CHAPTER 2

Wondrous Worms and Exotic Drugs: Chasing the "Parasites of the Five Viscera" in a Nichibunken Manuscript

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1 Introduction[1]

Japanese archives, libraries, and private collections preserve a number of early modern book manuscripts and handwritten memos depicting fantastic worms. Such books and memos focus on the so-called "worms of the five viscera" (*gozō no mushi* 五臓虫) and date mostly from the Edo period (1603–1868), although a few earlier specimens also exist. Now part of modern library collections on the history of Japanese medicine, these items are mostly heterogenous in origin and content, and feature ideas about health and the human body spanning the fields of religion and medicine. Illustrated with colored or black and white images, these texts explain varieties of bodily worms, their appearance, and the diseases or kinds of pain they were likely to cause. Many also contain recipes for medical treatments and drugs assumed to help with purging these pesky invaders from one's intestines.

Worms, insects, and various demonic forces were envisioned as pathogenic agents across South and East Asia for more than two millennia. In this sense, the Japanese manuscripts featuring bodily parasites offer engaging examples of how such ideas were localized in particular times and places. Given the historical and geographical breadth of such thought, for the case of Japan, at least two routes of its transmission and adoption—the Chinese and Buddhist

1 This essay is based on a conference paper presented at a panel entitled "Worms, Demons, and Gods: Disorder and Health Within the Body," organized by Robert Kritzer and Elizabeth Kenney at the International Congress for Traditional Asian Medicines (ICTAM) in Kiel in August 2017. The research for the ICTAM conference presentation and the subsequent essay based upon it was conducted under the auspices of the project "Buddhism, Medicine, and Gender in 10th–16th Century Japan: Toward a Transcultural History of Women's Health in Premodern East Asia," sponsored by the German Research Council (DFG) at the University of Heidelberg from 2017–2021 (grant AN 1283/1–2). I warmly thank the library of the International Research Center for Japanese Studies (Nichibunken) in Kyoto for letting me study and reproduce the Nichibunken manuscript, and the organizers of the Zurich conference, especially Judith Vitale, for including this paper in the present volume.

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written sources—must be considered. This chapter will show that, despite their antiquated pedigree and wide dispersal across Asia, premodern ideas of bodily worms as major disruptors of human health circulated in Japan before and throughout the nineteenth century. Moreover, Japan's population continued to seek solace from these pesky monsters in traditional drugs and medicines perceived as both exotic and efficacious.

To this end, the first section of this chapter will briefly introduce traditional East Asian and Buddhist ideas regarding invasive bodily worms and demons thought to cause disruption to human organs. The second section will overview a selection of late medieval Japanese healing techniques and, most importantly, the drug formulas assumed to be efficacious for purging worms from the intestines. The third section will introduce a previously unstudied one-page manuscript kept in the library of the International Research Center for Japanese Studies (Nichibunken, Kyoto). This manuscript consists of hand-drawn pictures and written drug formulas that circulated in pre-1900 Japan. In its plainness this manuscript is akin to a short, eye-catching advertisement for a moxa treatment, and includes a number of medical recipes involving domestic and imported drug ingredients. It features "cute" yet slightly terrifying images of demonic worms thought to invade the "five viscera and six entrails" (*gozō roppu* 五臓六腑); that is, the internal organs that broadly correspond to what modern biomedicine now refers to as essential parts of the human anatomy. In addition to moxibustion treatment, well-known in premodern Japan, the exotic drug components of these recipes provide a view into early traditions of drug-making and trade in Japan and broader Asia. It is also possible that these premodern healing measures were trying to address modern diseases. By way of conclusion, the final section will explore how this manuscript may be understood from the viewpoint of the history of drugs and health in Japan. Finally, I append the first English-language translation of the Nichibunken manuscript.

2 A Brief History of Worms in Premodern East Asia

First, let us chase a worm or two within the depths of Asia's history. One of the oldest surviving East Asian sources featuring the ideas of bodily worms is found among the Mawangdui manuscripts, discovered in a tomb sealed in 168 BCE. The scholar of early China Donald Harper notes that a third-century BCE manual of medical recipes titled *Wushier bingfang* 五十二病方 (Recipes for fifty-two ailments) explained "exorcistic methods used to expel demons of disease," some of which were understood to be the spirits of insects or actual

insects invading the human body.[2] In certain cases, these recipes explicitly referred to insect bites, chewing, or infestation occurring in a patient's body; for example, when advising on a fumigation treatment of "female hemorrhoids that have numerous openings with *rao* 蟯 (pinworms), white and swarming, coming out," or addressing a particular kind of anal itchiness, when "white worms emerge from the holes and the burning pain in the rectum is caustic."[3] Harper notes that in Han China flesh-chewing bugs were often associated with abdominal and colonic discomfort, and their presence was noted in one of the corpses buried at the Mawangdui tomb.[4] Another example, this time revealing a fear of demonic infestation, is found in the section on exorcists (*fangxiang* 方相) in *The Rites of Zhou* (*Zhou li*, "Fangxiang shi 方相氏," 31.12a–b) from the second century BCE; it describes malevolent and predatory spirits assaulting the bodies of the already deceased and eating their livers and brains.[5] Other Han-period classical texts inform us of therapeutic exercises and ritual dances performed as techniques for driving away illnesses and demonic forces, while Daoist medical writings from the seventh century advised readers to adopt a certain sleeping position—on one side and with the knees bent—to prevent demonic incursions during the night.[6]

The scholar of Daoism Livia Kohn has noted that Han written sources referred to "three worms" (*sanchong* 三蟲) "gnawing through … [people's] intestines," which could be treated with certain drugs and expelled from the body. Other Chinese medical works and Daoist treatises on longevity depicted

2 Harper, "A Chinese Demonography," p. 469; ibid., *Mawangdui Medical Manuscripts*, pp. 221–304. The use of exorcistic incantations in the "Recipes for Fifty-Two Ailments" suggests an invasion by a demonic agent. See, for example, items for treating infant convulsions, scorpion bites, and child sprite, in addition to medicinal remedies, ibid., pp. 233–234, 238–239, and 302, respectively. One incantation offering a remedy for a lizard bite refers to an invading spirit called "hidden eater," pp. 242–243; others cure groin swelling caused by fox attack, pp. 261–262, or abscesses on the body attributed to demons, pp. 291–292; see also the incantations pacifying the lacquer spirit thought to cause skin rashes, scabies, or sores, pp. 293–294.

3 Harper, *Mawangdui Medical Manuscripts*, on treating the bites of the *ming* 螟 bugs (crop pests referred to in early Han literature), who chew through the nose, teeth and gums, throat, or fingers, pp. 249–250, 264, 295–296; on pinworms and female hemorrhoid fumigation, p. 273; on anal itchiness and fumigation with willow fungus and mugwort, pp. 275–276.

4 Ibid., p. 273n1.

5 Harper, "A Chinese Demonography," p. 482.

6 Ibid., pp. 483–488. The sleeping position to prevent demonic invasion is described in the *Qianjin yao fang* 千金要方 (Formulas worth a thousand pieces of gold, HY 1155, 81.16a–b) by prominent Daoist adept and physician Sun Simiao 孫思邈 (?–682). Harper's citation is based on the printed edition of the Harvard-Yenching Index to the Taoist Canon, *Daozang zimu yinde* 道藏子目引得 (Beijing, 1936). Ibid., p. 459.

the "nine worms" (*jiuchong* 九蟲) thought to infest the stomach and lungs and to cause an array of maladies, including stomach pains, acne, nausea, coughs, and asthma. But it was the Daoist bodily spirits in particular that held sway over the religious imagination within East Asia. Among them, the three demon parasites, known as "corpses" (*shi* 尸) or "deathbringers," were thought to reside within the human body, but to leave it during the fifty-seventh night of the sixty-day cycle (Ch. *gengshen*, J. *kōshin* or *kanoe saru*) in the Chinese-style calendar to report on human transgressions to their chief deity Siming 司命, the Ruler of Destiny.

