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Packaging Knowledge about Whales in Early Modern Japan

Doreen Mueller

For most people in early modern Japan, whales were remote but also curious creatures. One had to be at the shore to spot a living whale in the sea or to encounter the stranded body of a whale. People who had direct knowledge of whales were mostly whalers in Kii and Hizen Provinces. Seasonal migration patterns took whales close to the shore in these regions in western and southwestern Japan. Since whaling was labour-intensive and time-consuming, it was feasible largely only in these regions.¹ In addition, whalers stayed within viewing distance from the shore since the open sea was a forbidden place due to the policy of the closure of the ports. Starting in the second half of the 18th century, scholars from urban centres like Osaka in western Japan and the capital of Edo in eastern Japan travelled to whaling regions to gather empirical knowledge about whales. Being versed in several disciplines including natural history (*honzōgaku*), medicine, and Western learning (*rangaku*, literally, “Dutch Studies”), they compiled taxonomies, histories, and produced anatomical drawings of whales in illustrated horizontal scrolls, handwritten and printed books.

It might be assumed that the epistemic practices of scholars put equal weight on direct observation and on empirical drawings of whales. In fact, the link between observation and representation was not straightforward. This chapter highlights the epistemic value of copying images of whales and of referencing existing sources in the production of knowledge about whales in early modern Japan. It also argues that scholars, whalers, domain lords, and the wider population took an increasing interest in linking representations of whales to notions of prosperity. Whaling groups and domain lords in Kii and Hizen Provinces commissioned illustrated scrolls documenting the enormous efforts that went into whaling and the multifaceted benefits that local

¹ Holm, F.J., *The Gods of the Sea: Whales and Coastal Communities in Northeast Japan, c.1600–1912* (Cambridge, Massachusetts: 2023).

communities derived from these.² The scrolls depict whalers as warrior-like figures displaying courage, physical strength, and specialised skills in the whale hunt. The scrolls also include detailed drawings of whales and their body parts. Meanwhile, urban dwellers picked up knowledge about whales through printed illustrated guides that laid out the prosperity of the realm by elaborating on famous local products (*meibutsu*).³ Being distanced from the ontological realities of whales, they envisioned whales as curious spectacles and as sources of prosperity.

1 Negotiating Visual Accuracy and Visual Interest

Existing research on scholars' engagement with whales has highlighted *Whale Chronicle* (*Geishi*) by Kandoriya Jiemon (also Yamase Harumasa, Nanki Josuiken), first printed in 1760 in Osaka, and *Whale History* (*Geishikō*), authored by Ōtsuki Heisen (also called Ōtsuki Kiyonori) in 1808 and circulating in manuscript form. *Whale Chronicle* was the first scholarly work to focus solely on whales from the perspective of natural history studies (*Honzōgaku*). By profession, Jiemon was a merchant selling medicine and a scholar of natural history. Hailing from Kii Province, he had access to whalers' and local people's observations of whales in that province. By contrast, Ōtsuki Heisen was a samurai-bureaucrat and a scholar of Western learning specialising in Dutch Japanese translation. He hailed from Sendai in northeast Japan but was educated in the capital city of Edo which was a centre of Western learning. Heisen referenced a wide range of sources in *Whale History*, and he also went to Hizen Province to observe whaling and whales. Although both scholars used similar epistemic practices – referencing existing sources and travel to coastal regions to observe whales – their different social, geographical, and scholarly backgrounds influenced how they packaged knowledge about whales.

For Jiemon, travelling to the coast in Kii Province was as much about studying whales as it was about determining how whales might benefit people as sources of medicine, food, oil for lamps, and other products.⁴ The field of natural history studies provided a useful framework for this as it registered plants

2 Mori H. – Miyazaki K., “*Nankai Hogeï Emaki no Tokuchō: Kishū Chihō no Hogeï Emaki to no hikaku kara* (The Characteristics of Illustrated Scrolls of Whaling in Nankai: Based on a Comparison with Illustrated Scrolls of Whaling from the Kii Region)”, *Seinan Journal of Cultures* 26.2 (2012) 117–155.

3 For a detailed discussion see Goree R., *Printing Landmarks: Popular Geography and Meisho Zue in Late Tokugawa Japan* (Cambridge, Massachusetts: 2020).

4 Kandoriya Jiemon, *Geishi* (Osaka, Kashimoto Kanbee: 1794) 6.

and animals in terms of their nourishing and medicinal properties. Describing these properties took precedence over depicting plants or animals in detail. Nevertheless, as scholars became more interested in distinguishing different species in the 18th and 19th centuries, they also required greater visual accuracy and visual detail.⁵ However, an increasing interest in visual detail did not apply to all things in nature equally. Scholars recorded aesthetic objects like chrysanthemums or goldfish which they kept in their house or garden to satisfy personal interest rather than respond to a need to produce practical knowledge. Unlike goldfish or chrysanthemums, whales were not appreciated for their aesthetic merits, and they were remote sea creatures that were difficult to observe closely. Whales were regarded as resources for manufacturing useful products such as whale oil. Whale oil was initially used for lamps but by the 19th century, its efficacy as a pesticide for rice crops had become more widely well-known.⁶

In this sense, Jiemon's key objective was to register whales as useful resources, noting in the preface to *Whale Chronicle*:

all things between heaven and earth have a use. Looking at several *materia medica*, I realised that rain, frost, and snow from above as well as dirt and dung from below all have the potential to bring forth life and to cure disease. Consequently, one must record the properties [of plants and animals].⁷

This required some visual accuracy but not excessive detail. The illustrations of different whale species – fourteen in total – in *Whale Chronicle* only highlight their most conspicuous features such as overall shape and markings on the skin. Jiemon was more impressed when he saw and heard about the abundance of different whale products in Kii Province. He interviewed local people about their experiences with using these products. He was less empirical in procuring illustrations of whales. In the preface he noted that he repurposed existing images of whales. He also claimed that he ensured that the images were as accurate as possible by cross-referencing them with his own observations:

There was a painter who had moved to the southern shore [in Kii Province], spending several years there. During that time, he closely

5 Marcon F., *The Knowledge of Nature and the Nature of Knowledge in Early Modern Japan* (Chicago: 2015) 228–250.

6 Arch J., “Whale Oil Pesticide: Natural History, Animal Resources, and Agriculture in Early Modern Japan”, in Phillips D. –Kingsland S.E. (eds.) *New Perspectives on the History of Life Sciences and Agriculture*. (Switzerland: 2015) 93–111.

