7. Treatise (*pu*) versus Illustration (*tu*): The Absence and Presence of Illustrations in *Pulu* Writings on Chinese Nature Studies

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Abstract: This chapter examines the complex relationship between text and image in *pulu* writing about animals and plants. *Pulu* began to thrive as a genre in the twelfth century, a time when bibliographer and historian Zheng Qiao coined the notion of image (*tu*) and descriptive text (*pu*) as mutually supportive means for the packaging of knowledge. *Pulu* are categorised on the basis of their topics and, against this background, are often expected to be illustrated, although this is rarely the case. The chapter sets out to explore examples of non-illustrated and illustrated *pulu* and the circumstances and scholarly attitudes that led to their production. The chapter begins with brief probes into the history of the bibliographical classification of *pu*- and *tu*-type books and some reflections on the titles of works.

Keywords: nature studies, *pulu* 譜錄, *tupu* 圖譜

Introduction

The Chinese historical genre of 'treatises and lists' (*pulu*) developed as one specialist mode for scholars to write and read about nature studies and material culture. *Pulu* are defined, on the one hand, by their topic, namely, a type or a group of concrete physical 'things' such as a certain type of plant, animal, or artefact, and, on the other hand, by their format, namely, a structure consisting of a specific set of chapters and/or a list of variants or individuals of the respective 'thing.' Becoming popular in the twelfth century, they continued to thrive until the end of imperial China and

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beyond.[1] As they describe 'things,' it seems almost a matter of fact that the texts would be accompanied by illustrations. This expectation was probably reinforced by the notion of *tupu*, i.e., the combination of illustration (*tu*) and treatise (*pu*), as the most reliable means to transmit knowledge, propagated by the Song-dynasty historian and philosopher Zheng Qiao (1104–1162). Historians of China have thus often been misled to assume that *pulu*, which began to thrive at around the same time, would adhere to that model.

This chapter aims to uncover the complex relation between *pu* (treatise/text) and *tu* (illustration/drawing) within *pulu* writing. It will consider the various types of illustrations in *pulu* writing and the significance of their presence or absence to examine the modes used by *pulu* authors to package, valorise, and redistribute knowledge. *Pulu* as a genre served Chinese authors[2] during the *longue durée* from the eleventh to the early twentieth century to present and frame specialist knowledge on animal and plant species without addressing overarching (Western) concepts such as botany or zoology. After the introduction of Western science, authors employed modernised versions of *pulu* to serve their audience of aficionado communities such as orchid cultivators and goldfish breeders among others. However, they retained genre-specific modes of presenting their knowledge and sometimes even developed their own 'modern' forms of illustration. Other groups of *pulu* readership, namely, those reading *pulu* for erudite enjoyment and those reading about a specific *pulu* topic to acquire an overview of all there was to know about a specific 'thing,' partially moved on to other genres. Nevertheless, in any modern book on, for example, chrysanthemums one often still finds references to historical *pulu* writings and their expertise.

Before embarking on discussing examples of *pulu* titles and their use or non-use of illustrations, the first section of this chapter addresses two more general questions.

1 For a short introduction on the development of *pulu* as a genre and bibliographical category in historical China see Martina Siebert, "Neue Formen für neue Themen – *pulu* als bibliographische Kategorie und als Schriften zu Sach- und Naturkunde," in Florian C. Reiter, ed., *Das Reich der Mitte – in Mitte. Studien Berliner Sinologen* (Wiesbaden: Harrassowitz, 2006), pp. 59–70; for a more in-depth analysis, see Siebert, *Pulu – 'Abhandlungen und Auflistungen' zu materieller Kultur und Naturkunde im traditionellen China* (Wiesbaden: Harrassowitz, 2006). On the notion of possessing the objects described in *pulu* or constructing the knowledge about them as referenceable truth within the scholarly world of texts, see Siebert, "Consuming and Possessing Things on Paper: Examples from Late Imperial China's Natural Studies," in Elif Akçetin and Suraiya Faroqhi, eds., *Living the Good Life: Consumption in the Qing and Ottoman Empires of the Eighteenth* (Leiden and Boston, MA, Brill 2017), pp. 384–408; and Siebert, "Animals as Text: Producing and Consuming 'Text-Animals'," in Siebert, Roel Sterckx, and D. Schäfer, eds., *Animals Through Chinese History* (Cambridge: Cambridge University Press, 2018), pp. 139–159.

2 Many *pulu* works did rely heavily on the collection and arrangement of existing text snippets. I will nevertheless call them 'authors' instead of 'compilers,' etc. as their role in the titles themselves and in historical bibliographies rarely is labelled as 'compiled by' but most often as 'written by.'

It firstly examines how *tu* (illustration) played out in the book titles of *pulu* and secondly follows some traces in early Chinese bibliographical classification that suggest a special perception and classificatory treatment of illustrated works and works of a treatise or register type (*pu*). The second section of this chapter reflects on various aspects relating to non-illustrated *pulu* using the popular *pulu* topic of chrysanthemums as an example. The third section introduces works in which paintings of specimens played a role in the process of compiling a *pulu* but were later discarded in the publication process while the fourth section selects examples of painted *pulu* albums to reflect on the supposed advantage of these paintings over printed illustrations. The fifth and final section explores three examples of illustrated *pulu* depicting the multitude of varieties of a species and the challenges of tackling their similarities by means of illustrations alone.

1. Book Titles and Bibliographical Classification: Perspectives on *Pu* and *Tu*

There are several indicators for identifying a work as belonging to the *pulu* genre, namely, title, content, and structure, and, lastly, the authors' self-positioning within the tradition of *pulu* writing. The identification of the *pulu* genre, but also of the knowledge fields it constitutes, can further be guided by the classificatory assessment by bibliographers and library owners from the cultural sphere and the time of the respective works. This first section of the chapter investigates two of these aspects: firstly, how the choice of work titles reflects the presence or absence of illustrations; and secondly, how early bibliographical classification schemes sketched the relation of *tu* and *pu* titles to each other and to their specific knowledge area.

The title of a *pulu* in most cases simply combines the subject of the work (i.e., the specific species or artefact) with either the term *pu* or *lu*.[3] Whereas in cases such as 'chrysanthemum treatise' (*Ju pu*) the title reliably identifies the work to be of the *pulu* type, the appearance of *tu* (diagram/illustration) in a title does not guarantee that there are illustrations in the work, which also applies, of course, to works other than *pulu*. Two telling examples are the titles *Illustrated Eulogies of Remarkable Fish* by Yang Shen and *Detailed Register for a Book on Bamboo* (Zhupu xianglu; preface 1301) by Li Kan. Yang Shen's work, despite having 'illustrated' in its title, is plain text; Li Kan, however, heavily relies on a combination of text and image to describe his bamboo varieties, without the book title making any mention

3 *Pu* and *lu* are used as signifiers in about half of all *pulu* titles but appear together as *pulu* only as label of the bibliographical classification. For a more in-depth analysis of *pulu* titles, see Siebert, *Pulu – 'Abhandlungen und Auflistungen'*, pp. 135–146.

of it. Both titles and what their authors had to say about this discrepancy will be discussed in some detail below.

Two modern historians have used bibliographies of historical book titles to estimate the number of illustrated works. Dong Censhi counted 170 *pulu* titles dating to the Song dynasty (960–1279) of which forty-two contain illustrations – or at least say so in their title. Their larger share, i.e., twenty-eight titles, are works on antiques, coins, and seals; fourteen titles feature plants, tea, incense, and the scholar's studio as their topic.[4] This proportion of supposedly illustrated *pulu* declines significantly when taking those from pre-Song times until the end of the Qing dynasty (1644–1911) into account. Of the 1,189 *pulu* references I collected over the years, only sixty-three, i.e., five per cent, contain the term *tu* in their title. An even lower percentage of illustrated titles are found in Du Xinfu's *Bibliography of Ming Editions* (Mingdai banke zonglu). Craig Clunas counted only two hundred titles labelled as 'illustrated,' which amounts to two per cent of all titles listed in this bibliography. Clunas suggested two possible reasons for this, which seem to contrast with the popularity of illustrations during the Ming. One possible reason for this phenomenon, according to Clunas, is that elite scholars viewed books advertising their illustrations as objects of vulgarity and luxury; another one is that illustrations were possibly too common at the time to warrant special mention in the title.[5] Definitive statistics on illustrated publications of the Song, Ming, and Qing dynasties (including information on size and position of the illustrations within the book and on the page, etc.) will require a digital analysis of a large corpus of scanned images. However, the contributors to *Graphics and Text in the Production of Technical Knowledge in China* provided a thorough investigation of the functions of illustrations and diagrams in various textual traditions and fields of knowledge in imperial China.[6] Especially Bray's definition of *tu* as a functional rather than stylistic category, which can be applied to both monochromatic line drawings in printed *pulu* texts and to richly coloured images in painted albums, provides an analytical framework for this chapter.[7] Bray differentiates between two main types of illustrations: "transformative *tu*" aiming to lead the reader to spiritual advancement, and "representational, illustrative *tu*" conveying explanatory and instructional information. *Pulu* illustrations appear to mainly belong to the

4 Dong Censhi, "Min hui shi, xiu cheng pu, xie cheng tu – Songdai pulu zhong de tupu," *Wenjin xuezhi* (2018): 142.

5 Craig Clunas, *Pictures and Visuality in Early Modern China* (London: Reaktion Books, 1997), pp. 34–35. Clunas' statistic is based on Du Xinfu's catalogue, which lists nearly ten thousand titles; see Du Xinfu, *Mingdai banke zonglu* (Jiangsu: Jiangsu guangling guji keyin she, 1983).