Upon receiving their orders from Siming, the three demonic parasites could cause havoc and disease to their human hosts as a form of divine retribution. Rather than preventing these spirits from entering the human body in the first place, it was deemed appropriate to stop them from leaving it by taking certain ritual measures such as ingesting herbal concoctions and elixirs and holding all-night vigils—practices that became popular not only in premodern China, but also in Korea and Japan. Following the work of the Japanese scholar of Daoism Yoshioka Yoshitoyo (1916–79), Kohn has suggested that the Kōshin cult may have arrived in Japan via medical books brought from Tang China (618–907) by Japanese Tendai Buddhist monks during the early Heian period (794–1185). There, it became intertwined with ideas of esoteric Buddhism (*mikkyō*) and connected to the figure of Shōmen Kongō (Blue-Faced Vajra [King]), an esoteric deity thought to both spread and control a contagious demonic disease (*denshibyō* 傳尸病).[7] The scholar of Japanese Buddhist medicine Andrew Macomber has recently investigated the medieval medico-ritual practices of Japanese Tendai monks, who dealt with this type of disease by means of moxibustion.[8] His study shows that moxibustion was already an established way of treating a variety of ailments in medieval Japan, and that major Buddhist temples incorporated it into their ritual regimen.

The earliest Buddhist sources generally do not shy away from depicting worms and insects as representations of physical suffering and as carriers of disease. Robert Kritzer's study and annotated translation of one of the earliest Buddhist scriptures dealing with embryology, the *Sutra of Entry into the Womb* (Sk. *Garbhāvakrānti sūtra*), which was translated into Chinese (Ch. *Baotai jing* 胞胎経, T. 317) in the late third and early eighth centuries (as a part of

7 Kohn, "Expelling Daoist Demons," pp. 148–149. She further explores the elaborate Daoist rituals for dislodging bodily parasites, pp. 152–153, and the Kōshin cult in Edo Japan, pp. 158, 160–166. On the Kōshin rituals and their links to Japan's mountain religion, Shugendō, see also Gorai, "Kōshin-tō to Kōshin-tai."

8 Macomber, "Ritualizing Moxibustion," pp. 200–214.

the lengthy *Mahāratnakūṭa sūtra*, T. 310, n. 13 and 14), enumerates the worms, demons, and diseases present in the human body. In particular, it details the eighty thousand worms and demons (Sk. *grahas*; lit. 'seizers, upholders') feeding on the bodies of unborn children and infants.[9] Kritzer notes that classical Indian medical compendia, such as *Carakasaṃhitā*, *Suśrutasaṃhitā*, and *Aṣṭāṅgahṛdaya-saṃhitā*, thought to be at the root of India's Āyurvedic tradition, mention only twenty types of such worms generated from blood, phlegm, and feces, or as a result of poor hygiene and diet.[10] *Garbhāvakrānti sūtra* describes the seventy-two types of worms and thirty-one types of demons as well as the bodily parts they attack and the harm they can cause to a newborn. Some of these worms "live in the stomach and eat the stomach," while others live in and consume the large intestine, urethra, and anus.[11] Even the pregnant woman's womb, the site of conception and birth, was envisioned as the "home of many thousand types of worms," instilling abject fear and disgust in early Buddhist practitioners keen to avoid the suffering of constant rebirth.[12]

Analyzing this scripture further, Amy Paris Langenberg has shown how knowledge about the morphology (and terrifying worms) of the pregnant woman's body was assembled from several domains of Indian classical knowledge, including medical and pre-Buddhist poetic texts, and how such knowledge was employed in these earliest forms of Buddhist discourse, teaching about the pain and suffering of worldly existence.[13] Esoteric Buddhist practitioners in Heian Japan took this idea further: for example, in his *Treatise on the Ten Stages of Enlightenment According to Secret Mandalas* (*Himitsu mandara jūjūshinron*), the founder of the Japanese Shingon school Kūkai (774–835) spoke of poisonous serpents that "cause four hundred diseases" and of the Buddhist idea of "three poisons" found at the root of eight hundred illnesses, thus initiating in Japan a whole rhetorical tradition of describing the physical human body as being invaded by snakes representing "fundamental ignorance" (*mumyō*).[14] Katja Triplett has offered a broad survey of the cases and treatments of demonic possessions and illnesses of newborn and infant

9 On the variant translations of this important scripture, see Kritzer, "Life in the Womb," p. 77; on worms, Kritzer, transl., *Garbhāvakrānti sūtra*, pp. 24–36, 74–80; on demons, pp. 80–82. On demonology in Indian and Chinese texts, including demons afflicting children, see the classic French study by Jean Filliozat, and more recently, Triplett, "Pediatric Care and Buddhism."

10 Kritzer, transl., *Garbhāvakrānti sūtra*, pp. 24–26.

11 Ibid., p. 79.

12 Ibid., p. 73.

13 Langenberg, *Birth in Buddhism*, pp. 37–49, 56, 65–69, 87–90.

14 Kūkai, *Himitsu mandara jūjūshinron*, T. 2425, 303a15–16, quoted in Andreeva, *Assembling Shinto*, p. 225.

children by various kinds of *grahas* (demons and worms as described in the Āyurvedic texts of India and Buddhist ritual texts from Tibet, Central Asia, and China). She shows that some of these stories and discourses evidently found a reception in medieval and early modern Japan.[15] In summary, sources for ideas about demonic and insect infestation afflicting the human body were ample and varied in South and East Asia, providing fertile ground for their adoption and cultural reconfiguration in premodern Japan.

3 Chasing Worms in Late Medieval Japan

In addition to these broad transcultural and historical introductions, which happened over the *longue durée*, a renewed interest in intestinal worms and parasites as invading specifically the "five viscera and six entrails" occurred in Japan from the early fourteenth to the late sixteenth centuries, when new diagnostic and treatment techniques focusing on the abdominal areas emerged. Such techniques were championed by medieval Buddhist physician-priests and later, by the Misono school of acupuncture in eastern Japan. While scattered references to women and Buddhist nuns specializing in the abdominal massage of ailing infants (*haratori no onna*) can be found sporadically in the Heian and Kamakura (1185–1333) period literature,[16] the scholar of Japanese medicine Nagano Hitoshi suggests that abdominal diagnosis began to establish itself more broadly in early fourteenth-century Japan, in part thanks to the efforts of Kajiwara Shōzen (1266–1327), a Buddhist priest and physician who lived and worked at the Gokurakuji temple in Kamakura (the seat of medieval military government in eastern Japan).[17] In one of his main works, the *Ton'ishō* (Notes of the simple physician) (1302–4), written in Japanese but based on

15 Triplett, "Pediatric Care and Buddhism." On the Muromachi-period Japanese court diaries that sporadically mention intestinal worms and related diseases, see also Hattori, *Muromachi jidai igakushi*, pp. 64–69.

16 Nakamura Akira has noted such references in the late-Heian historical fiction novel *Eiga monogatari* and the Kamakura-period diary *Meigetsuki*, by the courtier and poet Fujiwara Teika (1116–1241). Nakamura, "Ryōjutsu to shite anpuku," p. 188.

