Introduction

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In early modern China and Japan, the meanings of animals and plants moved beyond the traditional frameworks of auspiciousness and usefulness. The chapters in this volume consider the early modern period as a critical phase for bringing together these notions with new empirical and epistemological concerns, political and social agendas, and cultural interests. They examine how the interactions between established and emerging media such as printed encyclopaedias, monographs on specialised topics, and images in circulation, allowed new meanings to be generated, and, within this process, how scholars, professional painters, and publishers became more conscious of their role in shaping the ways in which information about animals and plants were organised and represented.

To start with an example, let us consider an illustration of three *matsutake* mushrooms produced by the shogunal retainer and amateur naturalist Mōri Baien (1798–1851) in a volume on mushrooms dated 1836 (Figure 0.1).[1] Mōri's illustration is a statement of empirical method as he labelled it "drawn from life" (Chin. *xiezhen*, Jap. *shinsha*), and also expresses commercial concerns. Mōri claimed that he collected, trimmed, and drew the mushrooms on the third day of the ninth month. Accompanied by references to a Southern Song (1127–1279) treatise on mushrooms, a well-known Joseon (1392–1897) *materia medica*, and a presumed Kamakura Period (1192–1333) *waka* poem attributed to Fujiwara Teika (1162–1241), the drawing acquired an aura of scholarly authority.[2] His entry further describes selected local variations of *matsutake* mushrooms, assessing their appearance and taste, followed by information about their trade in Osaka and Kyoto. He dropped the line, "pick up anytime," from the Southern Song treatise, concretising with the assertion that they "grow plentifully in the ninth and tenth months." At the same time, he also fabricated the attribution of the poem to the renowned medieval

1 Mōri Baien, *Baien's Treatise on Mushrooms* (Baien Kinpu), 1836 (illustrated manuscript, National Diet Library, Tokyo), p. 22.

2 Baien cited *The Treatise on Mushrooms* (Junpu) by Chen Renyu (b. 1212) and *A Precious Mirror of Eastern Medicine* (Dongui Bogam).

Fan Lin and Doreen Mueller (eds), *Picturing Animals and Plants in Early Modern China and Japan. Innovation, Experiments, and Anxieties*. Amsterdam: Amsterdam University Press 2025
DOI: 10.5117/9789048559091_INTRO

Figure 0.1: Mori Baien, Matsutake mushrooms, in *Baien's Treatise on Mushrooms* (*Baien kinpu*) (manuscript 1836, National DIET Library, Tokyo), p. 22.

court poet Fujiwara Teika.[3] Mōri's crafted combination of illustration and written caption shows how scholars attempted to establish authority by situating their empirical observations and commercial interests within a canonical cultural and historical framework.

Moving beyond Auspiciousness

Before the early modern period, the concepts of animals and plants were not a given. They were raised in one of the core Confucian classics, *The Rites of Zhou* (Zhouli), during the Western Han (206 BCE–9CE) period. *Dongwu* literally means "moving things" and it has been consistently applied to animals; *zhiwu* means "planted things," and thus plants.[4] In *The Rites of Zhou*, *dongwu* and *zhiwu* were coded to create hierarchies in the ordered world by distinguishing the tributary produce from five types of soils:

3 The transcription of the poem is as follows: "People who go hunting for pine mushrooms in the Northern Hills (of Kyoto) should first pick the shoots of the water pepper (*tade*) from the bed of Kamo River." The poem refers to the inherent dangers of picking mushrooms by mentioning the water pepper, which was used as an antidote for poisonous mushrooms. The poem was not included in anthologies of poetry by Fujiwara Teika and is therefore most likely a fabrication by Mori. We are grateful for the fruitful discussions with colleagues at Leiden University, especially Marc Buijnsters and Ivo Smits.

4 Zhi also means 'standing' or 'immovable.' See Martina Siebert, "Klassen und Hierarchien, Kontrastpaare und Toposgruppen: Formen struktureller Eroberung und literarischer Vereinnahmung der Tierwelt im alten China," *Zeitschrift Der Deutschen Morgenländischen Gesellschaft 162* (2012: 1): 172.