6 See Francesca Bray, Vera Dorofeeva-Lichtmann, and George Métailié, eds., *Graphics and Text in the Production of Technical Knowledge in China: The Warp and the Weft* (Leiden: Brill, 2007).

7 Bray et al., *Graphics and Text*, p. xiii.

latter type, although they may also sometimes have been aimed to trigger a reader's inner sensation.[8]

Since the Song dynasty and the *Library Catalogue of the Suichu Hall* (Suichutang shumu, compiled in the twelfth century), the catalogue of the private library of You Mao (1127–1194), the stage was set for *pulu* writings to be assigned their own bibliographical classification.[9] The following short excursion widens the perspective slightly and follows some early bibliographical traces that suggest a special classificatory assessment of illustrated works (*tu*) and works of the treatise/register (*pu*) type. In these assessments, *pu* and *tu* were considered supplementary to each other and to their specific knowledge field. When considering the relation of *tu* and *pu*, the natural starting point is the Song dynasty philosopher Zheng Qiao, mentioned at the beginning of this chapter. Zheng stipulated the complementary roles of illustrations and texts to safeguard and transfer knowledge. His statement in the chapter "On illustrations and treatises" (Tupu lüe) of his encyclopaedic *Comprehensive Records* (Tongzhi, published 1161) counts as the *locus classicus* of this notion:[10]

> Illustrations are the warp and texts the weft; one warp, one weft, when woven together they become 'writing/culture' (*wen*).
> ...
> Reading the text but not looking at the illustration is like hearing the sound without seeing the shape; seeing the illustration without reading the text is like seeing the person but not hearing what he says.[11]

In his chapter "On bibliography" (Yiwen lüe) of the same work, Zheng Qiao exemplifies how he assessed the role of *tu* and *pu* type works of the past. Zheng subdivided several of his bibliographical classes into special sub-classes or sections for *tu*

8 Bray et al., *Graphics and Text*, pp. 33–34. A case of the 'transformative' type is surely the *Treatise on Mei-Plum Blossom Portraiture* (*Meihua xishen pu*) by Song Boren of the thirteenth century. Song depicts the various stages of the blossoming of Prunus *mume* (translated as either plum or apricot) and the positions of the flower on the twig as moral-ethic metaphor for the scholar. Maggie Bickford, *Bones of Jade, Soul of Ice: The Flowering Plum in Chinese Art* (New Haven, CT: Yale University Art Gallery, 1985). For a translation and reproduction of all illustrations, see Peter Wiedehage, *Das Meihua xishen pu des Song Boren aus dem 13. Jahrhundert: Ein Handbuch zur Aprikosenblüte in Bildern und Gedichten* (Nettetal: Steyler Verlag, 1995). However, Song's work is almost never identified as a *pulu* by Chinese bibliographers. In their view, it belonged to the bibliographical classification of 'art' (*yishu*).

9 For an account of how *pulu* have moved through the classification schemes see Siebert, *Pulu – 'Abhandlungen und Auflistungen'*.

10 Unless stated otherwise, all translations are mine.

11 Zheng Qiao, *Tongzhi*, in *Siku quanshu*, edited by Ji Yun et al. (Beijing, 18th century, reproduced in *Wenyuange Siku quanshu*, Shanghai: Shanghai guji chubanshe, 2003), vol. 372–381, *juan* 72, p. 1b.

and *pu* types of titles. A closer consideration of the hierarchical level of these *pu* and *tu* sub-classes reveals that their placement was determined by the field of knowledge they belonged to. In some fields, Zheng saw them as integral and he mixed *tu*/*pu* and non-*tu*/*pu* titles within the same class; in others, he counted them as supplementary but separate classes to the respective knowledge field. Zheng structured his bibliographical classification scheme into twelve main classes (*lei*) with two levels below, i.e., sub-classes (*xiao lei*) and sections (*mu*). Within the first two main classes, i.e., "Canonical writings" (*jing lei*) and "Rites" (*li lei*), several sub-classes have slots for *pu* and *tu* type works, but they appear only at the lowest level of the sections (*mu*).[12] In the main classes of "Medicine and therapy" (*yifang lei*) and "Five agents" (*wuxing lei*), however, Zheng installed them directly under the respective main classes as the sub-classes "Illustrations of *materia medica*" (*bencao tu*) and "Yijing diagrams" (*yi tu*). An example for sub-classes in which works with *tu* in their titles are not separated from the non-*tu* works is "Astronomy/Astrology" (*tianwen lei*). This suggests that Zheng Qiao considered illustrated works in this knowledge field as a standard and more integral part of writing, while in others, such as "Medicine" and "Rites," they constitute supplements and are – at different levels – peripheral to the more text-oriented canon of knowledge.

When we search for the already flourishing genre of *pulu* writings in Zheng Qiao's bibliography we find them already acknowledged as a separate classification. Zheng placed titles which would later fill the classification labelled *pulu* under the heading "economics" (*shihuo lei*, literally "Food and goods"), a sub-class under the main class "History" (*shi lei*).[13] This model was rarely followed by later bibliographers.

When looking further back into the history of bibliographical classification and a time when *pulu* were not yet established as a genre, we find two authors who like Zheng Qiao assessed *tu* and *pu* as supplemental categories to knowledge fields. Wang Jian (452–489) even introduced a separate "Tract of illustrations and treatises" (*tupu zhi*) as the seventh and last main category in his bibliography *Seven Tracts* (Qizhi). This work is no longer extant, but Ruan Xiaoxu (479–536), a bibliographer who saw himself as Wang's successor, reported about this special feature of Wang's classification scheme in his own bibliography, the *Seven Records*

12 Five of the sub-classes of the "Canonical writings" and four of the class "Rites" have sections plainly named *tu* or *pu*. Other sections add a specifier to their designation as for example the section "Illustrations of clothing" (*fu tu*) in the sub-class "Mourning garments" (*sang fu*) or the section "Genealogical treatises" (*shi pu*) in the sub-class "Annals of the Spring and Autumn Era" (*Chunqiu*). A diagram of all three levels of Zheng Qiao's bibliography is presented for example in Yao Mingda, *Zhongguo mulu xueshi* (Beijing: Shangwu yinshuguan, 1998, reprint of 1938 edition), pp. 108–110.

13 The sub-class "Food and goods" is further subdivided into the bibliographical sections (*mu*) of "Goods and valuables" (*huobao*), "Objects of use" (*qiyong*), "Animal care" (*huanyang*), "Plant cultivation" (*zhongyi*), "Tea" (*cha*), and "Wine" (*jiu*).

(Qilu). Nevertheless, Ruan dissolved this class again, and – as he explains in his preface – moved Wang's "illustrations and treatises" back to the end of the class or section they belong to according to their topic.[14] Like Zheng Qiao, Ruan treated *tu* and *pu* as appendices or supplements to classification groups defined by topic. Wang Jian, however, had considered *pu* and *tu* type works as supplementary to the whole set of the other six classifications in his bibliographical scheme.

Wang and Ruan addressed notions of *pu* and *tu* at a time when *pulu* was still developing as a genre. These traces of early bibliographical handling of *pu* and *tu* titles may point to one reason why *pulu* evolved as a separate scholarly genre, namely, the necessity to store and retrieve knowledge considered supplemental to the core of orthodox knowledge fields, such as the works Zheng Qiao put into the section "Illustrations of clothing" within the "Rites" classification (see footnote 12). The topics of *pulu*, however, quickly developed beyond those relevant for understanding canonical writings. In addition, *pulu* provided systematic information and detail not essential for contextualising a species or an object mentioned in the canon. Eventually, *pulu* established itself as a special form of writing at the periphery of acknowledged knowledge fields but by no means outside established forms of scholarly expertise. The supplementary position of *tu* and *pu* to the 'core' of scholarly production allowed *pu*-text and *tu*-image to function as equal and sometimes even interchangeable means of producing specialised knowledge. Therefore, whether *pulu* contained illustrations or not became a secondary issue. As will be discussed below, although they were interchangeable, scholars seem to have favoured text over image. The following sections of this chapter point out some of the issues that may have led to this preference.