17 Nagano, *Kanpō fukushinsho kenkyū seika hōkokusho*, pp. 2–4. He also suggests that this development took place in parallel with the ritual and soteriological activities of the Shingon and Tendai monks (on the other side of the Buddhist milieu spectrum) who compiled ritual treatises and pictorial manuals such as the so-called "Five Viscera Mandala" (*Gozō mandara* 五臓曼荼羅). On the life and works of Kajiwara Shōzen, see Goble, *Confluences of Medicine*.

many old and new printed medical books arriving from Song China,[18] Shōzen stated the following:

> A method for those palpating the stomach (*haratori sama* 腹取様).
>
> Item: If the chest is swollen, [one] must palpate the chest and the liver (*kanzō munasaki* 肝蔵心前). Item: [in case of] neck and shoulder pain (*kenpeki* 痃癖), "stomach with worms" (*mushihara* 虫腹),[19] or swollen stomach [due to blood stasis] (*chōga* 癥瘕), [one] must palpate [the area] under the curved bones [ribs] near the lungs (*haizō no abara* 肺蔵ノ折骨). Item: [in case of] neck and shoulder pain, [one] must palpate just above the acupuncture point on the spleen (*hizō shōmon* 脾蔵章門).[20] Item: [in case of] tapeworms (*subaku* 寸白, also *sanadamushi* 条虫),[21] [one must] palpate the exits of stomach tubes to kidneys (*jinzō ikan no ana* 腎蔵胃管ノ穴).[22]

Note here the use of abdominal palpation to get rid of "stomach worms" or unpleasant *subaku* tapeworms. Shōzen's treatise also included drawings depicting the abdominal area, borrowed from Song medical works.[23] Before the 1600s, palpation was used to observe the so-called "abdominal meridian pulse" (*hara no myakudō*), on the basis of which the condition of the "five viscera" (Ch. *wuzang*, J. *gozō*; that is, the heart, lungs, spleen, kidneys, and liver) was diagnosed. The pressure applied to acupuncture points on the abdomen corresponding to the five viscera was supposed to purge the parasites invading these vital organs.

While some healing professionals in the monastic community focused on abdominal palpation and acupuncture techniques to purge the pesky bodily invaders, others collected drug formulas and recipes to combat them.

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18 Shōzen's sources included Tang medical classics such as the *Shenghui fang* 聖恵方 (992) and *Quanjin fang* 千金方 (650) as well as Song printed editions of Chen Shiwen's 陳師文 *Taiping huimin hejiju fang* 太平恵民和剤局方 (*c.*1110) and *Sanyin fang* 三因方 (first printed in 1174). Goble, *Confluences of Medicine*, pp. 25–45.

19 This term seems to signify the pain and discomfort caused by intestinal parasites, such as round worms, *Askaris lumbricoides*, or other similar species (J. *kaichū* 回虫) often afflicting humans due to poor hygiene.

20 The two *shōmon* points used in acupuncture and moxibustion treatments are located on either side of the abdomen. Sometimes, the term *shōmon* is translated in English as the "Ordering Gate."

21 *Cestoda*, tapeworms which can infest the digestive tracts of vertebrates, including humans, sometimes reaching up to 10 meters in length.

22 Kajiwara Shōzen, *Ton'ishō*, quoted in Nakamura, "Ryōjutsu to shite anpuku," p. 188.

23 Nagano, *Kanpō fukushinsho kenkyū seika hōkokusho*, p. 3.

Some such recipes were already known in the medieval period. For example, *Inryōken nichiroku* (Daily records on a shady and cool veranda), a diary kept by the Rinzai Zen temple abbots residing at Rokuon'in in Kyoto from 1435–93, contained at least three prescriptions from the Bunmei (1469–87) and Chōkyō (1487–89) eras, recorded by the abbot Kisen Shūshō (1424–93). He himself was said to suffer from intestinal worms and evidently had a great interest in drugs and formulas for such everyday ailments. The prescriptions are:

> *The Worms Medication Formulae* (*chūyakuhō* 虫薬方).
> *Liquorice powder* (*kanzōsan* 甘草散).
> Liquorice (*Glycyrrhiza uralensis*), one part. Red seabroom (J. *makuri*, also *kaijinsō* 海人草; *Digenea simplex*),[24] five *ryō* (approx. 189 g). Yellow basal shoots [from tree stumps] (*kiiro hikobae*). Peach blossom seeds (*tōkamei*). Flour chaff (*konuka*), two *ryō* (approx. 76 g). "Mountain measure" 山枡 [perhaps, a mistake for cape jasmine fruit, a kind of gardenia plant; Ch. *shizi* 山枝 or *chanzhi* 山梔], one *ryō* (approx. 38 g).
>
> *Inryōken nichiroku*, entry on Bunmei 18 [1486], fourth month

> Rice from Great Tang [China], together with field beans (*nomame*). Simmer on a soft fire and make into a powder. Administer it on the day of preparation. In all probability, the best anti-worm medicine.
>
> *Inryōken nichiroku*, entry on Bunmei 19 [1487], tenth month, twenty-first day

> The *Meditation* [manual] says,[25] "To expel the abdominal worms (*haramushi*), there is a secret incantation. Make a talisman and drink it.[26] Immediately, the abdominal worms will fall down." The "Hut Nourishing

24 *Makuri* is a type of seaweed found in southern Wakayama prefecture and Kyushu. Modern chemical analysis has revealed that it contains kainic acid ($C_{10}H_{15}NO_4$), an amino acid said to be effective as an anti-worming agent. This plant may have already been known as an effective healing substance within premodern Japanese medicine.

25 From this brief note, it is unclear which meditation manual is implied. Buddhist textual sources, translated from Central and South Asian languages into Chinese, generally contain many references to medical treatments and drug recipes.

26 This method is a standard way of making a potent ash medicine with the use of handwritten esoteric or Daoist talismans. Such talismans were usually written on scraps of paper in black or red ink and then burnt. Their ash was either digested as a part of a solution mixed with water, or made into an unguent and spread on the designated part of the patient's body.

> the Worms"[27] records it. That incantation was also transmitted to me, or so it was said.
>
> *Inryōken nichiroku*, entry on Chōkō 2 [1488], second month, twelfth day[28]

These short drug recipes for treating intestinal worms recorded not only some of the efficacious ingredients (such as a specific type of seaweed or simple decoctions and powders) already known to the Buddhist monastic community in late medieval Japan, but also suggested apotropaic and ritual treatments, such as writing and ingesting written talismans and pronouncing esoteric incantations, borrowed from Indian and Chinese Buddhist esoteric sutras and meditation manuals. As already mentioned, Buddhists monks engaged in treating pathogenic agents by a variety of methods, including moxibustion and esoteric rites; their interest in medicinal plants is also well documented.[29] The Japanese court commissioned the establishment of medicinal plant gardens in the eighth century, while Buddhist temple monks and Shugendō practitioners traversed the mountainous areas, collected medicinal herbs used for making drug pills and concoctions, and compiled extensive compendiums on drugs and medicinal substances.[30]

On the subject of abdominal infections and intestinal parasites, one must mention the source for such infections; namely, issues of sanitation. According to the cultural anthropologist Marta Szczygiel, toilet and defecation habits varied by social strata. Lavatories in premodern Japan mainly took the form of cesspits dug in certain areas inside or outside mansions and houses; flush toilets, either manual or built over a flowing river (*kawaya*); and chamber pots, for which at least the upper classes required the attendance of chamber maids and lower-ranking servants. Investigating thirteenth- and fourteenth-century picture scrolls, including the *Gaki zōshi* (Scroll of the hungry ghosts), she has argued that the lower classes defecated outside in public spaces, some of which were designated for that purpose. Night soil was collected from urban settlements perhaps from the Heian period on. This material was sold to farmers, transported to nearby agricultural sites, and used as fertilizer from the mid-seventeenth century, forming a not entirely negligible source of income for tenement house landlords. Although early modern European visitors were

27 This phrase could be a copyist's mistake for Minomushian 蓑虫庵 (lit. 'the Bagworm's Hut'), referring to a species of bagworm moths (*Eumeta Japonica*) considered pests in citrus and tea cultivation, but also capable of producing protein fibers (or silks).

28 Hattori, *Muromachi jidai igakushi*, p. 89. My translation follows Hattori's transcription without his *kanbun* transliteration.

29 Macomber, "Ritualizing Moxibustion."

30 Triplett, *Buddhism and Medicine in Japan*, 136–141.

initially impressed with the cleanliness of Japanese toilets, nineteenth-century European travel diarists, diplomats, and merchants left many written protestations regarding the absence of sewer systems and the ubiquitous presence and trade of night soil in Japanese urban centers.[31] These material factors may explain the continued presence of intestinal parasites causing constant infections and prompting concern with abdominal issues in the medical sources of the period. In addition, the abdomen was considered the very seat of the "five organs and six entrails," so understanding it was considered vital.