> To use the methods of reckoning soil to discern the produce from five categories of land:
> The first is mountains and forests: Regarding animals, it is appropriate for hairy animals; regarding plants, it is appropriate for nuts; its people are hairy and rectangular.
> The second is rivers and marshes: Regarding animals, it is appropriate for scaly animals; regarding plants, it is appropriate for aquatic plants; its people are black and fat.
> The third is hills and slopes: Regarding animals, it is appropriate for feathered animals; regarding plants, it is appropriate for nut trees; its people are round and long.
> The fourth is banks and plains: Regarding animals, it is appropriate for armoured animals; regarding plants, it is appropriate for beans; its people are white and lean.
> The fifth is lowlands and marshes: Regarding animals, it is appropriate for light-coloured animals; regarding plants, it is appropriate for reed grasses, its people are fleshy and short.[5]

In the above passage, *dongwu* and *zhiwu* are categorically independent from humans.[6] However, these terms were rarely used as epistemological frameworks until the twentieth century in East Asia.[7] The earliest extant dictionary, *Approaching Elegance* (Erya) (Third century BCE), covers both animals or plants in manifold categories, such as herbaceous plants, trees, insects, fish, birds, beasts, and domesticated animals. In the nineteenth century, the terms *dongwu*/*dōbutsu* and *zhiwu*/*shokubutsu* were employed to translate Western works and gained strong scientific implications. Fukuzawa Yukichi (1834–1901), the most influential thinker in Meiji (1868–1912) Japan, adopted *dōbutsu* as a neologism in response to Western science.[8] Throughout the history of East Asia, the categories in *Approaching Elegance* were commonly used in treatises and encyclopaedias, shaping how people understood the worlds of animals and plants. The oft-cited encyclopaedia, *Illustrated Compendium of the Three Powers* (Sancai tuhui), adhered to the governing logic of *Approaching*

5 Jia Gongyan, *Zhouli zhushu*, in *Chongkan Songben shisanjing zhushu* (Nanchang: Nanchang Prefectural Academy, 1815), p. 150.

6 Roel Sterckx, *The Animal and the Daemon in Early China* (Albany, NY: State University of New York Press, 2002), p. 19.

7 Sterckx, *The Animal and the Daemon in Early China*, pp. 16–21. Gregory M. Pflugfelder and Brett L. Walker, *JAPANimals: History and Culture in Japan's Animals Life* (Ann Arbor, MI: Center for Japanese Studies, University of Michigan, 2005), p. xii.

8 Roel Sterckx, Martina Siebert, and Dagmar Schäfer eds., *Animals Through Chinese History: Earliest Times to 1911* (Cambridge: Cambridge University Press, 2018), p. 1. Ian Miller, "Didactic Nature: Exhibiting Nation and Empire at the Ueno Zoological Gardens" in *JAPANimals: History and Culture in Japan's Animals Life*, p. 297. Pflugfelder, preface, *JAPANimals: History and Culture in Japan's Animals Life*, preface, p. xii.

Elegance, and expanded existing categories (herbaceous plants and trees, and birds and beasts) into many subcategories.[9]

More specifically, a multitude of animals and plants were deeply intertwined with the system of auspicious referents and integral to everyday life. They were placed on buildings, doors, gates, clothing, carriages, utensils, and accessories. Paintings of almost every plant and animal were pleasing to the eye but at the same time they were taken to be talismanic objects endowed with the power to ward off evil elements. There were dragons, *qilin* (*kirin*), gibbons, goats, cranes, magpies, bamboo, pine tree, peach trees, chrysanthemums, peonies, plums, and lotus; the list is endless. The concept of auspiciousness was pertinent in East Asian cultures, but the meanings and connotations of auspicious animals and plants were not timeless and placeless.