2. *Pulu* without Illustrations

As already noted at the beginning of this chapter, most *pulu* rely on text alone to convey the 'idea' of the appearance and the character of a plant, animal, or object to their reader.[15] *Pulu* includes a broad range of available knowledge ranging from

14 Ruan Xiaoxu's bibliography is also lost today. Only his extensive preface is handed down by its inclusion into a collection compiled in the late seventh century. A copy of Ruan Xiaoxu's preface to his *Seven Records* can be found, for example, in Yuan Yuanqiu and Zeng Jiguang, eds., *Zhongguo lidai tushu zhulu wenxuan* (Beijing: Beijing daxue chubanshe, 1997), pp. 175–186. For Ruan's description of Wang Qian's bibliography and his rearrangement of the "Tract of illustrations and treatises," see the pages 177–178.

15 I use the word 'idea' here deliberately. Many descriptions use, to put it positively, a spacious verbal framework to outline a species, variety, or object. This is sometimes because the author himself has never really seen the 'thing' in question. However, what also may have played a role is the notion that the closer one looks, the more differences and varieties one detects. Interconnected communities, such

things seen or experienced by the author to textual sources. Authors of *pulu* often freely combined empirical knowledge and cited sources. However, the use of these different sources did not determine the absence or presence of illustrations in *pulu*. A good example for this is the illustrated *Treatise on Stones from Suyuan Garden* (Suyuan shipu; preface 1613) on decorative garden stones. The author, Lin Youlin (fl. early seventeenth century), depicted stones he had encountered during his travels and those he had only read about. In his preface, Lin admits having seen only about one fifth of the stones described and depicted in his work. "But the specialist can surmise the whole even when he has learned only about a part of it" – an attitude for which the compilers of the *Collected Abstracts of the Imperial Manuscript Library of All Four Bibliographical Classes* (Siku quanshu zongmu tiyao) criticised his work as being unreliable.[16]

Chrysanthemums provide a good example of *pulu* with (see section five of this chapter) and without illustrations. The plant was widely cultivated in people's gardens since the tenth century and became one of the most prominent topics of *pulu* writing. With over sixty known *pulu* titles, it is only outnumbered by *pulu* on tea and ink slabs. Chrysanthemums were popular as flowers with numerous shapes and colours and as a symbol of the scholarly hermit flourishing in the autumn of his life. The three non-illustrated *pulu* on chrysanthemums discussed below highlight the various considerations behind the absence of illustrations.

The first example is Liu Meng's (n.d.) *Treatise on Chrysanthemums* (Ju pu; preface 1104), one of the first *pulu* on chrysanthemums. Liu's work addressed several recurring topics in *pulu* on nature studies. He describes thirty-five chrysanthemum varieties, reflects on changes in the appearance of a flower generated by professional gardening, the regionality of their names and finally discusses the difficulty of correctly identifying varieties. His work is presented as the result of a visit to a scholar friend living in the north, far from Liu's home in Fujian. The friends had spent their time chatting about chrysanthemums and arranging the chrysanthemum collection of Liu's friends into a hierarchy based on the aesthetic appeal of their colour, fragrance, and "grace" (*tai*).[17] Liu Meng did not touch upon the subject of

as those established by Western scientists from the seventeenth century on, developed and agreed on basic anchors for identifying differences and identities between species; aficionado groups of orchid and chrysanthemum lovers – in China and everywhere else – tend to develop their own sets of defining criteria that are individual for the respective species and reflect the group's own focus of interests and enthusiasms.

16 Lin Youlin, *Suyuan Shi pu, fanli* ('Reading Guidelines'), p. 1a (reprint *Xuxiu Siku quanshu*, Shanghai: Shanghai guiji chubanshe, 1995–2002, vol. 1112, p. 605); Yong Rong, *Siku quanshu zongmu tiyao* (Beijing, eighteenth century, reprint, Beijing: Zhonghua shuju, 1987, 4th edition), vol. 116, p. 999.

17 Liu Meng, *Liu shi ju pu, pu xu* (Preface to the Treatise), in Ji Yun et al., eds., *Siku quanshu* (Beijing: eighteenth century, reproduced in *Wenyuange Siku quanshu*, vol. 845. Shanghai: Shanghai guji chubanshe, 2003), pp. 2a–b.

illustrations. And, indeed, the features he focused on were difficult to capture in an illustration. Moreover, Liu seems to have wanted the whole setting to be remembered: two learned gentlemen exploring various facets of chrysanthemums while interacting with the actual plants at his friend's home on that specific occasion.[18]

Most *pulu* authors pursued a different approach to Liu's event-driven account. They aimed at covering their chosen topic comprehensively, spending years to assemble their material. In addition to observing actual plants, they networked with likeminded friends and knowledgeable merchants, and located books on the topic by other authors. As a result, they faced a plethora of names and regional variations that were often impossible to match with varieties of their time and region. Adding to this the mutability of the individual appearance of a flower over time, some scholars decided to use only textual sources because they provided stable reference points and addressable units of knowledge.

An example of a seemingly purely philological project is Yatao's (active mid- to late-nineteenth-century) compilation of chrysanthemum names, *Chrysanthemum Treatise of the Huayun Balcony Parlor* (Huayunxuan ju pu, 1867). Probably overwhelmed by the 520 names he had assembled, Yatao chose an arrangement according to their rhyme category.[19] A more standard perspective of *pulu* writing on chrysanthemums is presented in the *Collected Treatises on Hundreds of Chrysanthemums* (Bai ju jipu) by Shi Zhu, compiled between 1242 and 1250.[20] In this work, Shi Zhu described thirty-nine chrysanthemum varieties he grew in his garden and referenced the content of five *pulu* on chrysanthemums from his library. He described the varieties from his garden when they were in a state of full bloom, because, as he stressed, it was necessary to know which stage of the flowering was described to identify a variety. Shi Zhu did not include any illustrations and seems

18 Liu does add some references to chrysanthemums he had not seen at his friend's home and thus does not include them in the hierarchy they had established together. One example is the "wild chrysanthemum" (*ye ju*), since Tao Hongjing (456–536) an icon for the life of a hermit, which does "preserve its 'as-is' [naturalness]" (*bao qi ziran*) and thus is an ideal a scholar should emulate. See Liu Meng, *Liu shi ju pu*, p. 19a.

19 Yatao's work, the *Chrysanthemum Treatise of the Huayun Balcony Parlour* (*Huayunxuan ju pu*), is included with an abstract in the *Xuxiu Siku quanshu zongmu tiyao* (*gaoben*) (Draft for a Sequence to the '*Siku quanshu*') (Beijing: Zhongguo kexueyuan tushuguan, 1996, vol. 5, pp. 307f); it is not included in the collection of the same name, the *Xuxiu Siku quanshu*. The work might not be extant anymore. Yatao was one of the sobriquets of Xu Baoqian (1817–1897) who seems to be the Yatao responsible for this chrysanthemum work. Xu is listed with this sobriquet as author of medical writings in Xue Qinglu, *Quanguo zhongyi tushu lianhe mulu* (Beijing: Zhongyi guji chubanshe, 1992), pp. 147, 273.

20 The two dates derive from the prefaces to the *Collected Treatises on Hundreds of Chrysanthemums* and its appendix, the *Supplement to the History of Chrysanthemum* (*Ju shi buyi*). The earliest extant printing of the work is of much later date and part of the collection *Miscellaneous Works from the Mountain Residence* (*Shanju zazhi*) of the Wanli era (1573–1620). This version of Shi Zhu's work is also the one used when compiling the late eighteenth century *Imperial Manuscript Library of All Four Bibliographical Classes* (*Siku quanshu*). Shi Zhu, *Bai ju jipu*, in *Siku quanshu*, vol. 845.

to have transferred what he saw directly into words. Moreover, it appears that he even excised the images that probably once belonged to the *Treatise Illustrating the Shapes of Chrysanthemums* (Tuxing ju pu), i.e., one of the five *pulu* he had added to his work.[21] Shi Zhu stated that he had "extracted the important parts" (*zhe qi yao*) of this work, which – as we know from Shi Zhu's compilation today – meant the preface and the names of forty-one chrysanthemum varieties but not the illustrations.[22]

3. Illustrations with Mediating Roles in the Process of Compiling *Pulu*

The examples above prioritised texts over illustrations for various reasons. In addition, in these examples, illustrations appear not to have played any role in the production process of the work. In the examples of *pulu* writings discussed in the following section, illustrations did play a role, either as incentives to produce a *pulu* or as tools to assemble a collection of items as the basis of a *pulu*. In both types, the illustrations were nevertheless not included in the published works. A telling example of the first type is the already mentioned *Illustrated Eulogies of Exceptional Fish*, which – despite its title – contained no illustrations. According to Yang Shen's 1544 preface, the inspiration to compile a work on this topic was indeed triggered by an illustrated work titled *Illustrations of Exceptional Fish* (Yiyu tu) compiled by an unknown author of the Southern Dynasties (420–589). Yang's original plan was to expand the *Illustrations of Exceptional Fish*. However, realising that it contained numerous errors, he turned to early "medieval treatises on local products (*wuzhi*) and other works" to compile his own version of a work on fish and other marine animals.[23] In terms of style, he decided to follow the model set by

21 The author of the *Treatise Illustrating the Shapes of Chrysanthemums* is given as Hu Rong, a native of Chicheng (Hebei). According to Shi Zhu, this work was finished in 1191 in originally two *juan* (roughly "volume") (Shi Zhu, *Bai ju jipu*, *juan* 5, p. 1a).

