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## MEDICINE, STATE, AND SOCIETY IN JAPAN, 500-2000

### INTRODUCTION

A common cliché says that Japan is a remarkable society consisting of mediocre individuals. This applies, in an oblique way, to its history of medicine. If one takes the 'great discoveries' approach, the history of Japanese medicine is somewhat lackluster. Nor does a 'great doctors' approach bring Japan to the center stage of the world history of medicine. Looked at, however, from the angle of the social history of medicine, Japan presents truly unique and exciting questions, pertinent to both the agenda in the scholarship of the history of medicine and the present situation of health and medicine in the context of capitalism and globalization. Why did Japan foster one of the earliest vibrant medical marketplaces in the eighteenth century? How did it become the first non-Western nation that adopted Western medicine? Why has it become the nation with the highest life expectancy just fifty years after World War II? The present contribution cannot provide complete answers to these questions. Instead, it puts such questions in historical context by giving a bird's eye view of the history of medicine in Japan over the last 1,500 years.

I have adopted dual frameworks of foreign relations and domestic dynamics to structure my account. One should see Japanese medicine vis-à-vis medicine in other areas of the world, and, at the same time, the place of medicine in Japanese domestic society and culture should be discussed.

A quasi-colonial stance that describes Japanese medicine as subsumed first under Chinese medicine and then under a Western one is avoided. Although influence from abroad was—and remains—a powerful force that molded learned medicine in Japan, Euro- or Sino-centric views of the history of Japanese medicine is of lesser use in its *social* history. A few words are necessary about the use of the word 'Japan', which changed its territorial extent and meanings. I have followed other scholars and adopted the geographical features—the Japanese archipelago—as what is roughly meant by the word.

### ANCIENT AND MEDIEVAL PERIODS, 500-1500

Medical historians used to be fond of searching for the earliest precursor of modern medicine. Hippocrates and the *Yellow Emperor's Inner Canon* have enjoyed such a status, respectively, for Western medicine and for Chinese medicine. Recent historiography and scholarship have challenged such views of an epiphany of sophisticated medicine centered around 'foundational' figures or texts, preferring pictures of more gradual and complex change from primitive and supernatural medicine to a sophisticated and naturalistic one. Nevertheless, searching for such a foundational event in the history of Japanese medicine helps, for it reveals two important and perennial features of medicine in Japan. First, a sophisticated medical system

was imported to Japan from abroad. Second, the state played a crucial role in the process.

Japan learned its earliest sophisticated medicine from a doctor hailing from a state in the Korean peninsula who visited the court of the Japanese emperor around the fifth century. This event is recorded in both of the two earliest chronicles of Japan, *Kojiki* and *Nihon-shoki*, as happening during the rule of Emperor Jōkyō. We do not know the year of the event. Neither is the name of the invited doctor established. We are fairly certain, however, about the context in which this event took place. The first importation of foreign medical learning was a product of decisions made by the Japanese state. Such a policy was adopted because of the new international order in the Far Eastern peripheries of the mighty Chinese Empires. Japan formed complex relationships with small states in the Korean peninsula. Fierce internal struggles still went on in the unstable Japanese court; the new ideologies of Confucianism and Buddhism created the fluid cultural dynamism. The Japanese court needed foreign connections to acquire advanced knowledge and superior technologies, such as weaving, pottery, and iron-casting. The court also sought cosmologies and philosophies to legitimate and strengthen its still tenuous rule over other powerful clans. The court of the emperor thus eagerly imbibed foreign philosophies, cosmologies, and ideologies from China and Korea. As a part of such a strategy, it imported medical theories and practice developed in China via Korea, which were interwoven into the cosmologies of Chinese philosophy and/or Buddhism.

Medical traffic between Japan, China, and Korea was thus established around the early fifth century. During the same century, a physician called Tokoku was invited from a Korean state. He settled in a place that is now Osaka and started a clan specializing in medical practice. In the sixth century, Buddhist cannons were imported, which included substantial medical texts. In 554, a 'doctor' (*hakase*) and two herbalists arrived from Korea, in response to the request of the court. Around the same time, major texts of Chinese classical medicine were brought from China. Prince Shōtoku (574–622), the brilliant and innovative Regent at the court of the Empress Suiko (554–622), adopted vigorous Buddhist policies and established a charitable dispensary annexed to a Buddhist temple in the late sixth century. The Envoy from Japan to China in 608 included two students of medicine, who stayed and studied medicine there. These state policies in the sixth and seventh centuries determined that learned Buddhist and Chinese medical systems would influence medicine in Japan in the subsequent millennium. A substantial number of immigrants from the Korean peninsula and their descendants were organized into medical clans, who must have been major practitioners of learned medicine in Japan.