In the early modern period, the auspiciousness attached to animals and plants underwent an epistemic transformation. Rather than being an omniscient force orienting people's lives, urban and rural dwellers started to assume a dominant position instrumentalising auspicious animals and plants within the construction of their lived realities. The legendary story that Cao Buxing's (third century CE) painting of a vermillion dragon can produce rain is often interpreted as praise for his miraculous painting skills, but it also points to the magical power of the dragon to interact with the human world.[10] In his unpublished picture book, the Edo painter Katsushika Hokusai (1760–1849) drew the dragon through a mundane, empirical lens by comparing its elongated shape and surface textures with a crocodile, an octopus, and other sea creatures.[11] In the case of elephants, although they were generally understood as sacred animals in the Buddhist cultural sphere, in the imperial vision of ethnic communities in the southwest of the Qing empire, the elephants served as local resources facilitating transportation (Figure 0.2).

These changes did not mean that auspicious animals or plants completely lost their magical power or symbolic connotations, but rather that they underwent a process of vernacularisation and became a backdrop to urban life. Their growing closeness to human realities amplified their perceived auspiciousness. The pine tree, for example, is a common symbol in East Asia connoting longevity, integrity, peace, and benevolent rule. When they appeared in the background of harvesting and fishing in paintings or illustrations, however, they were often used as practical narrative props framing scenes, but their latent presence was simultaneously a potent agent in eliciting positive affective responses from viewers (Chapter 1, Chapter 2).

9 Wang Qi and Wang Siyi, *Sancai tuhui* (Shanghai: Shanghai guji chubanshe, 2002); Terajima Ryōan, *Wakan Sansai zue* (Publisher Unknown: 1712).

10 Zhang Yanyuan, *Lidai minghua ji* (Shanghai: Shanghai renmin meishu chubanshe, 1964), pp. 89–90.

11 For Hokusai's illustrations, see Sarah E. Thompson, *Hokusai's Lost Manga* (Boston, MA: Museum of Fine Arts Boston, 2016), pp. 43–45.

Figure 0.2: Chuai Zhenyu, An illustrated guide to an Elephant with Two Mahouts, in *An Illustrated Guide to the Ethnic Groups in Yunnan Province* (Diansheng yiren tushuo). (Beijing: Zhongguo shehui kexue chubanshe, 2009), p. 85.

The seven chapters in this volume draw attention to several aspects arising from the process of image making in early China and Japan: the role of images in foregrounding the usefulness of animals and plants; making knowledge about exotic animals and plants public; and addressing scholars' anxieties concerning the epistemic capacity of images and texts.

Useful Images and Useful Things

Useful animals and plants in this volume are taken as those documented in books on agriculture and *materia medica*. Foundational agricultural works, such as *Fan Shengzhi's Boo*k (Fan Shengzhi shu, first century BCE) and *Essential Ways of Securing*

the Livelihood of the Common People (Qimin yaoshu, sixth century CE) gave weight to practical knowledge about growing and harvesting plants and animals that could benefit people. They were conceptualised as useful things, such as staple food, vegetables, cash crops, and livestock. However, in the early modern period, usefulness became increasingly localised and gained added values. The Confucian scholar Miyazaki Yasusada's (1623–1697) *Compendium on Agriculture* (Nōgyō zensho, 1697) was based on the Ming agricultural encyclopaedia, *Complete Treatise on Agricultural Administration* (Nongzheng quanshu, 1639), but especially promoted the practical learning of local crops in Japan. He drew attention to the benefits of closely observing and registering the appearance of cash crops such as rice or sweet potato, including their careful cultivation according to the local climate.[12] In images, things are never just things, but can be endowed with social relevance. In *The Works of Heaven and the Inception of Things* (Tiangong kaiwu, 1637) as well as the above-mentioned *Compendium on Agriculture*, illustrations established a harmonious relationship between people and the environment in the production process.[13] This was taken further in the following decades, as illustrations showed this relationship through the gaze of onlookers from different backgrounds.[14] Images foregrounded these added values, to suggest the desirability of things and to nurture a sense of shared community. Commercial publishers presented fishing on Kamo River as a local event, a spectacle that invited urban dwellers to watch. They framed the usefulness of river fish in larger economic and social contexts (Chapter 1). This shows that this sense of shared community was in the direct interest of publishers who wanted to appeal to broader, urban audiences. Similarly, in painting, tea plantations became a scenic site in Kano school painting scrolls, evoking a sense of co-productivity and harmony between humans and plants, with the growing tea plants mirroring the happy state of women, children, and families (Chapter 2).