A colorfully illustrated book manuscript titled *Hari kikigaki* (An account of things heard about acupuncture) (ca. 1568), currently preserved at the Kyushu National Museum, is often cited as a prime example of the new trend for abdominal palpation diagnosis.[32] According to its colophon, this hand-written book of approximately one hundred and fifty pages was written by one Motoyuki (or Gengyō, depending on the preferred reading) in the tenth month of the eleventh year of Eiroku (1568), some ten days after the powerful military commander Oda Nobunaga (1534–82) had invaded Kyoto and his forces had swept through the neighboring Settsu province, including its northern area (now the modern town of Ibaraki), where Motoyuki lived. Both the timing and contents of the book thus seem momentous. The military unrest and subsequent turmoil within the Kansai area may have created a special urge to preserve valuable knowledge pertinent to improving health and practicing effective healing methods, possibly also with the intent of helping new patients, including those serving in Nobunaga's army. Too, as the scholar of early modern Japanese medicine Mathias Vigouroux has noted, this book, which included theories on intestinal parasites and worm-like demons infesting the five viscera and causing a gamut of diseases, may have spread novel acupuncture and moxibustion techniques.[33] While this book manuscript certainly requires further contextualization and study, its contents demonstrate a range of ideas about the inner structures and workings of the human body, internal pathologies, and multiple effective treatment methods and drugs.[34] In

31 Szczygiel, "From Night Soil to Washlet"; Howell, "Fecal Matters."

32 *Hari kikigaki*. This manuscript was also discussed by Elizabeth Kenney in her presentation at ICTAM in Kiel in August 2017.

33 Vigouroux, "The Reception of the Circulation Channels Theory in Japan," 119–120.

34 The Kyushu National Museum webpage dedicated to this manuscript describes its contents as divided into four parts: a) the *Hari kikigaki* proper, consisting of 320 written segments explaining disease treatments and positions of acupuncture points; b) the nine "acupuncture and moxibustion images" detailing the points of application for treating conditions such as the "middle wind" disorder, beriberi, and eye diseases; c) the sixty-three "worm images," with color pictures of imagined parasites together with their descriptions and treatments; and d) images of the five viscera, internal structures, and so-called

particular, *Hari kikigaki*'s sixty-three colorful illustrations include depictions of "worms invading the viscera" (*zō no mushi* 臓の虫), presented separately as a "liver worm" (*kanchū* 肝虫), several kinds of "lung worms" (*haimushi* 肺虫), "kidney worms" (*jinzō no mushi* 腎臓の虫), "spleen worms" (*hizō no mushi* 脾臓の虫), as well as "heart worms," mostly affecting horses (*umakan* 馬かん), and the insect called "blood accumulation" (*chishaku* 血積).[35] Tellingly, there is a separate "threadworm" (*gyōchū* 蟯虫) said to escape from the human body and to report on human transgressions to the King of Hell, Enma, during the night.

A few decades later, a professional healer lineage specializing in a new technique of acupuncture focusing on the abdominal area was founded by one Misono Isai. The Misono acupuncturists had developed the so-called *uchibari* method of inserting acupuncture needles into the skin of the abdomen with a small wooden hammer, with no regard for pre-existing channel and meridian theories. Vigouroux notes that this technique may have been adopted from an earlier horticultural method of killing insects with a punch, and that its adoption coincided with the appearance of the *Hari kikigaki*.[36]

Medico-religious understandings of the internal landscapes of the human body received a significant boost with the arrival of European books about dissection, and medical approaches and treatments continued to evolve during the Edo period. Nevertheless, vernacular literature including handwritten treatises, handbooks, and memoranda written in mixed Sino-Japanese (*kanbun*), depicting the worms invading the five viscera as well as the methods of their treatment, continued to proliferate among Japan's medical and religious practitioners, acupuncturists, drug sellers, and writers. Japanese archives contain a number of such artifacts, often titled in a fashion similar to *Gozō roppu no shidai* (The order of the five viscera and six entrails) or *Giba gozōkyō* (Jīvaka's sūtra on the five viscera). These two items from Japan's National Archives (Naikaku

"channels" (*keiraku* 経絡) of the human body. Accessed 5 January 2021. https://www.kyuhaku.jp/collection/collection_harikiki.html.

35 For colorful images and simple descriptions of these imagined creatures, see *Hari kikigaki*, https://www.kyuhaku.jp/collection/collection_harikiki-2.html. See also Nagano, *Sengoku jidai no hara no mushi*. The Kyushu University library has another comparable illustrated book with the "five viscera worms" images and their treatments, titled *Gozō no shugo narabi ni mushi no zu* 五臓之守護并虫之圖 (The protection of five viscera and the images of insects). It is not yet clear what links can be established between the Kyushu University items and the Nichibunken manuscript discussed and translated in the next two sections.

36 Vigouroux, "The Reception of the Circulation Channels Theory in Japan," pp. 119–120. See also Hattori, *Muromachi jidai igakushi*, pp. 295–296.

Bunko) in Tokyo, both dated 1836 (Tenpō 7),[37] reflect the medico-religious worldview of late-Tokugawa book collectors and premodern healing professionals, some of whom evidently combined elements of esoteric Buddhism, Five Agent theory (Ch. *wuxing*, Jp. *gogyō*), and yin-yang prognostication (Onmyōdō) with advanced pictorial knowledge of acupuncture, moxibustion points, and treatments of abdominal parasites. Many of these parasites were depicted as resembling cute little monsters, not unlike those in the aforementioned *Hari kikigaki* from the Kyushu National Museum. Similar manuscripts can be found elsewhere.

4 The Nichibunken Manuscript

One such manuscript fits very well within the broader heterogenous paradigm of bodily invaders and pathogens proliferating in premodern Asia and Japan, as described above. It is an undated one-page handwritten manuscript, kept in the library of Nichibunken in Kyoto. This section will introduce the Nichibunken manuscript and map out its possible meanings, not only within the history of Japanese medicine, but also within the cultural history of premodern Japan. The last section will provide the first full English-language translation of this artifact.

Titled *Gozō no mushi narabi ni shochū no zu* (The worms of the five viscera and the images of various insects), the Nichibunken manuscript is a one-page leaf, measuring approximately 42 by 30 cm, and written in black ink on paper. It is cataloged as a part of the Soda Collection of rare medical books. It is unclear whether it was supposed to be used as a short memo on its own, or if it constituted part of a larger treatise with drawings and formulas. The leaf shows signs of being folded into two at the middle; it also shows some liquid stain damage and tears at the bottom. From its overall appearance it most

37 *Giba gozōkyō* (195–0078) and *Gozō roppu no shidai* (195–0079) at Naikaku Bunko. Accessed on 13 July 2013 and 20 February 2015, respectively. https://www.digital.archives.go.jp. The Japanese scholar of East Asian medical history Mayanagi Makoto suggests that these two hand-copied nineteenth-century items may have been based on much earlier, medieval originals recorded by esoteric Buddhist monks (*mikkyō sō* 密教僧) during the Muromachi period (1336–1573). Mayanagi, *Nihon no iyaku*, 9, see the entry for the years 1362–68. http://square.umin.ac.jp/mayanagi/paper01/ChronoTabJpMed.html, accessed on 21 December 2022. While research on esoteric ideas about the "five viscera" is still developing, Mayanagi's theory is certainly plausible and must be put to the test in the near future.