The state-sponsored implementation of learned medicine imported from abroad culminated in the early eighth century in the medical institutions in the *ritsuryō* system, the governmental structure defined by criminal, adminis-

trative, and civil codes, largely copied from Chinese states. Among the *ritsuryō* codes, the Taihō Code (701) and Yōrō Code (718) were the most important. The Code of Medicine and Diseases (*Ishitsu-rei*) delineated the elaborate structure in which medicine should be taught and administered in the capital and provinces. The central office in the capital was the Bureau of Medicine (*Ten'yaku-ryo*), which hired professors and masters of several branches of medical learning, such as medicine, acupuncture, massage, incantational and exorcistic medicine (*jugon*), materia medica, and gynecology. Each professor taught his subject to between six and forty students, who were admitted to the bureau mainly from the families of medical practitioners. They had to study their subjects for a fixed period of up to nine years, during which time regular examinations monitored their progress. Similar systems of medical education and provision were installed in the provinces. The professors and masters were paid salaries for their service and were honored with court ranks, differing according to the station they occupied. Although they occupied only lowly positions within the hierarchy of state officials, this signaled a clear confirmation of medicine's place as a specialized and learned skill within the bureaucracy of the state. The system also ensured that the complex theories of Chinese and Buddhist medicine were systematically taught to Japanese students by Japanese professors.

By the eighth century, therefore, Japanese medical learning was firmly integrated both in the Japanese state machinery and in the Chinese politico-cultural realm in East Asia. Moreover, reflecting the cosmopolitanism of the vast Chinese Empires, it incorporated elements from numerous parts of the world. The medical cosmopolitanism of Japanese medicine at that time is best exemplified by the collection of medicines that were deposited in the Shōsōin Treasure House in 756. Many of them have survived more than 1,200 years. The collection consisted of about sixty precious and high-quality medicines of Chinese, Indian, Vietnamese, and Central Asian origins. These medicines were actually used to treat the poor, especially in times of epidemics. The medicines that passed through the bodies of the Japanese populace in the eighth century were, at least occasionally, cosmopolitan to a surprising extent.

In the couple of centuries after the creation of the Bureau of Medicine, Japanese state medicine made some major achievements. From the late seventh century on, a series of doctors at the Imperial court or the Bureau of Medicine compiled large-scale compendia of Chinese medical texts. Many of them are now lost. One remarkable exception is *Ishinpō*, an enormous compendium of Chinese medical texts in thirty volumes completed by Tanba Yasuyori (912–95) in 984, which have survived intact. Careful readings of *Ishinpō* have revealed that the editor made many crucial changes to the original Chinese texts in his attempt to adapt the original to local conditions. By the tenth century at the latest, Japanese learned medicine had



Physician applying moxa to the back of a male patient prior to igniting it with a taper that he holds in his left hand (moxibustion). Moxibustion is often used in conjunction with acupuncture. Wood engraving, nineteenth century. Iconographic Collection, Wellcome Library, London.

matured to become a variation of the Chinese medical system. On the other hand, it is questionable that Japanese patients shared the rational views of diseases expressed in the learned medical system around the time of *Ishinpō*. Contemporary diaries and fictional tales are filled with expressions of more animistic or supernatural views of disease and its cure. The most popular treatment when one became seriously ill was sutra-chanting, and illnesses were routinely attributed to possession by an evil spirit. The medical world of *The Tale of Genji* (1001–1010?) has almost no resemblance with that of *Ishinpō*.

The joining of Japanese medicine with that of the Chinese realm of influence had a darker side: diseases crossed the sea, which had acted as a natural cordon sanitaire. Inhabitants of the Japanese archipelago were drawn into the pool of deadly infectious diseases that had long been established in China and other major centers of civilization on the Eurasian continent. From around the sixth century, chronicles started to record epidemics. The most severe and well-recorded was a smallpox epidemic lasting from 735 to 737. Originating at Dazaifu, then a military base and the diplomatic window to China and Korea, the disease ravaged the country in the following couple of years. Smallpox was imported via the traffic between the continent and the archipelago; its diffusion was certainly helped by the establishment of the nationwide administrative system. This Great Smallpox Epidemic of 735–37 was one of the first of a series of smallpox epidemics that claimed countless lives. Between 750 and 1500, more than thirty outbreaks of smallpox were recorded. These deadly outbreaks, as well as those of measles (about twenty of them being recorded), must have played at least some part in halting the rapid growth of the population since the introduction of agriculture around the third century BCE.



Chinsai Hachiro Tametomo, a legendary hero of the twelfth century, repelling the demon of smallpox from the island of Oshima. Colored woodcut by Utagawa Yoshikazu, c. 1850. Iconographic Collection, Wellcome Library, London.

Outbreaks of epidemics persisted throughout the medieval period (c. 1100–c. 1500), but the grand and elaborate system of state medicine did not. By the tenth century, the *ritsuryō* system exhibited serious signs of disintegration. Central rule was replaced by fragmentary rule under powerful aristocrats, local magnates, and later samurai warrior-rulers. With the disintegration of a nationwide administrative system, the medicine of a centralized government declined. By the eleventh century, appointment to the Bureau of Medicine became a job on paper. Provincial medical offices were discontinued somewhat earlier. The establishment of the Shōgunate in Kamakura (1192), 500 kilometers east of Kyoto (where the Imperial court and the Bureau of Medicine were located), sealed the fate of state medicine. The Kamakura Shōgunate did not develop any coherent and large-scale policy for medical education or provision. When need arose, the warrior-rulers invited court doctors from Kyoto for treatment and later made Kyoto-educated doctors stay in Kamakura. The practitioners of state medicine were thus transformed into personal physicians to the powerful.