22 The only existing prints of Shi Zhu's compilation are those included into the book collection *Miscellaneous Works from the Mountain Residence* (footnote 20). In case he had not excised the images himself, the inclusion of Shi Zhu's work into this collection could have been the typical turning point in the history of the *Treatise Illustrating the Shapes of Chrysanthemums* in which illustrations were omitted due to cost constraints. Wang Yuhu's bibliography of Chinese agricultural writings lists Shi Zhu's work in a way that suggests an individual printing but does not give any specifics – and also does not mention any illustrations; Wang Yuhu, *Zhongguo nongxue shulu* (Shanghai: Nongye chubanshe, 1964), p. 99. However, none of the contemporary rare book catalogues supports the existence of such a separate printing. In all cases I have checked, so-called "Ming prints" turned out to be copies from the *Miscellaneous Works from the Mountain Residence* collection.

23 Yang Shen, *Yiyu tuzan*, in *Siku quanshu*, vol. 847, *yin* ('Lead-in'), p. 1a (reprint *Siku quanshu*, vol. 847). In the early seventeenth century, Yang, in turn, inspired another author. Hu Shi'an (1593–1663) continued Yang's work with a 'Supplement' (*Yiyu tuzan bu*) and 'Surplus collection' (~ *runji*) in 1618 and 'Commentaries'

Guo Pu's *Illustrated Eulogies on the 'Mountain and Sea Canon'* (Shanhai jing tuzan). Whereas Guo Pu's eulogies were composed to relate to illustrations, Yang skipped the illustrations but kept the name "illustrated eulogy" (*tuzan*). In Yang's view, the reader could envision the fish based on words alone, so there was "no need to use colourful images to show off their splendour".[24] The Qing dynasty bibliographer Zhou Zhongfu (1768–1831) interpreted this as the replacement of illustrations with eulogies.[25]

The term "illustrated eulogy" (*tuzan*) was a genre marker for works in the tradition of Guo Pu's style, in which a eulogy (*zan*) highlights one's appreciation of the illustration or the illustrated (*tu*).[26] The term *tuzan* was later often used for portraits of the author of a book or the key characters in a novel which together with a eulogy of the depicted were added at the beginning of a work. Yang Shen's decision to call his work an "illustrated eulogy" despite omitting illustrations was an exceptional move, one that was continued by Hu Shi'an in the first half of the seventeenth century (see footnote 23). We can assume that Yang chose the style of a eulogy to provide information in a condensed and scholarly acceptable format. For his own work, he considered his words sufficient and illustrations unnecessary for passing on relevant information. Two centuries later, the compilers of the *Imperial Manuscript Library of All Four Bibliographical Classes* took issue with this assertion and criticised Yang for omitting illustrations.[27]

Another type of involvement of illustrations in the production of a non-illustrated *pulu* is exemplified by a *pulu* on lychee (*Litchi chinensis*) by the scholar-official

(~ *jian*) in 1630. Hu kept the term "illustrated eulogies" in the title but also did not add any illustrations (reprint *Siku quanshu*, vol. 847, pp. 751–848). The painted album Yang refers to in his preface is lost and no information about the author or illustrator is known. Moreover, the title is quite generic. At the end of the nineteenth century, Zhao Zhiqian (1829–1884) painted a two-metre-long scroll of the same title with depictions of various fish and seafood arranged together with their names and descriptions (see contribution by Wang Ching-ling, fig. 6.7). Fish books closer to the style of *pulu* are the illustrated album *Illustrated Seafood* [*Album*] (Haicuo tu, published as *Qinggong Haicuo tu* by the Gugong chubanshe in 2014), and the fish album discussed by Wang Ching-ling in this volume.

24 Yang Shen, *Yiyu tuzan*, *yin*, p. 1a.

25 Zhou Zhongfu, *Zhengtang dushu ji* (reproduced in *Xuxiu Siku quanshu*, Shanghai: Shanghai guji chubanshe, 1995-2003), vol. 924–925, *juan* 51, p. 16b. Zhou's use of the word *dai* ("replace/stand in") confirms my reading of Yang's phrase as discarding illustrations. Others have interpreted Yang's phase as an opposition to a "flowery and incomprehensible" language; Yang Zhao, "Yang Shen 'Yiyu tuzan' de wentixue yiyi," *Jianghan luntan* 2 (2012): 101–104.

26 Dong Censhi strictly differentiates between *tupu*, "illustrated treatises," and *tuzan*, "illustrated eulogies." While in his interpretation the first mostly follow the path of an objective display supplementing the verbal description, the latter are a means to express a personal, subjective evaluation in rhymed verse of the object or person depicted. See Dong, "Min hui shi, xiu cheng pu, xie cheng tu," 146. Roel Sterckx also briefly addresses *tuzan*; Sterckx, "The Limits of Illustration: Animalia and Pharmacopeia from Guo Pu to *Bencao Gangmu*," *Asian Medicine* 4 (2008): 357–394, especially 365f.

27 Yong Rong ed., *Siku quanshu zongmu tiyao*, vol. 115, p. 996.

Cai Xiang (1012–1067). Cai had served as prefect in several locations in Fujian and Zhejiang, where lychee fruits were abundant. He thus decided to dedicate the first *pulu* to this topic. Cai reports that each time he encountered a lychee of superior quality, he evaluated its features and asked a professional painter to draw it "from life" (*ming gong xiesheng*).[28] Having assembled a sufficient number of images and notes, he finally sat down to compile his *pulu*, inaugurating lychee into the body of *pulu*. However, the images of the fruits had only served as visual aids in his study of the topic. He discarded them in the final publication.[29]

It is unclear how often images were used as aids in the process of producing *pulu*. The previous chapter by Ching-Ling Wang implies that this might have happened more frequently than the imageless printed versions we see today suggest. At least one more example of a printed *pulu* with a production workflow like Cai's can be named. Zhang Qiande (1577–1643), or Zhang Chou as he later called himself, entertained a lifelong passion for goldfish. He had encountered many different specimens and had the finest ones painted (*tuxie*) by professional painters. In contrast to Cai, Zhang did not produce individual entries on the varieties based on the paintings but presented more abstract types of goldfish deduced from recurring colour patterns and shapes in his work.[30]

As will be discussed in the last section, adding illustrations to a *pulu* could involve intellectual and technical challenges. And there was always, of course, the fundamental challenge of increased printing costs. Authors also considered the

28 Cai Xiang, "Yuan benshi" (Exploring [the Topic's] Beginning and History), in *Lizhi pu*, in *Siku quanshu*, vol. 845, p. 154. "*Xiesheng*" later became one of the early Chinese terms for "photography."

29 From a letter to Cai Xiang by another famous Song-dynasty author, Ouyang Xiu (1007–1072), we learn that Ouyang had made copies of "lychee illustrations" (*lizhi tu*) owned by Cai. Ouyang's letter dates to 1065, that is six years after Cai Xiang had finished his *pulu* on lychee and two years after Ouyang had written a preface to the work. Dong takes this time discrepancy to imply that the illustrations are not the ones that served as the basis for Cai Xiang's book. Dong, "Min hui shi, xiu cheng pu, xie cheng tu," p. 150.