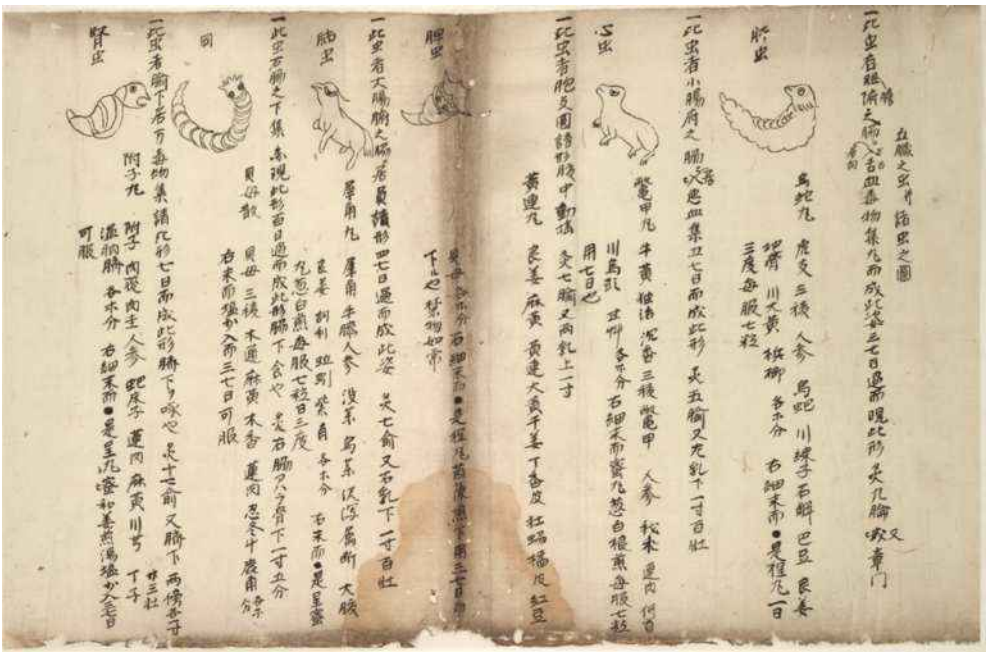

FIGURE 2.1 The worms of the five viscera and the images of various insects (*Gozō no mushi narabi ni shochū no zu* 五臓之虫并諸虫之圖). Anonymous, n.d. Paper, ink. 26.4 × 40.5 cm. Soda Bunko collection of rare medical manuscripts, International Research Center for Japanese Studies (Nichibunken, Kyoto).
IMAGE: COURTESY OF THE INTERNATIONAL RESEARCH CENTER FOR JAPANESE STUDIES, USED WITH PERMISSION

likely dates to the late nineteenth century; the arguments for this theory will be presented shortly.

As the title suggests, this piece of paper contains the images of intestinal parasites or pathogens thought to infest the five viscera. Following the order of their display in the Nichibunken manuscript from right to left, these organs are the liver, heart, spleen, lungs, and kidneys. The five viscera here represent a formulaic construction of human anatomy, or the internal landscape of the human body—an idea that dominated East Asian approaches to illness and the body for at least two millennia and that was already present within the *Yellow Emperor's Classics*. While the tradition of visualizing the five viscera in Japan dated back to medieval esoteric Buddhist treatises,[38] and continued in various forms in medico-religious discourses throughout the Edo period,

38 See again the theory by Mayanagi, *Nihon no iyaku*. As research on the images of the five viscera and on manuscripts such as *Gozō mandara waeshaku* 五臓曼荼羅和会釈

the Nichibunken fragment does not provide any depictions of these organs, focusing instead on the six (not five) crudely drawn creatures identified as *mushi*; that is, "insects" or "worms." As noted already, in premodern China and Japan, insects and worms were understood to be pathogenic agents intruding upon the vital organs, and, as the text suggests, the intestines adjacent to them. One must note that the correlation between the text and images in the Nichibunken manuscript is not entirely certain, which is why it is possible to assume that this one-leaf manuscript may have been part of a larger collection or memorandum. Moreover, the use of Sino-Japanese characters is not entirely perfect, showing many substitutions, short-hand forms, and mistakes, indicating that the copyist may not have necessarily been the person to use this text—rather, it could have been copied to be shown, distributed, or even sold to others. There are two depictions for the "lung worms," suggesting that two kinds of pathogens could develop there. Here, one can tentatively divide the Nichibunken manuscript into six segments; one for each of the five worms, plus an additional segment for the second "lung worm." All six segments consist of three clearly defined parts.

First of all, each segment starts with a one-line annotation, which includes the following three sub-sections:

a) The annotation explains the *whereabouts* of the worms: actually, they reside not entirely within the classic five viscera, as the title of this text suggests, but rather within the different corners of the digestive system and the intestines. Despite their names, the links between the different kinds of worms and each corresponding viscera appear to be allusive. In some cases, explanations also include a brief description of what kind of pathogen or disturbance these worms represent. For example, the "liver worm" is said to "absorb blood and poisonous substances," while the "heart worm" collects "evil blood," and the "kidney worm" absorbs "ten thousand poisons." These entities' nature thus appears to be ambiguous: on the one hand, they cause a physical nuisance by gnawing on human insides, but on the other hand, they consume noxious substances and leach out poisons, and with appropriate methods can be successfully expunged from the body together with these accumulated harmful substances. It is notable that the manuscript uses the characters, which, if not mistaken, can be understood as different kinds of "accumulation" (*shaku* or *tsumori*), indicating that the human body was thought to be

(Japanese explanations of the five viscera mandala) is still ongoing, I shall refrain from investigating this topic in depth here.

prone to different kinds of "blockages," and that the worms were imagined as one kind of pathogen likely to cause them.

b) The one-line annotations hint at what could be understood as the parasites' *incubation period*: the "liver worm" matures after three weeks, the "heart worm" after five weeks, the two kinds of "lung worms" after four weeks and one hundred days, respectively, and the "kidney worm" after only a week. These timelines may be suggestive of certain disease etiologies or may indicate the time for certain organ-specific diseases to develop, thus providing clues for treatments to a medical or acupuncture practitioner.

c) The end of these one-line annotations includes *a prescription for an acupuncture points-based moxa treatment* that should eliminate each parasite. For example, in the case of the "liver worm," the manuscript says: "Cauterize the ninth [acupuncture] point with moxa, and also the "Gate of Ordering" [on the Liver Meridian] (Ch. *zhang men*, J. *shōmon*)."[39] In the case of the "heart worm": "Cauterize the fifth [moxibustion] point with moxa, and burn one portion of moxa [on the point] one *sun* lower on the left breast one hundred times."[40]

Secondly, each segment contains the *name and image* of the worm, located to the left of the one-line annotation with the worm's description, incubation period, and a prescription for the moxa treatment. Following up on the discussion of the fifteenth-century *Hari kikigaki* and the Naikaku Bunko's nineteenth-century handbooks mentioned above, the issue of "worm iconography" will be touched upon again shortly.

And thirdly, under each of the six images, there is also a *prescription for a drug formula*. Each prescription starts with the drug's name, and includes the necessary ingredients to be mixed, decocted, or made into small grain-like pills, often by adding honey to the base mixture. Each item specifies the size of the pills through a small ink-filled circle hand-drawn in the text. Historically, such pills were handmade or produced by simple iron cast forms.

The internal structure of the Nichibunken manuscript suggests that each kind of worm can be addressed through several simultaneous treatments: acupuncture point-based moxibustion and the administration of drugs, mostly pills (powder in the case of the second type of "lung worm"). While the

39 In the modern acupuncture system, this point would correspond to Liv-9, "Yin Wrapping" (Ch. *lin bao* 陰包, J. *inhō*). The "Gate of Ordering" corresponds to Liv-13, on the side of the abdomen.