7 Kandoriya, *Geishi* 5.

observed [whales] there and recorded their appearance. When he came back, he showed me the images. I looked at the images and checked them based on what I had seen and heard. I used the images that tallied with my own observations. In doing so, I kept an open mind since being narrow-minded leads to the wrong conclusions.⁸

In the preface, Jiemon did not reveal the identity of the painter, probably because the painter had been in the service of the local administration. Professional painters in official service repeatedly copied illustrated scrolls recording items that fishermen caught in the sea. Such scrolls had been produced since at least the 1660s in Kii Province.⁹ Although titled *Illustrated Scroll of Whales (Kujira emaki)* or *Pictures of Whale (Kujira zu)*, these scrolls also often feature other sea creatures such as dolphins, sharks, rays, and ocean sunfish. An inscription in two extant copies of a scroll that was first produced in 1723, thus predating *Whale Chronicle* by almost forty years, gives a glimpse into the possible functions of such scrolls: Probably the lord of the domain himself had requested an investigation whereupon ‘an illustrated scroll of “fishes” was submitted to the customs office (Nibukuchi) in Kumano in Kii Province.’¹⁰ The scroll thus documented items that were caught in the sea in Kumano, helping the local administration register taxable marine goods.

In leaving the painter unnamed, Jiemon obscured the original administrative purpose of the illustrations. This allowed him to reframe the illustrations as epistemological tools for promoting knowledge about whales within the field of natural history studies. He used the illustrations as anchors for providing extensive textual information on whales. For example, his description of a right whale (*semikujira*) pays attention to the history of its name:

“*Semi*” comes from the Chinese word “*Beigan* [literally, “dry back”]”, meaning that this whale swims close to the water’s surface. It is so named because its back is dry from always being exposed. [...] There are two kinds. Their shape and colour are largely the same with few differences. Their colour is black with a white pattern. Their shape is smooth and long.¹¹

8 Kandoriya, *Geishi* 6.

9 Mori – Miyazaki, “*Nankai Hoge Emaki*” 118.

10 The inscription appears in extant copies of the scroll titled *Kishū Kumanoura Shogei-nozu (Pictures of Whales at Kumano Bay in Kii Province)* in the collections of Tokyo University Library [URL: <https://da.dl.itc.u-tokyo.ac.jp/portal/assets/1de1d067-53a5-4981-a122-daa047367056>] and the National Institute of Japanese Literature [URL: http://dbrec.nijl.ac.jp/DHADNac1948026.01_03400].

11 Kandoriya, *Geishi* 16.

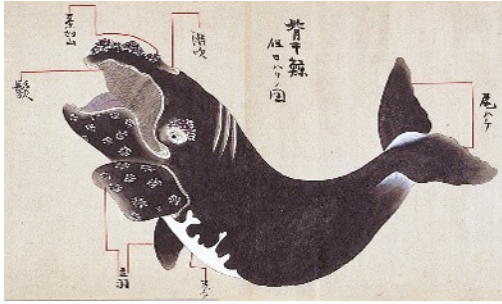


FIGURE 24.1

Kishū Kumanoura Shogeiinzo
(*Pictures of Whales at Kumano Bay in Kii Province*) Illustrated
Scroll (detail), ink and colours
on paper, 19th Century, Tokyo
University Library (URL: <https://da.dl.itc.u-tokyo.ac.jp/portal/assets/1de1d067-53a5-4981-a122-daa047367056>)



FIGURE 24.2 Double-page illustration of a right whale, Kandoriya Jiemon, *Geishi* (*Whale Chronicle*) (Osaka, Kashimoto Kanbee: 1794). Printed book. National Archives of Japan (URL: <https://www.digital.archives.go.jp/file/1222480.html>)

This description went beyond the brief captions that can be found in contemporary illustrated scrolls. These usually only point out conspicuous features such as blow holes or fins. Although the exact source of the illustrations in *Whale Chronicle* is not known, it is likely to have been a similar scroll to the two extant versions in Tokyo University Library and the National Institute of Japanese Literature. These feature two illustrations of a right whale resembling those in *Whale Chronicle* – one with its mouth closed and one with its mouth open displaying its baleen bristles [Fig. 24.1]. The illustration in *Whale Chronicle* [Fig. 24.2] is almost identical although the decorative pattern although the



FIGURE 24.3 Sanshi Tokinari, *Kujira Emaki (Illustrated Scroll of Whales)*, 1778, Illustrated scroll (detail), ink and colours on paper, National Institute of Japanese Literature (URL: http://dbrec.nijl.ac.jp/DHADNac1948026.01_03403)

decorative pattern evoking barnacles on the fins and the head on the fins and the head of the whale has been removed. At the same time, the illustration that shows the whale with its mouth closed in *Whale Chronicle* depicts this decorative pattern on its skin.