30 Zhang Qiande, *Zhushayu pu* (*Treatise on Vermillion Fish*), in *Meishu congshu* (Taibei: Guangwen shuju, reprint 1963), pp. 125–134; the above quote can be found on page 126. A.C. Moule published an extensive article including a translation of this work under the title "A version of the Book of Vermillion Fish," *T'oung Pao* 39 (1950): 1–82. The same year – and in correspondence with Moule – George Hervey had published *The Goldfish of China in the XVIII Century* (London: The China Society, 1950). His volume contains two translations of materials relevant to the history of knowledge about Chinese goldfish in Europe. Firstly, the first European book on goldfish, the illustrated *Histoire naturelle des dorades de la Chine* by Edme-Louis Billardon de Sauvigny published in Paris 1780, and secondly, a *Mémoire* sent to Henri-Leonard Bertin (1720–1792) a few years before Sauvigny's book by Jesuit missionaries in China together with a painted scroll, six metres in length, depicting ninety-two goldfish. The history and depictions of Chinese goldfish in the West is another topic. The fish dramatically changed their appearance when copied from the Chinese scroll into Sauvigny's book. They had lost their bulging eyes and veil-like tails and appear just like interestingly coloured carps. The original goldfish scroll is kept at the library of the Muséum National d'Histoire Naturelle in Paris. Sauvigny, *Histoire naturelle des dorades de la Chine* (Paris, 1780, digital copy, Harvard University, Museum of Comparative Zoology, Ernst Mayr Library, https://doi.org/10.5962/bhl.title.6902).

accessibility of their work, which might suffer when illustrated or even painted. This argument was put forth by Kong Wuzhong (1042–1097) in a critique of his predecessor Liu Ban's (1022–1088) writing on herbaceous peonies (*shaoyao*, i.e., *Paeonia lactiflora*). Liu Ban favoured painted albums to distribute his knowledge about the plants. He claimed to have commissioned illustrations for his work to "more fully inform those unfamiliar with the plant, and to prove the reliability of his account to those who already knew it."[31] A few years later, Kong criticised this elitist attitude in his own *Treatise on Herbaceous Peonies* (Shaoyao pu), stating that "only those of our generation with sufficient resources can fetch a skilled painter to provide illustrations [of their varieties of herbaceous peonies], flaunting them everywhere. Nothing surpasses a description in writing to make [knowledge] universally accessible to all."[32] Paradoxically, both works did not survive as individual works. Liu's manuscript encountered the fate of numerous illustrated works as only its preface and the names of the herbaceous peonies have survived in an encyclopaedic collection of the thirteenth century. Despite Kong's argument on the accessibility of his *pulu*, his work only survived as a section in a twelfth-century collection of brush notes.

Yang Shen and Kong Wuzhong considered textual descriptions as substitutes for or equivalents to illustrations of objects. In exceptional instances, *pulu* authors thought the text of a *pulu* could also function as an 'illustration' in its own right. The *Classic of Tea* (Cha jing) by Lu Yu (733–804), an early model text for *pulu* writing, covers standard *pulu* subjects such as the history of tea, its manufacture, and tea-producing areas. The tenth and last chapter of the *Classic of Tea* is labelled "Illustration of tea" (*Cha zhi tu*), although it does not contain any visual representations. Instead, Lu advised his readers to transcribe the preceding nine chapters onto four or six pieces of silk and to display them in the tearoom. This would allow the text "to catch the eye and be instantly memorable" (*ji mu er cun*).[33] Cai Xiang's *Record of Tea* (Cha lu, epilogue dated 1064) probably envisioned a similar use of text as image. Cai had this text carved in stone to preserve its legacy in more permanent form, allowing later generations to take rubbings from the stone which could similarly be turned into an item for display.[34]

31 Liu Ban, *Shaoyao hua pu*, reproduced in Zhu Mu (Thirteenth century), *Gujin shiwen leiju houji* (Nanjing, 1604/1763), *juan* 30, pp. 16a–18a. The quote translated above is found on page 17a (see digitised copy provided by Bavarian State Library, https://www.digitale-sammlungen.de/view/bsb00059658?page=229).

32 Kong Wuzhong, *Shaoyao pu*, reproduced in Wu Ceng (twelfth century), *Nenggaizhai manlu*, in *Siku quanshu*, vol. 850, *juan* 15, p. 21b.

33 Lu Yu, *Cha jing*, in *Siku quanshu*, vol. 844, *juan xia*, p. 14b.

34 Cai Xiang, *Cha lu*, in *Siku quanshu*, vol. 844, p. 5b. The fate of this stone is reported in a Ming dynasty epilogue to the *Cha lu* by Xu Bo (1570-1642). Xu Bo, *Chong bian Hongyulou tiba* (seventeenth century, reproduced in *Shumu congbian*, 3rd collection, Taibei: Guangwen shuju, 1969), vol. 50, *juan* 1, 25b–26a.

4. *Pulu* and painting

Inventories of the paintings stored at the Qing palaces prove that painted albums of flowers and animals were abundant. Some of them might have shown an affinity to *pulu* writing, with texts attached that would still make a complete work even when printed without the illustrations. The following is not meant as a comprehensive reflection on the genre of painted albums of nature studies topics; instead, it draws attention to some of the features of these painted albums and their relation to *pulu* writing.

Painted albums like that of Liu Ban on herbaceous peonies were exclusive objects for presentation and personal use. Producing and reproducing them required an expert's hand. They thus rarely circulated widely or left a lasting legacy among the scholarly community, at least when compared to works like Lu Yu's *Classic of Tea*, which influenced centuries of *pulu* scholars' writing on tea and other *pulu* topics.[35] Of Liu's knowledge of peonies, only a list of names and a preface remain. The set of illustrated albums commissioned by the Qianlong Emperor – which has recently gained attention among historians – was even more exclusive.[36] Whereas the colourful illustrations paired with descriptive texts in the albums on birds and beasts would have met *pulu* readers' expectations, the *Book of Doves* (Boge pu) presents a paradigm like that of Liu Ban. This album only gives the names of the variety of dove depicted. Moreover, the names are separated from the painting and seem replaceable as they are written on small yellow paper slips, glued onto the frame of the painting. The focus of the *Book of Doves* seems twofold. On the one hand, it registers the morphological features of the dove while on the other hand animating it with lively postures showing its character.[37] According to Lai

35 P. F. Kornicki tells a different story of manuscripts being copied and distributed in Japan in the seventeenth century, with some of them also including illustrations. Kornicki, "Manuscript, Not Print: Scribal Culture in the Edo Period," *Journal of Japanese Studies* 32, no. 1 (2006): 23–52. In a similar way the manual copying of *pulu* texts for personal use – from printed but also from manuscript exemplars – surely was a central driving force for the distribution of the specialised knowledge they contain. But when it comes to copying painted albums, I figure, other more elitist goals might have played a role. I have not investigated how Ouyang Xiu made or wanted to make use of his copies of Cai Xiang's lychee paintings (see footnote 29). However, the visual content of painted albums, as discussed above, did not distribute that easy or widely as those consisting of printed text only.

36 I here refer to the *Book of Birds* (Niao pu), *Book of Beasts* (Shou pu) and *Book of Doves* (Boge pu) published in colour in 2014 by the Beijing Palace Museum as *Qinggong Niao pu* etc., and the online exhibition of several painted albums at the Taiwan Palace Museum (https://theme.npm.edu.tw/exh106/manualofbird/ch/index.html). The most in-depth analysis on the *Book of Birds* and *Book of Beasts* has been published by the Taiwanese scholar Lai Yu-chih. See for example her "Images, Knowledge and Empire: Depicting Cassowaries in the Qing Court," *Transcultural Studies* 1 (2013): 7–100.

37 See for example the image of courting doves of the "Chrysanthemum phoenix" (*Juhua feng*) variety, in *Book of Doves* (Boge pu), ascribed to Jiang Tingxi (1669–1732) (rep. Beijing: Beijing Palace Museum Publishing House, 2014), no. 10 (see also https://photo.sina.cn/album_26_17348_27830.htm).

Yu-chih, this style became somewhat outdated in the high Qing and was replaced by a new style, represented by albums such as the *Book of Birds* (Niao pu, 1761) which depicts birds in stiff poses in the extreme foreground, suggesting a more object-focused approach.[38] In the *Book of Birds*, the colourful illustrations and the accompanying descriptive texts received equal scholarly input by the authors. Even without the images the texts would still have provided sufficient knowledge of the species to satisfy the needs of contemporary scholars, and they would have made a complete *pulu*.

Like the *Book of Birds*, Zou Yigui's (1668–1772) album of twenty-four varieties of peonies was commissioned by Emperor Qianlong. However, his peonies are depicted as plucked flowers against an empty background, detached from the plant and its environment. Each flower is accompanied by a short description. With the image of a flower on the front and its description on the back of the folded album leaf, both types of information occupy the same amount of space in the album, putting equal emphasis on image and description.[39] Again, even when losing the images, the descriptions alone would still have constituted a complete *pulu*.

These painted albums – like the preparatory work by Cai Xiang for his *pulu* on lychee – document that the relation between visual and textual discourse had been close in some cases. The *Detailed Register for a Book on Bamboo* by Li Kan, a painter famous for paintings of bamboo, is another interesting case in this respect. The first part of his work is in the style of a painter's manual and explains how to draw the various parts, settings, and life stages of bamboo. The second part, however, is in the style of a *pulu* and assembles more than three hundred bamboo varieties including plants that "resemble bamboo but are not" (*si shi er fei zhu pin*), each with a short description and a simple drawing of the plant.[40] In the first part

38 Lai, "Images, Knowledge and Empire," pp. 50–51. Lai takes the *Book of Birds* as an example of images that reference a "text-external real world, not the established textual tradition … [and thus] convey much information that is not, or could not be, encoded in text" (Lai, "Images, Knowledge and Empire," p. 56). For my interpretation of the *Book of Birds* and the multifaceted relationship of image, description, naming, and poetry to produce 'consumable' nature, see Siebert, "Consuming and Possessing Things on Paper". For an online presentation of the image of the common crane (*Xiao he xian*) discussed there see *Collection of National Palace Museum, Taibei* by the Taiwan Palace Museum (http://theme.npm.edu.tw/exh106/manualofbird/common/images/selection/img1_1_7.jpg). The *Book of Birds* was conjointly authored by Yu Sheng (1692–1767) and Zhang Weibang (eighteenth century) on the basis of an album by Zhang Tingxi (1667–1732).