Katō Chikusai's (1818–1886) wood panels shifted the notion of usefulness away from its perceived harmonious relation with humans. Commissioned by Koishikawa Botanical Garden at Tokyo Imperial University, a modern academic institution, Katō's works promoted Japanese woods as commercially viable building materials at the international stage by demonstrating usefulness with wood samples and employing universal Latin nomenclature. Although scholars interested in *materia medica* in the early nineteenth century used ink rubbings to represent plant specimens, Katō's wood samples were an even more direct and effective

12 Christine Guth, *Craft Culture in Early Modern Japan: Materials, Makers, and Mastery* (Berkeley, CA: University of California Press, 2021), p. 41.

13 Dagmar Schäfer, *The Crafting of the 10000 Things: Knowledge and Technology in Seventeenth-Century China* (Chicago, IL, and London: University of Chicago Press, 2011), pp. 138–156.

14 Robert Goree, *Printing Landmarks: Popular Geography and Meisho Zue in Late Tokugawa Japan* (Cambridge, MA: Harvard University Asia Center, 2020).

method for embodying the represented plants.[15] In so doing, Katō's works pointed to a new mode of visualising usefulness in the scientific rhetoric. In other words, they extended the notion of usefulness from trees to the medium of representation.

Exotic Animals and Plants: Making Them Public

With increasing interactions between East Asia and the global world, exotic animals and plants became more present in the public consciousness, but their "foreignness" resisted an easy packaging using existing taxonomies. Take *The Compendium of Materia Medica* (Bencao gangmu) as an example in which exotic animals and plants were incorporated into the existing categories of minerals, herbs, grains, vegetables, fruits, trees, insects, animals with scales, animals with shells, birds, and beasts. Under the category of fruits, thirty-one types of exotic fruits were put under the new separate subcategory of "foreign fruits" (*yiguo*). Instead of creating completely new ways to conceptualise them, the foreignness was tamed by applying existing knowledge systems and practices to them. The foreign fruits in *The Compendium of Materia Medica* continued to be described with the standard language corresponding to the systems of Five Phases, Five Tastes, and Cooling or Warming effects. Palm dates from Persia, for example, were "sweet, warming, and non-toxic"; they were used to "help digestion, stop coughing, cure depletion, and make people happy, and they cause no harm if taken for a long period."[16]

The epistemic logic of *materia medica* required viewing an animal or plant as an assemblage of constituent parts that were deemed beneficial to humans. For example, a camel was medically useful only when its hump, meat, milk, gallstones, fur, or dung became medical ingredients.[17] Although the illustrated Sino-Japanese encyclopaedia *Illustrations of Three Powers in Japan and China* (Wakan sansai zue) citing *Bencao gangmu* and its Chinese version, *Illustrations of Three Powers*, were used as sources to describe the appearance of the camel, the Edo illustrations of camels largely disregarded the medical functions of their body parts. In the public entertainment circuit, camels were paraded as exotic animals. This created possibilities for generating alternative meanings that transcended the *materia medica* concept of usefulness. For example, scholars attending the camel shows commissioned painters skilled in empirical painting methods to capture their docile demeanor, which was emblematic of a carefree attitude and conjugal harmony.

15 Maki Fukuoka, *The Premise of Fidelity Science, Visuality, and Representing the Real in Nineteenth-Century Japan* (Stanford, CA: Stanford University Press, 2012).

16 Li Shizhen, *Bencao gangmu*, in *Yingyin Wenyuange Siku quanshu*, vol. 772–774 (Taipei: Taiwan shangwu yinshuguan, 1983), pp. 31.23b–24b.