How can these embellishments be reconciled with Jiemon's claim to visual accuracy? Although illustrated scrolls of whales are believed to have been made under the guidance of natural history scholars,¹² they were also copied repeatedly by professional painters. In this sense, all extant whale scrolls are copies of existing scrolls.¹³ Professional painters copied scrolls to preserve and to circulate them. In the process of copying, the illustrations acquired embellishments that added variation and visual interest. This image of a right whale [Fig. 24.3] closely resembles the illustration in *Whale Chronicle* apart from the fanciful colouring which is imaginary and not based on direct observation. Such embellishments, however, did not detract from the documentary value of these scrolls; they were intrinsic to documentary practices in illustrated scrolls. The level of visual accuracy was adjusted to the purpose of a particular image, and there was room for taking liberties both in illustrated scrolls and in natural history studies like *Whale Chronicle*.

12 Arch J., *Bringing Whales Ashore: Oceans and the Environment of Early Modern Japan* (Seattle: 2018) 120.

13 Mori – Miyazaki, "Nankai Hoge Emaki" 153–5.

In contrast to scholars' practice of empirical methods such as direct observation, painting practices were largely not so. Most professional painters were trained in copying existing paintings rather than painting objects in nature.¹⁴ In this sense, the decorative elements of the illustrations in *Whale Chronicle* reference contemporary painting practices. They also make use of narrative techniques that added visual interest in illustrated scrolls. For example, part of the fin of the right whale [Fig. 24.2] appears on the preceding page. It is customary in illustrated scrolls to show glimpses of the action to come as the viewer unrolls a scroll, increasing a sense of anticipation.¹⁵ Since *Whale Chronicle* was issued in print, it addressed a wider audience than scholars of natural history. Although the text of *Whale Chronicle* is written in the scholarly language of Sino-Japanese (*kanbun*), it wraps around the illustrations as in an illustrated novel. The text would not have been accessible to the wider public, but they could still enjoy the illustrations, deriving basic information about the appearance of different kinds of whales from them.

The illustrations in *Whale Chronicle* demonstrate that some attempts were made to make knowledge about remote creatures such as whales more accessible by framing them within familiar registers of reading and viewing. To achieve this aim, visual accuracy had to be balanced with the need to create visual interest through embellishments and narrative techniques. This was also necessary because these media did not function exclusively as epistemic tools. They also served documentary and narrative purposes. Images being so malleable suggests that they were not taken as seriously as text in conveying knowledge about nature. At the same time, Marcon has shown that images of plants and animals became increasingly important carriers of knowledge in early modern Japan.¹⁶ Fukuoka has demonstrated how natural history scholars in 19th-century Nagoya practiced ink rubbing to produce faithful representations of objects in nature.¹⁷

Nevertheless, visual accuracy did not always require empirical painting methods. Copying and adjusting existing images could produce the same result. If an existing image accorded with a scholar's intentions, there was no

14 Kameda-Madar K., "Copying and Theory in Edo-Period Japan (1615–1868)", *Art History* 37.4 (2014) 708–727.

15 For example, flying sparks gradually turn into a raging firestorm as the viewer unrolls the illustrated scroll of the *Ban Dainagon Ekotoba* (*The Tale of Great Minister Ban*) from right to left. The set of three scrolls is in the collection of Idemitsu Museum in Tokyo. It dates to the late 12th century and is attributed to court painter Tokiwa Mitsunaga.

16 Marcon, *The Knowledge of Nature* 228–50.

17 Fukuoka M, *The Premise of Fidelity: Science, Visuality, and Representing the Real in Nineteenth-Century Japan* (Palo Alto: 2012).

need to produce a new image. This method was particularly prescient when trying to record creatures that were hard to come by and observe at close range. Adjusting the level of visual accuracy was a matter of choice and of practical necessity. Illustrations of whales in the 18th and 19th centuries demonstrate that images of things in nature did not follow a simple teleological trajectory from imaginary representations towards absolute visual accuracy. This was a complex process of negotiating empirical, documentary, and narrative interests.

At the same time, scholars increasingly valued empirical methods of gathering knowledge. The claim that a scholar had directly observed an object in nature, indicated by the frequent use of terms such as *kenmon* and *shinshi* in the prefaces and titles of manuscripts and printed books, did not necessarily mean that the image of the object was based on observation. Both *kenmon* ('seen and heard') and *shinshi* ('seen first-hand') appear in the preface of *Whale Chronicle*. Jiemon also mentions in the preface that he cross-referenced existing sources with his own observations. Contemporary epistemic practices required both referencing existing sources and empirical observation of objects in nature. Although Marcon and Fukuoka have emphasised how the latter shaped knowledge of nature in 18th- and 19th-century Japan, it is vital to acknowledge the continued importance of the former. Judging the epistemic value of an image based on its merits as an empirical drawing or in terms of its visual accuracy alone imposes a one-sided view on how knowledge was produced in early modern Japan. This also required referencing familiar registers for ordering knowledge, which were not exclusively empirical.

2 The Malleable Connotations of Anatomical Drawings of Whales

Understanding images of whales as balancing empirical observation and imaginary elements allows for reconsidering how knowledge about whales was constructed in scholarly works. In her seminal study on knowledge about whales in early modern Japan, Jakobina Arch understands Ōtsuki Heisen's *Whale History* as a less scientific work because his anatomical drawing of the inner organs of a right whale lacks visual accuracy and detail [Fig. 24.4].¹⁸ Later anatomical drawings by Beiga in *Pictures of Six Kinds of Whales (Rokugei no zu, 1847)* and in the illustrated scroll titled *Isanatori ekotoba (Illustrated Story of Whaling, dated 1829)* which was also printed were more detailed.¹⁹ In a similar