40 The fifth point here is possibly the fifth point on the small intestine meridian, called "Yang Valley" (Ch. *yanggu* 陽谷, J. *yōkoku*).

formulas included in the Nichibunken manuscript may have already been known among the practitioners of traditional Sino-Japanese medicine (with some possibly still in use today), the ingredients of some of these drugs were exotic and perhaps expensive in premodern Japan. Some of the ingredients highlight the existence of a whole industry in Japan that was based on outcasts' (*hinin*) labor involving the slaughter of domestic animals and physical processing of animal products. Other references suggest the circulation of specialized artisanal production and cultivation techniques, such as wild foraging or beekeeping for medicinal honey.[41]

For example, the ingredients for the *Udagan* formula proposed for treating the "liver worm" infestation included a tiger paw (or perhaps a bone). While not unknown in traditional Chinese medicine (and in the late twentieth century often sourced illegally in Siberia and the Russian Far East), one may question the pathways and itineraries by which this ingredient arrived in Japan. Expensive and inaccessible to most commoner patients, this ingredient would have to be substituted with a cheaper and more easily procurable alternative. The *Kikōgan* formula for getting rid of the "heart worm" included oxen bezoar and tortoise shells, while the *Ōrengan* treating the "spleen worm" demanded pig's intestine. Other formulas required oxen pancreas, deer antlers, and earthworms. Of these, oxen bezoar was an important substance that could be procured from the intestines of cows, oxen, or goats, and was known to have been used by Japanese physicians as an antiseptic since the tenth century.[42] During the medieval and early modern periods, the group of people considered to be outcasts were associated with trades including skinning animals and producing leather, so they also came to specialize in procuring oxen bezoars and pig or boar intestines for medicinal purposes. The cultural and material history of the production of honey in Japan is still a rarely explored subject; we only know that beekeeping as a method of procuring honey may have been brought to Japan around the sixth century. The earliest Japanese historical records in the *Nihon shoki* report that when a Korean prince was kept captive by the Yamato polity, he kept bees on Mt. Miwa (modern-day Nara prefecture), but "sadly, they did not multiply their kind."[43] While the collection of honey from wild bees in the mountains must have been practiced by non-agricultural settlers,

41 The latter topic has not yet been studied sufficiently. Some honey was traditionally sourced from wild bees living in mountainous areas. See, for example, Pattinson, "Pre-modern Beekeeping in China."

42 Lomi, "The Ox-Bezoar Empowerment for Fertility and Safe Childbirth."

43 Andreeva, *Assembling Shinto*, p. 58.

it was only during the Meiji period that pictorial manuals explaining how to cultivate beehives were first published in Japan.[44]

The so-called "Rhinoceros Horn Pill" (*Saikakugan*) would perhaps have been the most exotic and expensive of all, since its main ingredient (if genuine) could only be sourced in India, Java, and Sumatra. The effort and resources needed to obtain it suggest that it was regarded as the most efficacious and expensive substance, available only to the wealthiest elite.[45] Rhinoceros horn was believed to reduce extreme heat and fever and to detoxify the blood. When not genuine, its closest substitute was (much larger quantities of) water buffalo horn, which again suggests a connection to outcast labor. The inclusion of the "Rhinoceros Horn Pill" formula in the Nichibunken manuscript provides the only possible clue regarding the date of the manuscript's composition. One of its ingredients is said to be the oxen pancreas (*gōsui* 牛膵). The Japanese character representing "pancreas" (*suizō* 膵臓) was invented by the Japanese physician and scholar from Tsuyama domain in Okayama, Utagawa Genshin (1770–1835), before 1810. He invented this character for his Japanese translation of the 1744 Dutch work by J. de Gorter, *Seisetsu naika sen'yō* (Selected essentials of Western explanations of internal medicine), which his adoptive father, Utagawa Genzui (1755–97) published in several installations in Edo from 1793. This publication was completed after Genzui's death by his son Genshin in 1810. This date allows us to infer that the Nichibunken manuscript was composed after that time. However, it is also possible that the second character in this Nichibunken manuscript compound could be a mistake for *goshitsu* 牛膝 (also, *inokotsuchi*; Ch. *niuxi*), Achyranthes root, which was often used in Sino-Japanese herbal medicine to treat a variety of maladies, including infertility.

Other ingredients of the *Saikakugan* pill included myrrh (a product native to the Arabic West and used in Chinese, Āyurvedic, and Unani medicine), areca seeds, and the fruits of the yellow Myrobalan tree (Sk. Haritakī 訶利, Ch. *helile* 訶梨勒, J. *kariroku*), found only in India and Indonesia. Haritakī in particular

44 See, for example, *Oshiegusa Hachimitsu Ichiran nijūyon* (Tutorials: A one-glimpse manual on honey, part twenty-four), published by Tanba Shūji (1828–1909) in 1872 and preserved at the National Diet Library in Tokyo. Accessed August 2018 on site.

45 In Japan, the earliest examples are the embellished Buddhist sceptre (*saikaku no nyoi* 犀角如意) as well as cups, knives, and plaques made of rhinoceros horn. These are preserved at the Shōsōin of Tōdaiji in Nara, a temple repository established by eighth-century Japanese rulers. Procured through Silk Road trade routes, in principle, a genuine ingredient like rhinoceros horn would traditionally be available only to the imperial court and to the upper echelons of the aristocracy. Almost all species of rhinoceros are currently critically endangered due to illegal poaching.

was well known in Buddhist temple medicine in Japan.[46] The combination of several exotic, expensive ingredients from faraway destinations, including northeast and southeast Asia, implies an acute necessity to treat "lung worm" or lung disorders with the best possible medicines. It is not a coincidence that two entries are included for "lung worms" (compared to one each for all other "viscera worms"). If the contents of the Nichibunken manuscript do indeed go back to the nineteenth century, perhaps the inclusion of this expensive formula and dual entries for lung disorders hint at the ongoing struggle to defeat serious lung conditions, such as tuberculosis, in late nineteenth-century Japan. In his well-known study of this disease, William Johnston has pointed out that while tuberculosis was endemic to Japan throughout much of its history, its rise can be traced to the 1880s and its peak to the period of 1900–20, when the textile industry began to develop more widely in Japan.[47] These historical circumstances might well be among the key factors behind the inclusion of the two kinds of "lung worms" in the Nichibunken fragment.

Let us now return to the question of the worms' iconography posed earlier. Here again the images of the worms from the Nichibunken manuscript are shown from right to left: the "liver," the "heart," the "spleen," the two "lung worms," and the "kidney worm" (Figure 2.1). It is obvious that they are drawn in a very simplistic, almost childish manner. Here, one wonders: judging by the materiality of this one-page leaf, was it composed as a single item, perhaps to be carried around as a memo for a training itinerant physician or a mendicant religious proselytizer (*oshi*)? Many of these individuals were known to transport and distribute medicines to local populations, sometimes in remote locations.[48] Or, was the manuscript at some point cut off on both sides from a scroll that contained many more images of the infectious worms? What purpose could such a memo serve? These questions may in part be answered if one conducts a fuller survey of the available sources that contain illustrations of such worms. So far, the Nichibunken manuscript has not been included in the comprehensive database of premodern Japanese written texts dealing with medicine, pharmacology, and natural sciences composed by the Japanese scholar of East Asian history of medicine Mayanagi Makoto.[49] However, hints may be offered by recent research conducted by a team of historians

46 Triplett, *Buddhism and Medicine in Japan*, 136–141.

47 Johnston, *The Modern Epidemic*, p. 38. This study suggests that two population groups—women working at textile factories and living in dormitories as well as military conscripts living at army garrisons—may have played a role in spreading tuberculosis. Ibid., pp. 69–90.

48 Ambros, *Emplacing Pilgrimage*, pp. 135–136.

49 Mayanagi, *Nihon no iyaku*.

of Japanese medicine led by Nagano Hitoshi of Kobe University. In 2008–10, this team conducted a bibliographical study of the Sino-Japanese medical literature related to abdominal diagnosis (*fukushin*) and Japanese acupuncture styles, including acupuncture for children. As mentioned before, the group confirmed that initial ideas for abdominal diagnosis techniques were developed in medieval Japan around the early fourteenth century.[50] Although the Nichibunken manuscript certainly describes treatments for adults, since its focus is on intestinal and lung infections, with the "five viscera" of classical Chinese medicine acting as a genre marker, the possibility that it was created as a kind of memo for a physician or acupuncturist and moxa treatment master training in abdominal diagnosis cannot be ruled out.