17 Li Shizhen, *Bencao gangmu*, pp. 50b.34a–35b.

Giving animals "distinctly human features, virtues, or vices or, likewise, to render botanical or geological motifs with personified features" takes the collective human as the centre, but these Edo camel portraits also show them as sentient beings with distinct personalities (Chapter 5).[18] Similarly, washing the imported elephants in the moats near the Ming imperial palace was also an urban spectacle and, in combination with its Buddhist association, it gained the connotation of purification of the mind (Chapter 4).

A Scholar's Problem: Epistemic Anxieties about Image and Text

The definition of early modernity in East Asia is not uniform, but scholars have reached a consensus that it features growing urbanisation, commodification, literacy, and exploitation of natural resources.[19] Mark Elvin, Søren Clausen, and Antonia Finnane have argued that the Song dynasty (960–1279) constituted the early phase of this profound transformation; more commonly, scholars associate Ming (1368–1644) and Qing (1644–1911) China, Joseon Korea (1392–1897), and Tokugawa (1615–1868) Japan with the traits of early modernity.[20] The chapters in this volume cover the *longue durée* from 1600–1900, a period that witnessed these social and economic changes at an exponential scale. Meanwhile, the scholarly elite continued to be the key producers of knowledge, and increasingly educated merchants, professional painters, and illustrators also became active participants.

While scholars still enjoyed academic and social prestige, they started to become conscious of nascent societal changes. In the process of studying and presenting their knowledge, they rethought the roles of images and texts, thereby becoming critical of entrenched practices and ideas based on centuries of traditions of representing knowledge in *materia medica* and other encyclopaedic media. While a seemingly visual turn was happening in early modern East Asia, the educated elites were aware of the precarious status of images as carriers of knowledge. Already in the Song dynasty, scholars who authored treatises (*pulu*) made use of illustrations drawn by professional painters as visual aids in the process of collecting information

18 Jerome Silbergeld, "Trading Places: An Introduction to Zoomorphism and Anthropomorphism in Chinese Art," in Jerome Silbergeld and Eugene Wang, eds., *The Zoomorphic Imagination in Chinese Art and Culture* (Honolulu: University of Hawaii Press, 2016), p. 1.

19 Søren Clausen, *Early Modern China—A Preliminary Postmortem* (Aarhus: Aarhus Universitet, 2000); Brett L. Walker, *JAPANimals: History and Culture in Japan's Animals Life*, introduction, pp. 1–20.

20 Clausen, *Early Modern China—A Preliminary Postmortem*; Antonia Finnane, "Folding Fans and Early Modern Mirrors," in Martin J. Powers, Katherine R. Tsiang, and Dana Arnold, eds., *A Companion to Chinese Art*, (Chichester: John Wiley & Sons, 2015), pp. 396–397. Craig Clunas, *Pictures and Visuality in Early Modern China* (London: Reaktion Books, 1997), pp. 9–10.

but left them out in the final *pulu* work (Chapter 7). At the same time, officials like Han Liangqing (d. 1740) saw a new role for images in materialising a narrative taxonomic order when he commissioned a professional painter in Guangdong province to carefully document the appearance, names, and ways of cooking a variety of local fish (Chapter 6). The period between 1600 and 1900 was a dynamic time of negotiation in which scholars explored new inroads and reconsidered the role of images in shaping knowledge. Within this process, images that were based on direct observation became new sources of authoritative knowledge. Although access to animals and plants became more "democratic" as, for example, exotic animals, such as camels, were exhibited in public shows, the right to derive knowledge from them still largely hinged on the social standing of the image producers as well as their epistemic and cultural capital (Chapter 5). In this sense, images labelled as empirical were shaped by social historical realities.

