frames: Devices for Seeing China c. 1640,” *Art History* 33 (2010): 54–73.

⁶³Lin, *Proliferation of Images*, 251–307.



Fig. 4 *Hua pu* 花譜 (The Catalogue of Flowers), from the *History of Lenses*, main text, 12

Conclusion

This chapter attempts a rhetorical analysis of text/image relations in an artwork generated by a transcultural encounter. Instead of reconstructing the interaction of two well-defined cultural poles, I instead trace how the border between the familiar and foreignness is drawn to promote commercial products. By analyzing the advertising rhetoric in *History of Lenses*, I show how the foreignness of certain artifacts is highlighted or glossed over according to the author's agenda and eventually assimilated in the cultural inventory. Drawing insight from the study of senses, and from affect theory, I have developed a few analytical approaches with which we might be able to discover more forms of transcultural border-drawing effected in the presentation of artifacts across cultures, especially when we pay close attention to the underlying intention.

First, I analyze the rhetoric of ethos, which resorts to religious discourses and moral authority in commercial illustrations. Second, I show that the illustrations evoke particular sensory experiences by mobilizing established cultural tropes that are linked to specific cultural practices. This booklet on transcultural lenses exemplifies the formation of a genre of illustrated pamphlets in the condition of transcultural encounter that was facilitated by trade and missionary activity. Like quite a few other inventory-like booklets entitled *History* from this period, *The History of Lenses* provides no chronological information of optic devices. *History of Vases*,⁶⁴ *Addendum to the History of Tea*,⁶⁵ and *History of Lenses* are not "history" in the literal sense. They are inventories of culturally reframed artifacts coming from familiar and unfamiliar lands.

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⁶⁴Yuan Hongdao 袁宏道, *Ping shi* 瓶史 (*History of Vases*) (1599).

⁶⁵Chen Jiru 陳繼儒, ed., *Cha dong bu* 茶董補 (Addendum to the Correct Way to Drink Tea) (1612).

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