The aforementioned *Hari kikigaki*, written in 1568 and currently held at the Kyushu National Museum, is often mentioned as Japan's early modern locus classicus for the depiction of infectious worms. The medical school of Kyushu University has another comparable illustrated manuscript, with a title that sounds intriguingly similar to the Nichibunken fragment: *Gozō no shugo narabini mushi no zu* (The protection of the five viscera and the images of worms). Comparing the colorful depictions of the many worms appearing in these two items from Kyushu with the "five viscera worms" included in the monochrome Nichibunken manuscript under discussion here, one quickly notices that the iconography of the five viscera worms is not consistent. Only two depictions in the *Hari kikigaki* and in the Nichibunken fragment—those of the "heart worm" and one of the "lung worms"—roughly correspond.

Comparing the Nichibunken leaf with another representation of intestinal worms in the late Edo-period book titled *Gozō roppu no shidai* (The order of the five viscera and six entrails), also mentioned above, the order of the worms' representation roughly corresponds: liver, heart, spleen, two lung worms, and kidneys. But the iconography, again, is not entirely consistent. Perhaps only the images representing the worms of the liver, the two lungs, and the kidneys may appear vaguely reminiscent of the shapes and depictions seen in the one-page Nichibunken leaf. It may not be productive to discuss these heterogenous manuscripts containing depictions of the "five viscera worms" based on their iconography alone. Often, these images are not sophisticated enough to suggest an established form or a stable channel of transmission with necessary precision. More compelling contextual evidence must be taken into account. While the "five viscera worms" manuscripts emerged from a combinatory medico-religious milieu that utilized the ideas and concepts deriving from esoteric Buddhism, Chinese medical classics, and Japanese vernacular

50 Nagano, *Kanpō fukushinsho kenkyū seika hōkokusho*, p. 3.

literature on pharmacopeia and acupuncture, their iconography alone is not sufficient for deeper analysis; such handbooks and memoranda must be assessed comprehensively as a genre, and analyzed within the historical context of their production.

What kind of conclusions can be drawn from these preliminary investigations? First, judging by the writing and its material form, the Nichibunken manuscript may have been composed *after* the year 1810, and likely much later. It may have been devised as a single sheet, or as a part of a larger scroll or loose-leaf folded handbook; in either case, it is possible that it was composed to serve as a memo for a physician or chemist dealing with intestinal infections, acupuncture and moxibustion; or perhaps, given the inclusion of images, for the purpose of advertisement and display by a mendicant doctor or itinerant religious practitioner. Two possible connections that could be explored further are evolving treatments for lung infections, including tuberculosis, and abdominal diagnosis.

The representation of worms, compared with that in a few other extant late medieval and early modern sources, suggests that the "medical iconography" of worms was not consistent, and that there may have been a variety of ideas operating behind such depictions. Were these depictions instructive, or were they included in the medical literature on the "five viscera," the so-called *Gozōron* texts, for the purpose of advertising certain medicines, such as the presumably expensive "Rhinoceros Horn Pill"? The drug formulas described in the manuscript include exotic, high-cost ingredients and materia medica that reveal important local and transcultural connections of Sino-Japanese medicine as practiced (or imagined to have been practiced) before the Meiji Restoration. The drug ingredients hint at the robust material culture and industry revolving around animal husbandry and the production of animal-derived medicines in Japan itself. Meanwhile, the more exotic ingredients hint at Japan's traditional trade links with Asia, including China, India, Indonesia, and possibly Arabia, southeastern Siberia, and the Russian Far East.

5 The Nichibunken Manuscript Translation

Gozō no mushi narabi ni shochū no zu 五臓之虫并諸虫之圖
The worms of the five viscera and the images of various insects

One [item]. This worm enters [through] the gall bladder (*kimo* 胆; *tan* 膽) and adjacent intestines (*fuchō* 附陽) and heads to its place. [It] gathers old blood and poisonous matters. [Make] a pill assuming this form. After three weeks, [it

is] observed (Ch. *chan* 覘, J. *nozoku*) in this form. Cauterize (*kyū, yaito* 灸) the ninth [acupuncture] point (*kyūshu* 九腧)[51] with moxa, and also the "Gate of Ordering" [on the Liver Meridian] (Ch. *zhang men* 章門, J. *shōmon*).

The "liver worm" (*kanchū* 肝虫, *kimo no mushi*) (Figure 2.1)

Udagan 鳥蛇丸 ("Snake Pill")[52]

Tiger's paw. River bulrush (*sanryō* 三稜, alt. *mikuri*).[53] Ginseng (*ninjin* 人参). 鳥蛇 [Ch. *wushaoshe* 鳥梢蛇, J. *ushōdagan*; dried rat or garter snake]. Dried *sendan* (chinaberry tree) fruits (Ch. *chuan lian zi* 川練子, J. *senrenshi*), with stones removed.[54] Purging croton fruit (Ch. *badou* 巴豆, J. *hazu*). Lesser galangal rhizome (Ch. *liang jiang* 良姜, J. *ryōkyō*).[55] Chinese wolfberry tree bark (Ch. *du gu* [*pi*] 地骨[皮], J. *jikoppi*). Chinese rhurbarb (Ch. *da huang* 川大黄, J. *daiō*).[56] Betel seeds (Ch. *bing lang zi* 檳榔子, J. *binrōji*, also *birō*, *hiryō* 梹榔).

Each drug part (*kaku yakubun* 各薬分). Finely grind [into a powder what is on the] right and [make] into balls the size of this dot. Administer three times a day, seven grains each [time].

One [item]. This worm enters [through] the small intestine and adjacent guts and lives [there]. It gathers bad blood (*akuchi* 悪血). In five weeks, it assumes this form. Cauterize with moxa the fifth [moxibustion] point, and burn one portion of moxa (*zhuang* 壮) [on the point] one *sun* lower on the left breast one hundred times.

The "heart worm" (*shinchū* 心虫, *shinzō no mushi*) (Figure 2.1)

Kikōgan 龜甲丸 ("Turtle-Shell Pill")

Oxen bezoar (Ch. *niuhuang* 牛黄, J. *gōō*). Angelica root (Ch. *du huo* 独活, J. *dokkatsu*). Agilawood [Chinese eaglewood] (Ch. *chen xiang* 沈香, J. *jinkō*). River bulrush. Tortoise shell (Ch. *gui jia* 龜甲, J. *gōkō*). Ginseng. Rice seedlings (J. *nogi*

51 In the modern acupuncture system, this point would correspond to Liv-9, "Yin Wrapping" (Ch. *lin bao* 陰包, J. *inhō*). The Gate of Ordering corresponds to Liv-13, found on the side of the abdomen.

52 It is admittedly difficult to translate the pill names appearing in this manuscript. While a literal translation of the name above could be "Bird Snake Pill," it could also be "Rat Snake Pill," especially if the term *uda* 鳥蛇 refers to *Zaocys dhumnades* (Cantor), a family of large non-venomous snakes used in traditional Chinese medicine to treat rheumatism, numbness of limbs, or stroke.

53 *Scirpus fluviatilis*, a grass-like plant growing in swamps and riversides. In traditional Chinese medicine (TCM; also in Japan), its dried stems and roots are thought to promote menstruation and lactation.

54 *Melia azedarach Linne var. japonica Makino*. Its fruits appear to be a source of limonoids, but are actually toxic and poisonous to humans if consumed in quantity.

55 *Rhizoma alpiniae officinarum*. A kind of ginger, perhaps.

56 *Rheum tanguticum*, or *rheum officinale*.

我禾). Lotus "flesh" (J. *renniku* 蓮肉).[57] Tuber fleeceflower root (Ch. *he shou wu* 何首[鳥], J. *kashū*). "Water-bird pea" 川鳥豇[豆?] (Ch. *jiangdou* 豇豆, J. *sasage*; cowpea?). Licorice (Ch. *gan kao* 甘艸, J. *kanzō*).

Each drug part. Finely grind [into a powder what is on the] right and [make] into balls with honey (*mitsugan* 蜜丸). Simmer with the white onion root. Administer seven pills at a time for seven days.

One [item]. This worm [is] in the chest (*mune* 胸),[58] in the form of round accumulations.[59] It moves and shakes inside the stomach (*hara* 腹). Cauterize with moxa the seventh [moxibustion] point, or [the points] one *sun* above both breasts.