Although professional painters were conventionally understood to be commissioned to produce paintings and illustrations, the chapters in this volume bring attention to their agency in and contribution to knowledge production. The painters discussed in this volume represent a broad spectrum, ranging from notable master painters and illustrators to lesser-known ones. In the case of the *Pictures of Sea Fish* (Haiyu tu) and some *pulu*, the names of the painters and illustrators were overshadowed by the scholars who orchestrated the projects, but their contribution should be seen as part of the negotiation process between the emerging empirical practices and the existing auspicious meanings of animals and plants (Chapter 6 and Chapter 7). Even when the drawings were not included in the final *pulu*, there were cases when they constituted a crucial step in understanding the physical form of the plants (Chapter 7). Likewise, scholars were inspired by the urban spectacle of watching elephants, but it was the painters who visualised this invented tradition (Chapter 4). Painters of camels and elephants, for example, exercised their agency not just by capturing their physical appearance, but also by projecting human traits onto the animals. At the same time, images of plants catered to nascent economic concerns. In Kano school paintings, the image of Uji as a famous place associated with aristocratic culture shifted towards a productive place where high-quality green tea was grown as a cash crop (Chapter 2). At the end of the time frame of this volume, Katō Chikusai (1818–1886) took the role of the painter in an even more practical direction by integrating wood samples into his paintings serving the economic interests of the Meiji state (Chapter 3).

Educated merchants joined this process as impresarios of public shows, publishers of compendiums, and authors themselves. On one hand, they continued to support the printing of Confucian classics related texts; on the other hand, they also produced writings through more unconventional channels, which allowed them to chart out the new potentials and possibilities of envisioning the known and the

unknown natural world. The latter took a more malleable form, and sometimes existed as an open-ended project spanning a few centuries. Take the categories of "Agriculture and Mulberry," "Flowers, Fruits, Bamboos, and Trees," and "Beasts and Domesticated Animals" in the encyclopaedia *Comprehensive Compendium in the Forest of Affairs* (*Shilin guangji*). It was first compiled by Chen Yuanliang (active in the second half of the thirteenth century) in the late Southern Song (1127–1279) but was edited multiple times in the following centuries. By the Ming, various editions were in circulation in East Asia, and, in comparison with each other, a shrewd reader would notice that their taxonomical structures were constantly being updated and their contents revised and supplemented.[21] As Lucille Chia and Cynthia Brokaw have observed, the rivalry between various editions lay in a pursuit of lower printing costs; the authenticity of the original contents and authorship were not a serious concern of the printing workshops or their readers.[22] In eighteenth- and nineteenth-century Japan, illustrated travel guides to famous places (*meisho zue*) and encyclopaedias pertaining to animals and plants were illustrated with increasingly elaborate double-pages that gave weight to visual experiences; the power of close observation went side by side with epistemic query and commercial interests.[23] Merchants in Kyoto and Osaka cross-referenced canonical works and updated them with contemporary information taken from their own observations and from illustrations of rural life (Chapter 1).

The democratisation of knowledge production challenged the uncontested status of writing as the foundation of scholarly identities. As a rule, scholars developed their writing skills to establish their career, including passing exams, expressing themselves, and forming networks. At the same time, both governments and scholars increasingly found illustrations in printed books useful for interpreting the structure of the cosmos, geomancy, architecture, *materia medica*, geography, and engineering works. Although often accompanied by texts, these illustrations were more than just visual aids. As some of them acquired greater mimetic authority as things in themselves, they started challenging the established status of writing (Chapters 3 and 5). Anxieties about the effectiveness of illustrations, particularly printed illustrations, came from the question of their role as appropriate scholarly

21 Etienne Balazs and Yves Hervouet, *A Sung Bibliography* (Bibliographie des Sung), p. 328. Chen Yuanliang, *Shilin guangji*, in *Hekeben leishu jicheng* (Shanghai: Shanghai guji, 1990), vol. 1.

22 Brokaw, "Mashaben: Commercial Publishing in Jianyang from the Song to the Ming," in Paul Smith, Richard Von Glahn, Peter K. Bol, Lucille Chia, and Angela Ki Che Leung, eds., *The Song-Yuan-Ming Transition in Chinese History* (Cambridge, MA: Harvard University Asia Center, 2003), pp. 284–328; Lucille Chia, *The Commercial Publishers of Jianyang, Fujian (11th–17th Centuries)* (Cambridge, MA: Harvard University Asia Center 2002); Yuming He, *Home and the World: Editing the Glorious Ming in Woodblock-Printed Books of the Sixteenth and Seventeenth Centuries* (Boston, MA: Harvard University Asia Center, 2013), pp. 1–17.