39 This album is part of a collection of painted albums at the National Palace Museum, Taiwan. Digital images of the album leaves can be found by following this search link: https://digitalarchive.npm.gov.tw/List/Index. In 1756, ten years after the peony album, Zou Yigui's produced for the Qianlong emperor an album on "foreign [i.e. Japanese] chrysanthemums" (*yang ju*). The album is lost but may have been similar to the above album. For more details on Zou's work on chrysanthemums see Siebert, "Consuming and Possessing Things on Paper," pp. 392–396.

40 In the seven-*juan* (roughly "volume") version of the *Detailed Register for a Book on Bamboo* used here, this second part takes up the last five *juan*.

on drawing bamboo, Li Kan states that one precondition to painting bamboo is to know its names and understand its various shapes and forms.[41] In his view, painting bamboo requires specialist knowledge derived from *pulu*. The second part of the book, on the other hand, rarely addresses matters of painting. In a few places the author notes that some bamboo varieties were popular painting subjects but does not give specific examples. Possibly due to Li Kan being a well-known painter, Chinese historical bibliographers classified the book in the 'art' category based on its first part on drawing bamboo.[42]

Painted albums present image and text as separate but at the same time mutually supportive entities. In painting scrolls the boundary between painting and *pulu* text sometime becomes blurred. Examples such as the *Scroll On the Local Products from Ouzhong* (Ouzhong wuchan juan) and *Images of Exceptional Fish* (Qiyu tu) combined description and image into one visual experience.[43]

5. Depicting a multitude of varieties

The albums with colour illustrations of plants and animals discussed above also added pleasure to reading. Their illustrations convey the idea or the ideal of the plant or animal while the use of colour and the three-dimensional appearance elicit – as Georges Métailié puts it – "a deeper feeling of a living plant [or animal]." At first glance, they appear to be best at depicting minute differences between varieties of a species. However, as Métailié puts it, albums are not necessarily "more precise than pictures in technical books" such as those in *materia medica* (*bencao*), which served as mnemonic devices for those already familiar with the item in question.[44] While *materia medica* captured mainly the iconic appearance of a species and only rarely included regional or other varieties, *pulu* aimed at including a multitude of varieties of a species; they were geared towards a different mode of close-up scholarly engagement with their subjects. For the expert, they might have similarly functioned as mnemonic devices, although the illustrations of the varieties of a species were unavoidably repetitive.

41 Li Kan, *Zhu pu xianglu*, in *Zhibuzu zhai congshu*, edited by Bao Tingbo, in *Baibu congshu jicheng*, no. 29 (Taipei: Yiwen yinshuguan, 1965–1970), *juan* 2, p. 1a.

42 One rare example of classifying the work as *pulu* is the *Book Catalogue of the Jingu Hall* (Jingutang shumu) dated to either late Ming or early Qing. Anonymous compiled, *Jingutang shumu*, in *Yujian zhai congshu*, edited by Luo Zhenyu (tome 14. S.l., 1910), *shang*, p. 36b.

43 On these two scrolls, see Anran Tu, *Pictures for Action: Painting and Collecting Nature in Modern China, from Zhao Zhiqian (1829–1884) to Jin Cheng (1878–1926)* (MA thesis, University of Alberta, 2018).

44 George Métailié, "The Representation of Plants: Engravings and Paintings," in *Graphics and Text*, pp. 493, 498.

The following section will discuss three distinguished examples of *pulu* depicting large sets of varieties of a species in print, with each author approaching the challenge of repetitiveness and unavoidable similarity of the images differently.

The first example is the *Chrysanthemum Book of Deshan's Hermitage* (Deshanzhai ju pu) by Zhu Youkuang (d. 1471), published in 1458. The work presents one hundred chrysanthemum varieties, each including a simple illustration of the flower, stem, and leaves, accompanied by a poem with the variety's name as title and a short inline comment describing its main morphological features.[45] Text and illustration are printed on one piece of paper, but after being folded and bound into book form, they cannot be viewed side by side. Therefore, the reader must turn over the text page to see the illustration. This was necessary for keeping the two types of information securely together in the process of printing and binding, but also significantly shaped the reading experience. Figures 7.1a-d reproduce text and illustration of the first four chrysanthemum varieties in Zhu Youkuang's book. The depiction of the varieties appears repetitive, seemingly showing little concern for guiding readers to help them differentiate between the varieties. However, readers would encounter the illustrations only after first reading name, inline comment and poem and were therefore prepared for 'reading' the illustrations. The first variety in Zhu's book is the "Golden Peacock" (see figure 7.1a). Inline comment and poem roughly translate as:

Golden Peacock
(thousand-petal variety of deep-yellow colour with vermillion centre)
As if golden fur and jade-green plumage come flying,
forming blossoming flowers of autumn splendour.
A Southern demeanour is still present,
and stirred by the wind they appear like flying birds.

Names and short inline comments taught readers about key features and helped them differentiate between varieties. These two pieces of information also appear at the beginning of Zhu Youkuang's book in the table of contents. The illustrations and poem added liveliness and imaginative power to Zhu Youkuang's packaging of knowledge about chrysanthemum flowers.[46]

45 Zhu Youkuang, *Deshanzhai ju pu*, reproduced in *Meiguo Hafo Yanjing tushuguang cang zhongwen shanben huikan*, series 1, vol. 27 (Beijing: Shangwu yinshuguan, 2003). A digital copy is available at Harvard Digital Library: https://iiif.lib.harvard.edu/manifests/view/drs:54074139.

46 I have not done a systematic comparison between the printed chrysanthemums of *Deshan's Hermitage* and those painted in Zou Yigui's album mentioned above (footnote 39). What appears striking when comparing the variant "Ten thousand volume book" (*Wanjuanshu*) that appears in both works, is, that first the images differ significantly and second, while the painted album gives a more neutral description

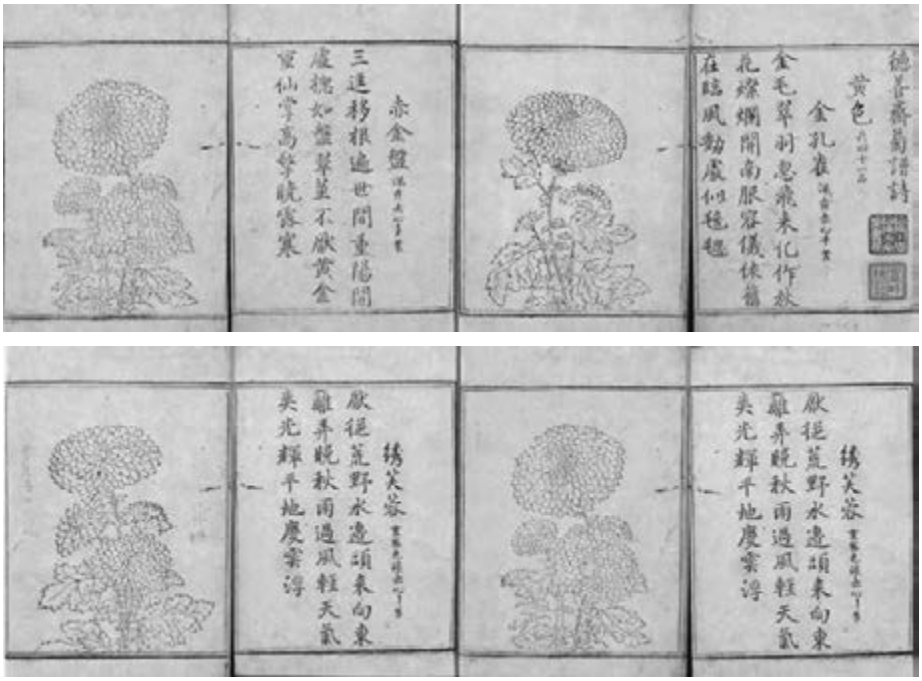

Figure 7.1 (from right to left): the first four chrysanthemum varieties of the *Deshanzhai Jupu* (1458) by Zhu Youkuang (d. 1471). Harvard College Library Harvard-Yenching Library (https://iiif.lib.harvard.edu/manifests/view/drs:54074139).