The "spleen worm" (*hichū* 脾虫, *hizō no mushi*) (Figure 2.1)

Ōrengan 黄蓮丸 ("Yellow Lotus Pill")

Lesser galangal rhizome (*ryōkyō*). Ephedra herb (Ch. *ma huang* 麻黄, J. *maō*). Yellow lotus (*ōren* 黄蓮). Rhubarb (Ch. *da huang* 大黄, J. *daiō*). Dried ginger (Ch. *gan jiang* 干姜, J. *kankyō*). Cloves (Ch. *ding xiang* 丁香, J. *chōkō*) bark. Pig's intestine (Ch. *zhu chang* 豬腸, J. *ichō* 猪腸). Tangerine peel (Ch. *chen pi* 橘皮, J. *tachibana no kawa*). Rice beans ("scarlet beans," Ch. *chi xiao dou* 紅豆, J. *kōtō*). Dry bulbs of yellow Himalayan lily (Ch. *bei mu* 貝母, J. *baimo*; *Fritillaria cirrhosa*).

Each drug part. Finely grind [into a powder what is on the] right and [make] into balls the size of this dot. Simmer down with *Artemisia capillaris* (J. *inchin* 菌蔯, also *kawara yomogi* 河原蓬; mugwort).[60] Use for three weeks, while decreasing [the amount]. The prohibited items (*kinmotsu* 禁物)[61] are as usual.

One [item]. This worm lives in the large intestines and adjacent guts. It has [two characters' meaning unclear, possibly "roundly accumulated," *inseki* 員積] shape. It assumes this shape after four weeks. Cauterize the seventh

57 Fruits of the lotus found within its roots.

58 The original character is written as "placenta" (*hō* 胞). However, given the overall high number of character misrepresentations, it is likely to be a mistake or a short-hand substitute for "chest" (*mune* 胸), which suits the context better.

59 The original two-character compound here is *ensei* 圓請, the second part of which makes little sense. Since it occurs at least three times in different iterations throughout the Nichibunken manuscript, for the sake of readability, I have decided to consider the second character as a copyist mistake and to translate its meaning uniformly throughout as "accumulation" (*tsumoru* 積).

60 This plant is often used to treat liver diseases in TCM, or, more widely, malaria.

61 Contraindications, or substances that must not be consumed together with this treatment.

[moxibustion] point with moxa, and burn one portion of moxa [on the point] one *sun* below the right breast one hundred times.

The "lung worm" (*haichū* 肺虫, *haizō no mushi*) (Figure 2.1)

Saikakugan 犀角丸 ("Rhinoceros Horn Pill")

Rhinoceros horn (*saikaku* 犀角). Oxen pancreas (*gōsui* 牛膵). Ginseng. Myrrh (Ch. *mo yao* 沒藥, J. *motsuyaku* 没薬). Spicebush root (Ch. *Tiantai wuyao* 天台鳥薬, J. *Tendai uyaku*). [four characters' meaning unclear; perhaps, "submerge in liquid, pour it out, and break up," Ch. *chenxie zhuduan* 沈泻属断]. Areca seeds [alt. reading, Ch. *da fu zi* 大腹子, J. *daifukushi*, also *daifukuhi* 大腹皮; also *binrōji* 檳榔子]. Lesser galangal rhizome (*ryōkyō*). The fruits of Indian yellow Myrobalan tree (Sk. Haritakī 訶利, Ch. *helile* 訶梨勒, J. *kariroku*).[62] Earthworm (Ch. *qiuyin* 蚯蚓, J. *mimizu*, alt. *kyūin*). Purple dandelion (*murasaki tanpopo* 紫蒲[公英], Ch. *pugongying* 蒲公英).

Each drug part. Finely grind [what is on] the right into a round [grain] of this size with honey. Simmer down with the white [root] of the round onion [leek]. Administer seven grains each time, three times a day.

One [item]. This worm gathers under the right armpit. [It has] a plain-looking shape. After one hundred days, it assumes this shape, and eats [away the area] under the armpit. Cauterize the right armpit point with moxa, and one *sun* and five parts under the ribs (lit. 'stomach bone', *hara kotsu* ハラ骨).

Same [worm]. (Figure 2.1)

Baimosan 貝母散 ("Mother of Pearl Powder")

Dry bulbs of yellow Himalayan lily (*baimo*, *Fritillaria cirrhosa*). River bulrush (*sanryō*). Akebia, "chocolate vines" (Ch. *mu tong* 木通, J. *akebi*, *kitsū*, *mokutsū*). Ephedra herb (Ch. *ma huang* 麻黄, J. *maō*). Aromatic tree, a type of magnolia (Sk. *tagara*, Ch. *mu xiang* 木香, J. *mokkō*). Lotus "flesh" (*renniku*). Honeysuckle stem (Ch. *ren dong ten* 忍冬草[藤], J. *nindōsō*[*tō*]). Deer antler (Ch. *lu jiao* 鹿角, J. *rokkaku*).

Each drug part. Finely grind [what is on the] right with salt (*shiogairi* 塩が入). It must be administered for three weeks.

62 A tree with greenish-yellow egg-shaped fruits, found in India and Indonesia. The fruits are used for eye ailments, colds, and constipation. Triplett, *Buddhism and Medicine in Japan*, pp. 142–144.

One [item]. This worm lives beneath the acupuncture point (Ch. *shu*[*xue*] 腧穴). It gathers ten thousand poisons (*mandokubutsu* 万毒物). It accumulates[63] in this form. In seven days it becomes this shape. It pecks (Ch. *zhuo* 啄, J. *tsuibamu*) [the flesh] under the diaphragm (Ch. *ge* 膈, J. *kaku*, or 脇; or navel, J. *hozo* 臍). Cauterize the seventeenth [moxibustion] point with moxa, and [burn] the moxa one *sun* on both sides just below the navel twenty-three times.

The "kidney worm" (*jinchū* 腎虫, *jinzō no mushi*)

Bushigan 附子丸 ("Monkshood Root Pill")

Monkshood root, *Aconitum chinense* (Ch. *fu zi* 附子, J. *bushi*, also *torikabuto* 鳥兜).[64] *Cistanche tubulosa* (Ch. *rou kong* 肉蓯, J. *nikuju*).[65] Cinnamon bark, cassia tree bark (Ch. *rou gui* 肉桂, J. *nikkei*). Ginseng. Cnidium fruit seeds (Ch. *she chuang zi* 蛇床子, J. *jashōshi*).[66] Lotus "flesh" (*renniku*). Ephedra herb (Ch. *ma gao*, J. *maō*). Szechuan rhizome (Ch. *chuan xiong* 川芎, J. *senkyū*). Cloves (J. *chōji* 丁子). Warms the abdominal area (Ch. *wen nage* 温肭臍).[67]

Each drug part. Finely grind [what is on the] right, and make into pills of this size. Mix with honey and ginger, decoct in boiling water with salt. It must be administered for three weeks.

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63 Although the character here appears to represent "ask" (*kou* 請), the previous identical segments of the manuscript use two more similar-looking, but different characters, all of which seem to be mistakes. For the sake of readability, I have decided to translate their meaning uniformly throughout as "accumulation" (*tsumoru* 積).

64 Extremely toxic plant with purple-blue "lion's yawn" flowers, native to the northern hemisphere, including the Himalayas and Alaska. It was used as an arrow poison by the Ainu to hunt bear, and by the Chinese for hunting and warfare. In TCM, it is used for treating the yang deficiencies of the kidneys.

65 This plant grows in the Taklamakan Desert and western China. It is used in TCM along with other, similar species for treating kidney deficiencies.

66 Also used to treat kidney deficiencies.

67 This three-character compound is also somewhat difficult to interpret. In the original text it starts with the character "warm" (*on* 温), in which case it could mean "to warm the diaphragm or abdominal area" 温肭臍, but the compound *wana* 腽肭 in Chinese means "obese."

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