23 Goree, *Printing Landmarks*.

tools to present knowledge. This might explain why Cai Xiang (1012–1067) did not include illustrations in his final printed project, despite having a professional painter draw various types of lychees (Chapter 7).

Towards the end of the early modern period, this tension was no longer a major problem. The scholar official Han Liangqing confidently used hand-painted drawings rather than text in his album describing local fish in Guangdong province. Starting in the late eighteenth century, and especially in Japan, naturalist scholars devised images to identify different species of the same animals or plants. The growing accuracy of images was driven by the practical need to make sense of the ever-expanding knowledge of nature.[24] Scholars who pursued knowledge of the medicinal properties of animals and plants, such as Kurimoto Tanshū (Masayoshi, 1756–1834), Hiraga Gennai (1729–1780), and Iwasaki Tsunemasa (1786–1842), took images to the centre stage.[25] In the same vein, Mōri Baien, mentioned above, also took images seriously in his personal pursuit of knowledge about mushrooms as well as other subjects in his mammoth natural history project. More importantly, he not only referenced the canonical knowledge but made it local and personal by including his own observations and experiences. In the case of mushrooms, he claimed that each item was either harvested by himself or given to him by local people or friends, and thus his "drawn from life" approach gave them an aura of authenticity.

Chapter Abstracts

The first chapter considers how printed reference works in early modern Japan like the *Illustrated Guide to Famous Products of Land and Sea in Japan* (Nihon sankai meisan zue), first published in 1799, represented nature as an assemblage of objects while also highlighting its close connection with local customs and practices of manufacturing goods. It discusses how eclectic modes of representing nature in image and text in this illustrated guide indexed a multitude of ways to expand knowledge and to make it reliable and useful. The illustrated guide has a preface by Kimura Kenkadō (1736–1802), a successful brewer, rice wine merchant, and industrious amateur scholar. The guide in its entirety was probably put together by several members of Kenkadō's amateur scholar circle in and around Osaka. Its eclectic style shows the intersection of their manifold interests: the empirical study of nature as well as historical and literati pursuits.

24 Federico Marcon, *The Knowledge of Nature and the Nature of Knowledge in Early Modern Japan* (Chicago, IL: The University of Chicago Press, 2015), pp. 248–250.

25 Marcon, "All Creatures Great and Small: Tokugawa Japan and Its Animals," p. 32.

The second chapter investigates the production and dissemination of knowledge about a particular region in early modern Japan, namely, late-seventeenth- century to early-eighteenth-century Uji. The case study of Uji shows how traditional knowledge was being negotiated with new economic and cultural interests. Taking the scroll *Tea Harvesting at Uji* by Kanō Tansetsu as its focus, this chapter argues that the pictorial language of Uji was manipulated to promote its image as a productive tea region peacefully governed by the Tokugawa Shogunate.

The third chapter analyses a set of twenty-six wooden panels currently held at Kew's Economic Botany Collection. Katō Chikusai produced the set at Koishikawa Botanical Garden in Tokyo in 1878. By taking seriously the methodological and discursive presuppositions that are often and easily overlooked in studies of early Meiji visual objects, this chapter reorients the perspective to one that privileges the context of the production site of the wood panels over their current location. Through historically informed analyses, this chapter highlights how these objects carry two constitutive values — economic and epistemic — of early Meiji Japan.

The fourth chapter examines the social history of watching elephants in late imperial China. Elephants were native to early China, but they had migrated to the southwestern margin of the country and Southeast Asia by the tenth century. After the Song dynasty, they were brought back to the capital as tributary animals or diplomatic gifts. They entered the public arena by, for example, being used in imperial parades. In the Ming dynasty, elephant washing in the city moat outside the imperial palace in early summer evolved into a captivating urban spectacle. This phenomenon instigated the creation of various artworks but also took on additional layers of social significance.