18 Arch, *Bringing Whales Ashore* 114.

19 Ibid. 125.

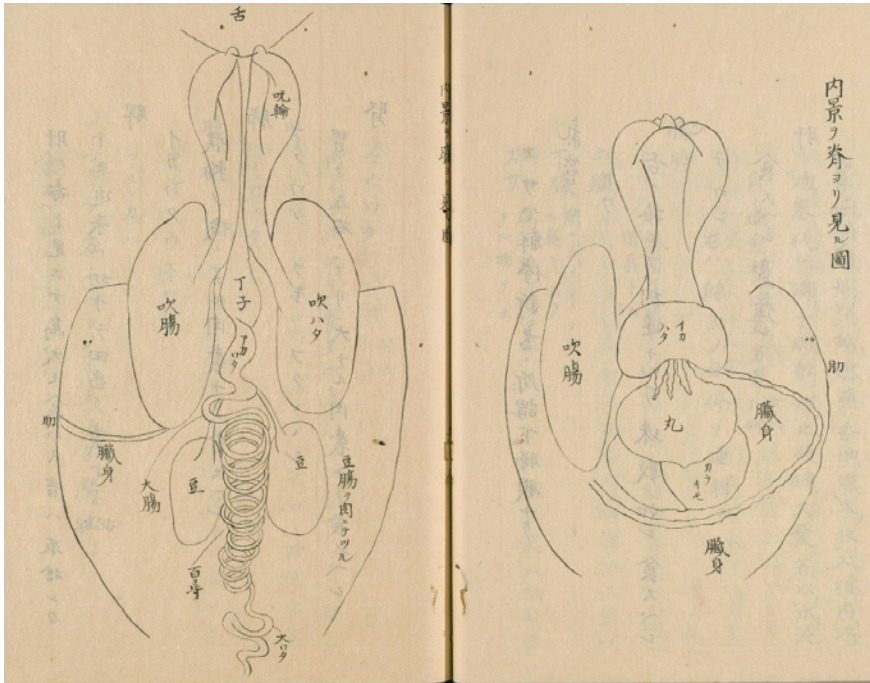


FIGURE 24.4 Double-page illustration, Ōtsuki Heisen, *Geishikō* (*Whale History*) 1808. Manuscript, National Diet Library Tokyo (URL: <https://dl.ndl.go.jp/pid/2610476>)

vein, Mori and Miyazaki have discussed the deficiencies of Heisen's anatomical drawing, arguing that he did not possess the skills to produce empirical drawings because he was not trained in natural history or medicine.²⁰ If one understands Heisen's anatomical drawing in *Whale History* as an exercise in referencing traditions of anatomical drawing in early modern Japan, one reaches a different assessment.

In *Whale History* Heisen brought together a wide range of historical, local, and scholarly sources: excerpts from Chinese and Japanese encyclopaedias, Dutch dictionaries, oral and written records from coastal whaling communities, and his own observations of whaling. Being a scholar-bureaucrat, Heisen was sent on two government missions to investigate whaling in Hizen Province

20 Mori H. – Miyazaki K., “Ōtsuki Kiyonori ‘*Geishikō*’ to Sugita Genpaku ‘*Kaitai Shinsho*’ no Kankeisei (On the connections between Ōtsuki Kiyonori’s “*Geishikō*” and Sugita Genpaku’s “*Kaitai Shinsho*””, *Bulletin of the Kyushu University Museum* 11 (2013) 66.

in southwestern Japan.²¹ By authoring *Whale History*, he sought to prove his worth as a scholar of the capital of Edo. His relation Ōtsuki Gentaku was a leading physician and scholar of Western learning who had become interested in whales when he treated a whaler. Gentaku had gained an insight into Western medicine, having revised Sugita Genpaku's translation of the *Anatomical Tables* (1725) by Johannes Kulmus.²² He was asked to investigate whaling but sent Heisen instead as he was too busy. True to the historical intentions of its author, a large section of *Whale History* is dedicated to taking account of existing whale knowledge.

As a translator, Heisen took a keen interest in etymology. He referenced Nakano Tadao's translation of Pierre Marin's *Groot Nederduitsch and Fransch Wordenboek* (*Big Dutch French Dictionary*, published 1730 and 1752) to determine the meanings of the term *walvis*: 'Nakano Tadao says that *wal* denotes something 'striving ashore from the sea', and it also means 'building a stone wall'. Thus, *wal* is equivalent to the word for *floating reef* (*fu jiao*) in China.'²³ The fact that he did this in the first volume shows his prioritising information that was close to his expertise. In the same volume, he also included illustrations showing the shape, size, and outward features of different whale species together with information from various sources about these whales. In the entry on sperm whales, called *Makkō Kujira* (literally, "Incense Whale") as their colour resembles the brownish hue of incense, he quotes *Geiki* (*Record of Whales*). He notes that sperm whales can be found in the southern sea off the coast in Kii Province in southwestern Japan and that they do not migrate north. From the start, the entry emphasises that these whales are used to produce scent in the Kingdom of Ryūkyū (present Okinawa). 'They have a stone inside their stomach that is shaped like a temple bell.'²⁴ He also provides an illustration of ambergris and explains that it was used as medicine in China.

Only the fourth volume delivers new insights. Especially his anatomical drawing of whale viscera in this volume signalled that his interest in whales went beyond the usual focus of registering whales as useful resources within the framework of natural history studies. It conveyed a medical interest that identified *Whale History* as a work in the scholarly orbit of Edo which was a centre of Western medicine. Heisen tried to map out the inner organs of a right whale regardless of whether they were useful as sources of nourishment or

21 Mori – Miyazaki, "Ōtsuki Kiyonori 'Geishikō' to Sugita Genpaku 'Kaitai Shinsho' no Kankeisei" 54–56.

22 Ogata R., *Rangaku kotohajime* (Tokyo: 1983).

23 Ōtsuki Heisen, *Geishikō* (Whale Chronicle) 1808. 20–1.