The second example, *Illustrated Treatise on Goldfish* (Jinyu tupu, preface 1848), depicts fifty-four varieties of goldfish in three-colour printing. According to the author who called himself "The hermit farmer from Mount Juqu" (Juqu shannong), the illustrations were based on a painted album of goldfish by a certain Mr. Xue, the only dedicated book on the subject known to him. Aware of the lack of information in Xue's book, the author decided to compile a more instructive *pulu* including practical information on goldfish breeding. To popularise Xue's album, he reproduced a printed version as an appendix to his work, but the illustrations have no added text and even the names of the varieties need to be deduced from the table of contents preceding the appendix. Different from the *Chrysanthemum Book of Deshan's Hermitage*, the *Illustrated Treatise on Goldfish* puts the illustration on the front side of the page, leaving the back side empty, as if waiting to be inscribed with a description or a poem by a future owner of the copy (Figures 7.2a–d). Only two illustrations come with published text, namely, the two variants at the end

of shape and naming conventions, the print adds a poem instead. See https://digitalarchive.npm.gov.tw/Painting/Content?pid=13027&Dept=P# and https://nrs.lib.harvard.edu/urn-3:fhcl:27733728?n=50.

Figure 7.2 (from left to right): a-c) first three goldfish varieties depicted in the appendix to the *Jinyu tupu* ("Illustrated Treatise on Goldfish," preface 1848); d) the second "newly added ordinary variety". *Jinyu tupu, bu fen juan*, copy from National Library of China, World Digital Library. (https://www.loc.gov/resource/gdcwdl.wdl_17217/?sp=14 to https://www.loc.gov/resource/gdcwdl.wdl_17217/?sp=16, and https://www.loc.gov/resource/gdcwdl.wdl_17217/?sp=69).

of the appendix labelled newly added "ordinary types" (*fan pin*) in the table of contents. However, these texts do not occupy the empty verso of the page but are printed as marginalia onto the decorative frame and above the image of the fish itself, leaving the back of the page empty again (see Figure 7.2d).[47]

The author of the *Illustrated Treatise on Goldfish* chose the more versatile technique of colour printing for the illustrations. Yet, even with the addition of colour it would have been difficult to identify, for instance, a real variety on sale at the market using one of these illustrations. Nevertheless, the images surely added attractiveness to the small booklet for buyers, showing them the possible shapes and patterns of a multitude of goldfish varieties. The separation of Xue's illustrations from the "new" *pulu* may have been caused by the intention to transmit the "old" *pulu* in an uncorrupted way. The cumbersome aligning of the names in the table of contents with their respective images inadvertently conveyed to readers how easily the non-professional could drown in the swirl of goldfish varieties.

The third example of depicting varieties turns to the orchid, one of the most popular *pulu* topics of the late Qing dynasty; orchids had long competed with chrysanthemums for scholarly attention. The *Record of Being One Heart with Orchids*

47 That the book is not some sort of unfinished project we can conjecture from the existence of at least two copies still extant today at the National Library of China in Beijing. The *World Digital Library* reproduces one of these copies, see https://hdl.loc.gov/loc.wdl/wdl.17217. The *Illustrated Treatise on Goldfish* is not the first *pulu* on goldfish. However, both preceding ones only circulated in manuscript form. They are first the *Treatise on Vermillion Fish* written 1596 (see footnote 30) and the *Treatise on Cinnabar* [*Coloured*] *Fish* (*Zhuyu pu*) written by Jiang Zaiyong in 1699 (reprint *Xuxiu Siku quanshu congshu*, vol. 1120). Some of the depictions of the *Illustrated Treatise on Goldfish* can be matched with the descriptions in Jiang's work. See Siebert, "Animals as Text," pp. 155–156.

(Lanhui tongxin lu, published in 1891) by Xu Naihe (1834–1911) is one of the few *pulu* on orchids containing illustrations. Xu's work presents the plant on a par with calligraphy and as a topic equally worthy for scholars. The work is divided into three relatively distinct parts of roughly the same size. It starts with prefaces and dedications written in various calligraphic styles, followed by descriptions of morphology and pedigree, poems, and illustrations of fifty-eight varieties of orchids,[48] to finally elaborate on the criteria for evaluating these varieties and giving advice on the care of the plant. Xu explains that he produced the illustrations by "tracing the shadow [of flower and stem] cast by a lamp" (*bi ying goule*) to capture the individual shape of each orchid variety.[49] Figure 7.3b gives examples of how he assembled text and illustration into one visual arrangement on the page. Matching the technique of tracing the shadow of the plant, Xu also copied the calligraphic styles in the first part of his book by "tracing the originals" (*shuanggou*). In so doing, he treated the shapes of the orchid flowers and the shapes of the calligraphic styles in similar fashion, emphasising the idea of orchids as a scholarly plant.

In the book's "Guide to the reader" (*fanli*), Xu foregrounded his identity as a connoisseur and as a new type of orchid lover who prioritised the quality of the flower over the number of varieties. He thereby declares his work to be different from *pulu* written during the early phase of the genre, i.e. the Song dynasty.[50] The emphasis on authorship and the mode by which he approached the topic are also evident in the two portraits of himself and his father Xu Yunqin (n.d.) at the beginning of the *Record of Being One Heart with Orchids*. While his father is holding an orchid flower as a sign of the practical engagement of the Xu family with the topic, Xu Naihe is holding a book to demonstrate the scholarly foundations of the task (Figure 7.4). The images underscore the author's conviction that a perfect *pulu* needed to combine both aspects.

48 For two examples of this, see Figure 7.3a–b. The descriptions in the *Lanhui tongxin lu* put a focus on tracing the history or pedigree of a variety, namely, who brought it when to what city first. Image of Figure 7.3b is an especially elaborate example of this.

49 Ji Nan (1760–1834), used a similar technique of light and shadow, to emphasise the shape of his flowers on display during on the evenings of chrysanthemum spectacles for his guests. Ji Nan, *Ju shuo*, in *Zhaodai congshu*, compiled by Zhang Chao (nineteenth century, reproduced, Shanghai: Shanghai guji chubanshe, 1990), p. 2020.3.

50 Xu Naihe, *fanli* ('Guide to the reader'), in *Lanhui tongxin lu* (Jingfang xianguan edition, 1891), n.p. A digital copy is available at Harvard Yenching Digital Library via Hathi Trust: https://catalog.hathitrust.org/Record/100369850. The societal aspect of publishing one's own work played its part also for *pulu* authors. Giving one's name and engagement as a scholar to a book on a topic that is neither canonical, nor moral, nor of relevance to the state's well-being, has always been something a *pulu* author might feel the need to defend himself. See Siebert *Pulu – 'Abhandlungen und Auflistungen'*, chapter 3.2.

Figure 7.3 (from right to left): a) description and appreciative poem to the *Song mei* orchid variety; b) genealogy of the orchid variety *Tianxing mei*. Harvard College Library Harvard-Yenching Library, Public Domain (https://babel.hathitrust.org/cgi/pt?id=hvd.32044070481189&view=1up&seq=115 to seq=116 and https://babel.hathitrust.org/cgi/pt?id=hvd.32044070481189&view=1up&seq=147).

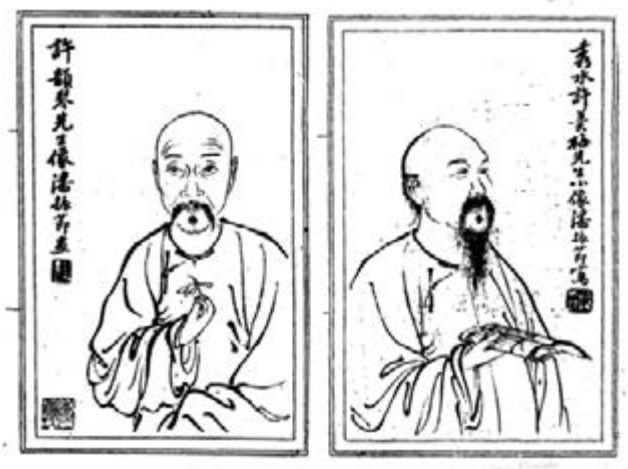

Figure 7.4. To the left: Xu Naihe, here given with his courtesy name Meimei; to the right: his father Xu Yunqin. Harvard-Yenching Library, Public Domain (https://babel.hathitrust.org/cgi/pt?id=hvd.32044070481189&view=1up&seq=29 and seq=31).