The fifth chapter examines the striking reception of a pair of single-humped camels in Edo Japan. The Dutch East India Company brought the camels to Nagasaki in 1821 as diplomatic gifts to the Tokugawa shogun. Rejected by the shogun, the camels were displayed in public shows around the country for years, attracting enormous attention. The popularity of the shows caused an explosion of camel-related broadsheets and *ukiyo-e* prints. The camel shows not only provided a wide audience with information, both genuine and fabricated, but also inspired scholars, intellectuals, writers, and painters to produce novels, verses, songs, essays, and paintings. The camels' reception in Edo society generated a wealth of connotations concerning camels, which also reflected people's general view of animals. Particularly noteworthy is that the Buddhist idea of the non-duality of humans and animals reverberated in the work of naturalistic painters such as Maruyama Ōshin (1790–1838).

The sixth chapter examines a relatively unknown Chinese album *Pictures of Sea Fish* by Han Liangqing. It depicts more than 130 species of sea fish. It is a world away from the traditional artistic representation of fish and has more in common with the scientific investigations of natural history. This chapter examines this album,

and subsequently situates it in the contexts of nature studies and visual culture in early modern China. As the first research on this album, the chapter sheds light on the role of scientific illustrations within the formation of knowledge of the natural environment in China in the eighteenth century.

The seventh 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 packaging knowledge. *Pulu* are often expected to be illustrated but, in fact, this is rarely the case. The chapter begins with brief probes into the history of the bibliographical classification of *pu*- and *tu*- type books and some reflections on the appearance of *tu* in the titles of works. It then explores examples of non-illustrated and illustrated *pulu* and the circumstances and scholarly attitudes that informed the choice of one or the other.

Glossary

Baien kinpu	梅園菌譜
Bencao gangmu	本草綱目
Cai Xiang (1012–1067)	蔡襄
Cao Buxing (third century)	曹不興
Chen Renyu (b. 1212)	陳仁玉
Chen Yuanliang (thirteenth century)	陳元靚
dongwu (Chin.)/*dōbutsu* (Jap.)	動物/動物
Erya	爾雅
Fan Shengzhi shu	氾勝之書
Fujiwara Teika (1162–1241)	藤原定家
Fukuzawa Yukichi (1834–1901)	福澤諭吉
Guangdong	廣東
Haiyu tu	海魚圖
Han Liangqing (d. 1740)	韓良卿
Hiraga Gennai (1729–1780)	平賀源内
Iwasaki Tsunemasa (1786–1842)	岩崎常正
Junpu	菌譜
Kamo River	鴨川
Katō Chikusai (1818–1886)	加藤竹斎
Kanō Tansetsu (1654–1713)	狩野探雪
Katsushika Hokusai (1760–1849)	葛飾北斎
Kimura Kenkadō (1736–1802)	木村蒹葭堂

Koishikawa	小石川
Kurimoto Tanshū (Masayoshi, 1756–1834)	栗本丹洲
Maruyama Ōshin (1790–1838)	円山応震
meisho zue	名所図会
Miyazaki Yasusada (1623–1697)	宮崎安貞
Mōri Baien (1798–1851)	毛利梅園
Nihon sankai meisan zue	日本山海名産図絵
Nōgyō zensho	農業全書
Nongzheng quanshu	農政全書
Owari Domain	尾張国
pulu	譜錄
qilin (Chin.)/*kirin* (Jpn.)	麒麟/麒麟
Qimin yaoshu	齊民要術
Sancai tuhui	三才圖會
Shilin guangji	事林廣記
shinsha	眞寫
Shōhyakusha	嘗百社
Tiangong kaiwu	天工開物
tu (Chin.)/*zu* (Jap.)	圖/図
Uji	宇治
Wakan sansai zue	和漢三才図会
xiezhen	寫真
yiguo	異果
z*hiwu* (China)/*shokubutsu*	植物/植物
Zhouli	周禮

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