24 Ibid. 37.

medicine or not. Such an anatomical drawing had no practical use for whalers or in natural history studies. Previously, the only anatomical drawings that had been attempted by scholars in Edo represented the human body. Mapping the inner organs of whales was not a straightforward matter of faithfully recording things from direct observation. It required imagining the body of a living whale without the distorting effects of the forces of gravity on land. Translating messy ontological realities into coherent anatomical drawings was a challenge that required observational skills and imagination. Considering Heisen's lack of training in such matters, why did he attempt such a drawing?

Mori and Miyazaki have pointed out that Heisen was intrigued by the uncanny similarities between whales and the human body. He noted that whales nurse their young, and that they have eyelids.²⁵ However, such observations were commonly made in illustrated scrolls and in prints. The first people who recorded their observation that whales had eyelids and that they breathed air through a blow hole were whalers in western and southwestern Japan. Mayumi Itoh has demonstrated how whalers' observations of these similarities prompted them to feel remorse at hunting whales.²⁶ Whalers noted that whales were different from other "fish" because they had a soul. Female whales demonstrated this by fiercely protecting their calf when hunted. An illustrated manuscript titled *Ogawajima Geigei Gassen (Battling Whales around Ogawa Island)* recounts the story of a successful hunt of a female whale and calf in Hizen Province.²⁷ Although hunting parent and calf made the hunt more successful, it also caused emotional distress to whalers. In response to this, the manuscript has an addendum that explains how whalers ensured the welfare of the souls of the deceased whales.²⁸ At the point of death, whalers would recite the *nenbutsu*, a chant to help send the soul of the deceased whale to the Western Paradise of Amida Buddha.

Although whale bones were processed into useful products such as whale oil, some bones were held back and buried in graves where Buddhist memorial services were held for whales. The manuscript depicts a memorial service by the waterside conducted by a Buddhist priest in the presence of whalers.²⁹

25 Mori H. – Miyazaki K., "Ōtsuki Kiyonori 'Geishikō' to Sugita Genpaku 'Kaitai Shinsho' no Kankeisei" 67.

26 Itoh M., *The Japanese Culture of Mourning Whales: Whale Graves and Memorial Monuments in Japan*. (Singapore – Palgrave Macmillan: 2018). 179.

27 Hōshūtei Riyū, *Ogawajima Geigei Gassen (Battling Whales in Ogawa Island)*, 1840, Kyushu University Library (URL: <http://hdl.handle.net/2324/1929732>).

28 Ibid. 47–57.

29 Ibid. 52. The negotiation of the religious and the commercial implications of whaling in this manuscript is discussed in detail in Ambros B.R., *Bones of Contention: Animals and Religion in Contemporary Japan* (Honolulu: 2012) 59–63.



FIGURE 24.5 *Kishū Taijiura Kujira Tairyō no zu (Pictures of Whaling and Whales in Taiji in Kii Province)* 1861, Illustrated scroll (detail), ink and colours on paper, 30 × 1309 cm, Collection of Taiji-Chōritsu Kujira no Hakubutsukan (URL: <https://kujira-digital-museum.com/en/categories/13/articles/24>)

Depictions of memorial services are rare as they were usually only described in text. As this inscription in an illustrated scroll depicting whaling in Taiji in Hizen Province states:

When the whale dies, [whalers] in whaling boats recite the six syllables [of the *nenbutsu* chant]. Whaling boats work together to pull the whale ashore with pulley-ropes. By the shore, the whale is cut up with knives resembling naginata poles. As the water turns crimson red, a memorial service is conducted for the whale at a temple. At the shore, there are big celebrations that will surely spread to the seven shores.³⁰

The accompanying illustration [Fig. 24.5] shows the body of a right whale being cut up in the water by the shore and its parts being quickly transported to nearby workstations for further processing. Guards are shown hitting local children who have come to help themselves to some of the spoils. Heisen

30 *Kishū Taijiura Kujira Tairyō no zu (Pictures of Whaling and Whales in Taiji in Kii Province)* 1861, Illustrated scroll, ink and colours on paper, 30 × 1309 cm, Taiji Whaling Museum, URL: <https://kujira-digital-museum.com/en/categories/13/articles/24>. Preface. The notion of the prosperity of the seven shores is discussed in Frank S.M., “Kuniyoshi and the Prosperity of the Seven Shores: A Garland of Japanese Woodblock Prints of Whales and Whaling, with a Short History of Whaling in Japan”, *Deutsches Schifffahrtsarchiv* 25 (2002) 145–65.

copied a scroll depicting the hunt of a female whale and her calf in Ikitsuki Island in Hizen Province. He mentioned the *nenbutsu* chant in passing but he was more concerned with the uncanny resemblances between whales and the human body. Through his connection to Ōtsuki Gentaku, Heisen was aware of the Western and the Sino-Japanese traditions of anatomical drawings of the human body. It is thus understandable that his drawing of whale viscera referenced the medical tradition of depicting the human body in Edo. Including this drawing was also a statement of his identity as a man in the scholarly orbit of Edo.

Mori and Miyazaki have argued that Heisen intended his drawing of whale viscera to be as detailed as anatomical drawings of the human body and that he failed to do so because of his lack of scientific acumen. At this point, it is necessary to look beyond Heisen's shortcomings as a scholar and consider other factors that might have accounted for the lack of detail of his anatomical drawing. In early modern Japan, the human body posed less of a knowledge frontier than whale bodies. When Sugita Genpaku translated the *Anatomical Tables* by Kulmus in 1774, he grappled with the task of identifying what Latin names denoted before translating them into Sino-Japanese (*kanbun*).³¹ Genpaku was able to verify the accuracy of Western anatomical drawings by observing a dissection of an actual body as he recounted in *Rangaku Kotohajime (The Dawn of Western Learning)* in 1814.³² Producing knowledge about the human body required revising existing medical knowledge from the Sino-Japanese tradition. Knowing the whale body, by contrast, was a matter of closing serious knowledge gaps. In addition, as Figure 24.5 illustrates, whale bodies started being cut up in the sea. It was a challenge for anyone – scholar or not – to envision the internal structure of a whale based on these conditions.