Conclusion

This chapter has explored the presence and absence of illustrations in *pulu* writing. In sum, non-illustrated *pulu* were dominant as many authors seemed not to consider illustrations – or illustrations alone – as sufficient to fully describe a species or variant. Text in the form of names, descriptions, and poetry was needed to supplement illustrations and bring them to life. In the examples above, text could function as

a stand-in or at least an equivalent to illustrations in *pulu* writing. In other cases, authors used paintings of specimens in the process of *pulu* writing to research the topic and to draft the text before discarding them in the final print version. At the same time, there were also very practical reasons for the absence of illustrations, such as increased publication costs or considerations regarding the difficulty of reprinting illustrated texts. Some *pulu* originally had illustrations but later lost them in the process of reprinting. Since one of the defining purposes of *pulu* was to serve as comprehensive collections of varieties of a species, illustrations were especially challenging; they needed to capture the intricacies of the differences between varieties of a certain animal or plant. Equally challenging was the task of elucidating through painted or printed illustrations some of the features considered relevant in the scholarly community of flower or goldfish lovers, such as fragrance or agility, their pedigree or the author's emotional connection to the species. Most *pulu* known today have no illustrations, mainly because authors considered text as the central and most reliable mode for packaging and conveying knowledge and the most stable form for its transmission. When *pulu* were quoted in other contexts – in regional descriptions, *materia medica*, or in works on 'superfluous things'[51] in scholarly lives – illustrations were not missed. The *Collected Abstracts of the Imperial Manuscript Library of All Four Bibliographical Classes* contains several exceptions to this. The work criticises Yang Shen for overestimating the descriptive quality of his words on fish and for discarding the images in his *Illustrated Eulogies of Remarkable Fish* (footnote 27). It also blames the compiler of the thirteenth-century collection *The Sea of Learning Fed by Hundreds of Rivers* (Baichuan xuehai) for leaving out the illustrations when including Tang Ji's work on inkstones.[52] Other abstracts rarely push for including images. Although we can only conjecture, readers of *pulu* seem to have agreed with this viewpoint.

The short excursion in the first section of this chapter highlighted traces of a special treatment of illustrated (*tu*) and register-like (*pu*) works in Chinese bibliographical classification schemes of the fifth and sixth centuries, that is, before *pulu* writings appeared as a genre. These classification schemes considered *tu* und *pu* type works as supplementary to the core of library holdings. The notion of *tu* and *pu* acting on the same level and as supplementary to the core of traditional scholarship was developed further by Zheng Qiao in the twelfth century. The connection between *tu* and *pu* – I conjecture – has been one of the major driving forces behind the development of *pulu* writing from the tenth century onwards. With

51 I borrow this term from Clunas' book on a genre of guide books to elite living that also drew material from *pulu* writing. See Clunas, *Superfluous Things: Material Culture and Social Status in Early Modern China* (Honolulu: University of Hawai'i press, 2004).

52 See abstract on the *Illustrated Treatise on the Inkstones from She County* (She yan tupu, colophon 1066) by Tang Ji (eleventh century) in *Siku quanshu zongmu tiyao*, vol. 115, p. 984.

the specialisation of *pulu* contents in the multitude and the variability of species on the one hand and in the care, history, and poetry related to it on the other hand, *pu* became the favoured mode over *tu* for transferring and packaging knowledge.

I have excluded from this discussion questions about the images' 'scientificity' or the adaptation of any form of Western style 'accuracy' in the illustrations.[53] Even works like the *Small History of the Orchid* (Lanhui xiaoshi) by Wu Enyuan (1872–ca. 1932), published in 1923 and beyond the scope of this volume, does not venture too far outside the frame set by earlier *pulu* writings despite using photography to depict orchid varieties. Wu wrote the variety's name and the description directly onto the photograph and around the flower itself in a visual arrangement strikingly like the one used by Xu Naihe.[54]

My focus on the examples of illustrated *pulu* introduced above was not so much their success in tackling the challenge of depicting variety, but to understand what the authors might have wanted to achieve with these images or what seems to have been important to them. We must assume that Zhu Youkuang's drawings of chrysanthemums accompanied by short inline comments and poems adequately expressed the 'idea' of chrysanthemum variants in his view and most probably that of his readers as well. Xu Naihe produced imitations of calligraphy styles and shapes of orchid variants using a similar tracing technique for both, giving us an idea about how he might have perceived both. Like calligraphy styles based on examples by famous predecessors, Xu's orchid variants arose from legacy. And this was probably what both text and illustrations were intended to achieve: to give an idea of the species or variety in question and, at the same time, of the author, his engagement with the topic and his belonging to a tradition of like-minded scholars. The author-portraits added to Xu's work give additional weight to this idea.

Glossary

Bai ju jipu	百菊集譜
Baichuan xuehai	百川學海
bao qi ziran	保其自然
bencao tu	本草圖

53 Problems arising from this type of questions have been investigated by several scholars. Frederico Marcon's *The Knowledge of Nature* (Chicago, IL: University of Chicago Press, 2015) and Maki Fukuoka's *The Premise of Fidelity* (Stanford: Stanford University Press, 2012), both relate to Japan but are most instructive on the *problematique* of authenticity and scientificity of images and knowledge representation in general.
54 These *Lanhui xiaoshi* illustrations are examples of visual objects characterised by Yi Gu as "[blurring] the boundary between photography and other pictorial media." See Gu Yi, "What's in a Name? Photography and the Reinvention of Visual Truth in China, 1840–1911," *The Art Bulletin* 95.1 (2013): 123.

bi ying goule	逼影鉤勒
Boge pu	鵓鴿譜
Cai Xiang	蔡襄
cha	茶
Cha jing	茶經
Cha lu	茶錄
Cha zhi tu	茶之圖
Chicheng	赤城
Chunqiu	春秋
dai	代
Deshanzhai ju pu	德善齋菊譜
Du Xinfu	杜信孚
fan pin	凡品
fanli	凡例
fu tu	服圖
Guo Pu	郭璞
Hu Rong	胡融
huanyang	豢養
Huayunxuan ju pu	華韻軒菊譜
huobao	貨寶
ji mu er cun	擊目而存
Ji Nan	計楠
Jiang Tingxi	蔣廷錫
Jiang Zaiyong	蔣在雍
Jin kongque	金孔雀
Jingutang shumu	近古堂書目
jing lei	經類
Jinyu tupu	金魚圖譜
jiu	酒
Juhua feng	菊花鳳
Ju pu	菊譜
Ju shi buyi	菊史補遺
Juqu shannong	句曲山農
Kong Wuzhong	孔武仲
Lanhui tongxin lu	蘭蕙同心錄
Lanhui xiaoshi	蘭蕙小史
lei	類
Li Kan	李衎
li lei	禮類
Lin Youlin	林有麟

Liu Ban	劉放
Liu Meng	劉蒙
lizhi tu	荔枝圖
Lu Yu	陸羽
Meihua xishen pu	梅花喜神譜
Meimei	美梅
ming gong xie sheng	命工寫生
Mingdai banke zonglu	明代版刻綜錄
mu	目
mudan	牡丹
Niao pu	鳥譜
Ouyang Xiu	歐陽修
Ouzhong wuchan juan	甌中物產卷
pu xu	譜敘
pulu	譜錄
Qilu	七錄
Qiyu tu	奇魚圖
qiyong	器用
Qizhi	七志
Ruan Xiaoxu	阮孝緒
sang fu	喪服
Shanhai jing tuzan	山海經圖讚
Shanju zazhi	山居雜誌
shaoyao	芍藥
Shaoyao hua pu	芍藥花譜
Shaoyao pu	芍藥譜
She yan tupu	歙硯圖譜
shi lei	史類
shi pu	世譜
Shi Zhu	史鑄
shihuo lei	食貨類
Shou pu	獸譜
shuanggou	雙鉤
Siku quanshu	四庫全書
si shi er fei zhu pin	似是而非竹品
Song mei	宋梅
Song Boren	宋伯仁
Suichutang shumu	遂初堂書目
Suyuan shipu	素園石譜
tai	態

Tang Ji	唐積
Tao Hongjing	陶宏景
tianwen lei	天文類
Tiangxing mei	天興梅
Tongzhi	通志
tupu	圖譜
Tupu lüe	圖譜略
tupu zhi	圖譜志
tuxie	圖寫
Tuxing ju pu	圖形菊譜
Wang Jian	王儉
Wu Enyuan	吳恩元
wuxing lei	五行類
wuzhi	物志
Xiao hui he	小灰鶴
xiao lei	小類
Xu Baoqian	徐寶謙
Xu Naihe	許鼐穌
Xu Yunqin	許韻琴
Xue	薛
Xue shi jiu pu	薛氏舊譜
Yatao	亞陶
yang ju	洋菊
Yang Shen	楊慎
ye ju	野菊
Yi tu	易圖
yifang lei	醫方類
yin	引
yishu	藝術
Yiwen lüe	藝文略
Yiyu tu	異魚圖
Yiyu tuzan	異魚圖贊
yuan	源
Yuan benshi	原本始
zan	贊
Zhang Chou	張丑
Zhang Qiande	張謙德
Zhang Tingxi	張廷錫
Zhao Zhiqian	趙之謙

zhe qi yao	摭其要
Zheng Qiao	鄭樵
zhongyi	種藝
Zhu pu	竹譜
Zhu Youkuang	朱有爌
Zhupu xianglu	竹譜詳錄
Zhushayu pu	朱砂魚譜
Zhuyu pu	朱魚譜
ziyu zhi guo	自詡之過
Zou Yigui	鄒一桂

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