It is possible that the anatomical drawing in *Whale History* carried symbolic connotations in conveying Heisen's aspiration to picture the inner workings of the whale body outside existing frames for envisioning whale bodies in the field of natural history and in illustrated scrolls of whaling. Considering the possibility that Heisen's drawing symbolised the expanding possibilities of knowing whales makes it necessary to compare it to representations of the human body. Heisen's anatomical drawing pictures the whale vertically with the head at the top (see Fig. 24.4). It appears that he took his cue from human anatomy as he depicted a windpipe, a pair of lungs, a pair of kidneys, and the digestive tract. These are labelled and rendered in a sketchy manner, giving no

31 Ogata R., *Rangaku kotohajime* (Tokyo: 1983).

32 Ibid.

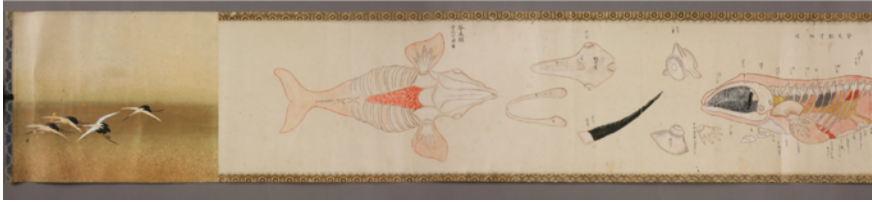


FIGURE 24.6 *Taiji Ura Kujira Ezu (Pictures of Whales in Taiji)* 19th Century, illustrated scroll (detail), Collection of Taiji-Chōritsu Kujira no Hakubutsukan (URL: <https://kujira-digital-museum.com/ja/categories/13/articles/26>)

clues as to their actual appearance.³³ There is also no frame around the organs which is suggestive of the body of the whale. The top-down orientation contrasts with the horizontal profile views of whales in illustrated scrolls and in *Whale Chronicle*. It evokes anatomical drawings of the human body in Kulmus' *Anatomical Tables*.³⁴ Kulmus' drawing positions the inner organs inside a naturalistically drawn human body, suggesting that the image was based on the dissection of an actual body.

Heisen's anatomical drawing makes no such suggestion, indicating that it was not meant to be a naturalistic representation. Rather, it appears to be a hypothetical exercise in considering the inner workings of the whale body as a likeness of human anatomy. Its sketchiness evoked the Sino-Japanese tradition of depicting the human body in a cartographic mode that projected the idea of the human body as a living system composed of complementary flows of energy.³⁵ A symbolic reading of anatomical drawings of whales is also supported by extant illustrated scrolls. An illustrated scroll in Taiji Whaling Museum opens with two anatomical drawings of a right whale [Fig. 24.6]. Unusually, the scroll reads from left to right. Its frontispiece depicts a flock of cranes against a gold plane, which suggests that it was produced to commemorate a special occasion since cranes were regarded as symbols of longevity.³⁶ Frontispieces conditioned how viewers interpreted the content of a scroll. The framing of anatomical drawings of whales in Heisen's *Whale History* and in

33 Arch, *Bringing Whales Ashore* 127.

34 Screech T., *The Western Scientific Gaze and Popular Imagery in Later Edo Japan: The Lens Within the Heart*. (Cambridge: 1996) 88.

35 Kuriyama S., "The Imagination of the Body and the History of Embodied Experience: The Case of Chinese Views of the Viscera", in *ibid.* (ed.), *The Imagination of the Body and the History of Embodied Experience* (Kyoto: 2001) 18, 26.

36 Screech T., *Obtaining Images: Art, Production and Display in Edo Japan* (London: 2012) 33–51.

illustrated scrolls suggests that their meanings were malleable and not limited to producing empirical knowledge.

3 Whales in the Urban Scopophilic Gaze

As knowledge about whales circulated more widely in the late 18th and 19th centuries, it acquired diverse connotations. In Edo, far from centres of whaling, people took a scopophilic interest in whales. Starting around the 1770s, full-colour prints came to be celebrated as famous products of Edo, so-called “brocade pictures” (*nishiki-e*) that rivalled the brilliant colours of the silks worn by the court and wealthy merchants in the old capital of Kyoto, then called Miyako. It was a fortunate coincidence that the inception of Edo’s brocade pictures coincided with several memorable events. In 1798, a whale, probably a right whale (*semikujira*) or fin whale (*nagasukujira*), was caught at Edo Bay near Shinagawa. The sight of the whale was so extraordinary and so memorable that it came to be hailed as one of Edo’s “Three Curious Animals” (*Daisan Chinjū*). It shared this honour with an Asian elephant that had been presented to Shogun Tokugawa Yoshimune in Edo in 1729, and a pair of camels taken by the Dutch East India Company for an audience with the Shogun in Edo in 1821. The whale was taken to the shogun’s coastal residence in Edo, Hama Detached Palace, to be viewed by Shogun Tokugawa Ienari.³⁷

In the popular imagination, these curious creatures acquired auspicious connotations – the Japanese name for camel (*rakuda*) rhymed with the expression “*raku da*”, literally, “This is fun”. Whales, on the other hand, were viewed as manifestations of the sea god Ebisu who brought riches.³⁸ In the visual cultures of East Asia, auspicious motifs were often depicted as complementary pairs of male and female, connoting continued prosperity. The most widely known is probably a pair of mandarin ducks symbolising conjugal harmony. As there were no visual sources for pairing whales in this way, print designers instead paired a female whale and calf.³⁹ A print design by Katsukawa Shuntei depicts the pair close by the shore in Shinagawa.⁴⁰ Shinagawa was known for its vibrant pleasure quarters, and the print compares the curious sight of the

37 Itoh, *The Japanese Culture of Mourning Whales* 64.

38 Holm, *The Gods of the Sea* 2.

39 The female connotations of whales are discussed in Arch J., “Heroic Whalers Hunting Whale-Mothers: Gender in the Early-Modern Japanese Whaling Industry”, *Coriolis* 10.1 (2020) 48–69.

40 Katsukawa Shuntei, “Whale in the Bay at Shinagawa” 1798, woodblock print, 38.5 × 78.7 cm, Museum of Fine Arts Boston, URL: <https://collections.mfa.org/objects/500404>.

large whales with fashionable merrymakers in pleasure boats. The whales' uncannily large eyes ogle the goings on at the shore. A person in a pleasure boat returns the gaze by looking back through a telescope. The addition of the telescope allowed the print design to collapse the distance between the whales and the pleasure boats, showing the whales as large as possible. The telescope symbolised the scopophilic interest of city-dwellers in whales.

Existing research has focused on the indexical value of images for producing knowledge about whales, but these images also possessed symbolic meanings, feeding into notions of nature as a source of prosperity. In the 19th century, representations of whales became slightly more detailed, but this paled against the growing interest in showing the links between whaling and a region's prosperity in illustrated scrolls and in printed media. A set of scrolls commissioned by the lord of Hirado Domain illustrating the famous products of Hirado Domain in Hizen Province in southwestern Japan starts demonstrably with whaling to emphasise it as a source of the region's prosperity.⁴¹ The scrolls were illustrated by Kizaki Morisue, a scholar of natural history. He depicted whales in detail but was less careful when illustrating other scenes such as net fishing of sardines. Mori and Miyazaki have shown that he simply copied some illustrations from existing printed illustrated guides such as Hirase Tessai's *Nihon Sankai Meibutsu zue (Illustrated Guide to the Famous Products of Land and Sea of Japan)*.⁴²

The urban population, too, combined an interest in objects in nature with a growing curiosity about methods of processing them into useful products. Since the second half of the eighteenth century, illustrated guides to local products and local places flourished. The popularity of these guides was driven by increased travel by commoners. Although the open sea was forbidden, travel over land was supported by a well-developed road network along the coast which connected major cities such as Edo, Osaka, and Kyoto. Real travel was also paralleled by imaginary travel as readers ravaged printed illustrated guides to local places and local products. As Goree has pointed out, these were intended for armchair travellers rather than being practical travel guides, but they nevertheless inspired their readers to imagine themselves sampling local products and experiencing unfamiliar local places.⁴³

A major selling point of these illustrated guides was their emphasis on authenticity based on directly experiencing local places. Authors claimed to

41 Kizaki Morisue (also Kizaki Yūken), *Hizenshū Sanbutsu zukō (Pictures and Explanations of Products of Hizen Province)*, 1784 (URL: http://dbrec.nijl.ac.jp/DHADNac1948o26.01_03713).

42 Mori – Miyazaki, *Nankai Hogeï Emaki no Tokuchō* 129.

43 Goree, *Printing Landmarks* 10.

have seen local places at first-hand, which was expressed in the saying *kenmon*, literally, “seen and heard” with their own eyes and ears. Against this background, the Osaka scholar and merchant Hirase Tessai compiled a comprehensive five-volume *Illustrated Guide to the Famous Products of Land and Sea of Japan* (*Nihon Sankai Meibutsu zue*), first printed in Osaka in 1754. With this work, Tessai pioneered the genre of illustrated guides to local famous products. His illustrated guide was designed to appeal to a wider audience than just a select community of scholars who were steeped in natural history. The book has double-page illustrations describing the production of important regional products, accompanied by brief glosses providing contextual information on pictures. Both the text and the illustrations emphasise the embeddedness of local products in local practices and local environments. In emphasising the benefits that manufacturing products brought to local people, Tessai’s illustrated guide humanises production processes, and it adds narrative interest. The fifth volume of the book dedicates five double-page illustrations to whaling in Kumano in Kii Province.

Like illustrated accounts of whaling, it visually narrates the trajectory of whaling from spotting the whale in the sea to bringing it ashore. In the table of contents, Tessai claims to have closely observed whales and whaling practices in Kumano and to have tasked painter Hasegawa Mitsunobu with their faithful representation:

Whaling is a serious undertaking. Only people living near the coast know it thoroughly. For some time, I observed whaling in Kumano and enquired in detail about the processes of whaling. I have recorded (my findings) here, and Mr Hasegawa provided the images.⁴⁴

In the gloss, Tessai informs the reader that whalers in Kumano knew five notable kinds of whales: humpback whales (*zatōkujira*), gray whales (*koku-jira*), sperm whales (*makkōkujira*), right whales (*semikujira*), and fin whales (*nagasukujira*). Fin whales were the largest, and whalers in Kumano did not catch them.⁴⁵ Tessai mentions that local people took great pride in a successful hunt.⁴⁶ The illustrations make the reader understand why as they demonstrate the strenuous nature of hunting whales.

Although Mitsunobu’s images were more narrative than descriptive, they drew readers’ attention to the most conspicuous features of whale bodies.

44 Tessai Hirase – Hasegawa Mitsunobu, *Nihon Sankai Meibutsu zue* (Illustrated Guide to the Famous Products of Land and Sea in Japan) (Osaka, Shioya Uhei: 1797). Vol. 1, p. 4.

45 Ibid. Vol. 5, p. 13.

46 Ibid. Vol. 5, p. 17.



FIGURE 24.7 Double-page illustration, Tessai Hirase – Hasegawa Mitsunobu, *Nihon Sankai Meibutsu zue* (Illustrated Guide to the Famous Products of Land and Sea in Japan) (Osaka, Shioya Uhei: 1797). Printed book, National Diet Library Tokyo (URL: <https://dl.ndl.go.jp/pid/2555436>)

Plumes of water emerging from the whale's breathing hole might be spotted from the shore, but they were more impressive when viewed at close range [Fig. 24.7]. By the time a whale had been brought close to the shore, it had died, which meant that only whalers out at sea or people in possession of a telescope were able to closely observe the spectacle of its breathing. In the gloss, Tessai prepares the reader for this spectacle as he notes that lookouts on hilltops (*yamami*) looked for whales by spotting plumes of water out at sea. The illustration shows a telescope being used for this [Fig. 24.8]. Since telescopes were expensive, the addition of one in the context of spotting whales was a hint at the wealth of whalers in Kumano. The scroll (see Fig. 24.5) depicting whaling in Taiji depicts as many as three telescopes being used in the lookout.⁴⁷ The idea of prosperity was not just conveyed by depicting whales but also by showing the tools and the techniques that were being used to procure them.

47 *Kishū Taijiura Kujira Tairyō no zu* (Pictures of Whaling and Whales in Taiji in Kii Province) 1861.



FIGURE 24.8 Double-page illustration, Tessai Hirase – Hasegawa Mitsunobu, *Nihon Sankai Meibutsu zue* (*Illustrated Guide to the Famous Products of Land and Sea in Japan*) (Osaka, Shioya Uhei: 1797). Printed book, National Diet Library Tokyo (URL: <https://dl.ndl.go.jp/pid/2555436>)

In addition to connoting prosperity, in printed media, especially in illustrated guides, Western telescopes symbolised a delight in looking at curious things. The presence of telescopes signified urban dwellers' scopophilic interest in the world around them. An illustrated guide to the famous places of Settsu Province depicts a party of stylish picknickers on a hill spying on other people through a telescope.⁴⁸ The illustration compares their excitement about the rich pickings offered by the telescope with nearby mushroom hunters delighting in a bumper crop of pine mushrooms (*matsutake*). Tessai's illustrated guide satisfied readers' desire to see curious things at one glance. In this sense, Mitsunobu's illustrations did not just inform about whales and whaling, but they also provided readers with otherwise unobtainable close-up views of a living whale in the sea. As the whalers encircle the whale with a net, it opens

48 Goree R., "Meisho Zue and the Mapping of Prosperity in Late Tokugawa Japan", *Cross-Currents* (2017) 90.



FIGURE 24.9 Double-page illustration, Tessai Hirase – Hasegawa Mitsunobu, *Nihon Sankai Meibutsu zue* (*Illustrated Guide to the Famous Products of Land and Sea in Japan*) (Osaka, Shioya Uhei: 1797). Printed book, National Diet Library Tokyo (URL: <https://dl.ndl.go.jp/pid/2555436>)

its mouth displaying its baleen bristles while its large eyes uncannily resemble human eyes [Fig. 24.9].

Mitsunobu's illustrations zoom in on the action, contrasting the strenuous gestures of whalers with the comparatively placid facial features of the whale. The sea thus becomes a stage for performing an engaging battle between industrious whalers and a monstrous whale. Defying gravity, the whale's gigantic body appears above the water's surface, almost fully exposing it to the curious gaze of urban readers. Goree has demonstrated that these zooming-in and zooming-out techniques were a major attraction of illustrated guides.⁴⁹ Zooming in connoted a scopophilic pleasure in satisfying one's curiosity to see and to know. In lifting the whale's body out of the water, Mitsunobu's illustrations did not just cater to the scopophilic desires of urban readers. To some degree, they also evoked the descriptive focus of books produced by natural

49 Ibid. 98.

history scholars such as *Whale Chronicle (Geishi)*, albeit with less focus on visual accuracy. Mitsunobu balanced scientific, narrative, and scopophilic concerns in designing the illustrations. This was a response to the functions of printed illustrated guides that excited readers by offering them new ways of looking – expanding their vision with panoramic views and zooming in on details.

4 Conclusion

In 18th- and 19th-century Japan, whale knowledge was a vibrant field of intersecting local, cross-regional, Sino-Japanese, and Western epistemic practices. Illustrations of whales in printed media, manuscripts, and illustrated scrolls demonstrate that some epistemic practices – especially the practice of copying and adjusting existing images and sources – crossed social and geographic divides. Investigating illustrations of whales complicates the perception that images of animals and plants became increasingly detailed and accurate in 18th- and 19th-century Japan. It is probably more useful to argue that images of whales became more diverse, allowing scholars, painters, and the public to adjust them to their own interests.

Visual accuracy and visual detail were thus matters of negotiation rather than the ultimate goal of a teleological development towards modernity. Scholars of natural history produced documentary scrolls of whales for administrative purposes, and they compiled manuscripts that reached a wider audience in print. There was also cross-fertilisation between information that was circulating in print and in manuscript as scholars took shortcuts by copying existing images or written sources. At the same time, they also emphasised the need to observe objects directly and to stay truthful to the object in nature when representing it in image and in text. The negotiation of visual accuracy thus emerges as a subtext that needs to be acknowledged in order to get a better understanding of how knowledge about whales was produced in early modern Japan.

In particular, printed media had the power to shape whale knowledge across regional and social divides, picking up whale knowledge that derived from direct encounters between whalers and whales in western and south-western Japan and repackaging this for a cosmopolitan urban gaze that hinged on scopophilia and curiosity about local products. Meanwhile, local practices continued to shape whale knowledge. Although the urban population at large did not take a scientific interest in whales, their engagement with whales and the coastal environment suggests a wish to push imagined and real boundaries with a view toward the world beyond the borders of the Japanese archipelago.

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