The collapse of state medicine, however, did not mean the coming of a medical Dark Age in Japan. By the twelfth century, Japanese society had become complex enough to ensure that maintenance of high medical learning did not depend solely on the state. The largely hereditary nature of medical posts might have had some role in securing the transmission of medical learning for generations. The major new bearers of medical learning were, however, the Buddhist temples, which possessed powerful financial bases, huge political influence, and even military might. After the discontinuation of the official Chinese Envoy in 894, Buddhist temples continued to send their monks to China to study Buddhist learning. In so doing, the temples acted as general centers of learning, including medical knowledge. Major works of medicine in the medieval period were thus written by Buddhist priests and monks: Kajiwara Shōzen (1266?–1337) digested thousands of books and completed *Ton'ishō* (c. 1302) and *Man'anjō* (1315–27). These works incorporated new developments in medicine from the Song dynasty in China as well as the author's own practical observations. Eisai (1141–1215), a Zen-Buddhist priest, visited China twice and wrote *Kissa Yōjōki* [Notes on the regimen and tea drinking] (1211), a seminal work that eventually made tea a national drink. Ninshō (1217–1303), a priest in Singon-Ritsushū, established large-scale and well-organized medical charities for outcasts, lepers, and the poor in the temples in Nara and Kamakura. His institute was reputed to have cured 46,000 sufferers in twenty years.

The decline of state medicine also created a space in which a new social category of medical practitioners emerged. The new medical practitioners were no longer homogeneous public servants employed by the state. Instead, they were a group of heterogeneous people who were paid by their patients. Some were learned monks, as previously mentioned; others were members of established medical families with a long history of appointments as court doctors; others were courtiers who dabbled in medicine; still others were barely literate empirics. The prestige and income of these medical practitioners differed enormously, largely according to the rank and the wealth of the patients they served. Since our evidence is unevenly distributed, our knowledge is largely restricted to those practitioners who served Emperors, aristocrats, courtiers, Shōguns, and other warrior-rulers. Diaries kept by courtiers such as Kujō Kanazane (1149–1207) or Fujiwara Sadaie (1162–1241) reveal that they called in private practitioners for ailments such as beriberi or asthma. Although in principle they should have consulted doctors appointed by the court, they preferred private practitioners who had better reputations. The most detailed records of medical practice around this period were made by Yamashina Kotostugu (1507–76), a courtier who also had an extensive medical practice: he regularly received 'fees' in money and in kind from diverse patients ranging from aristocrats to shopkeep-

ers. Down the social scale, our evidence becomes scanty. There appear, however, signs of the popularization of medicine around the fourteenth century. *Ton'ishō*, a work mentioned above, was written partly in 'kana', or Japanese characters, which are the Japanese equivalent of vernacular languages for the uneducated, while medical texts had been written almost exclusively in 'kanji', or Chinese characters. Likewise, *Fukudahō* (1460s–70s), a work written by a monk in Kyoto, was also in kana, on the pretext that young doctors needed something other than texts written in kanji.

Medical practice from around the beginning of the medieval period thus started to take place in a medical marketplace, a concept brought to prominence by Roy Porter. Kyoto, the capital full of attractive clients, had a high concentration of medical practitioners competing with each other for the patronage of the wealthy and powerful. Unsuccessful ones might have left the capital for a less competitive environment in the countryside, as depicted in *Kaminari* [Thunder], a contemporary *kyōgen* comedy. By mixing intimately with the rich and powerful, medicine now became one of the ways of climbing the social ladder. On the other hand, a medical practitioner's social position meant that he served the rich and powerful individuals, in the same way as craftsmen. Scattered and fragmentary evidence suggests the ambiguity of medical practitioners in terms of their social status; they were regarded as being on a par with other craftsmen, and occupied a lowly status around the court and aristocrats' salons, despite the high court honors they could expect from their patrons.

### EARLY MODERN PERIOD, 1500–1850

Japanese medicine in the early modern period (c. 1500–c. 1850) was again profoundly influenced by the state's diplomatic policy as it responded to the new situation in the Far East. The Tokugawa Shōgunate, founded in Edo (now Tokyo) in 1603, completed the so-called seclusion policy



Caricature of patients at a royal court, with conditions such as smallpox, obesity, toothache, venereal disease, and lameness, being treated by quacks—all the figures in black being physicians or surgeons. Colored woodcut by Utagawa Kuniyoshi, c. 1850. Iconographic Collection, Wellcome Library, London.



by the end of the 1630s, mainly to prevent the spread of Christianity among the populace. Trade or traffic with foreign countries was prohibited except at a handful of places and to a handful of authorized people. Any Japanese was forbidden to go abroad without such authorization on the penalty of death. This policy was the Tokugawa Shōgunate's response to the new situation of the world. From the fourteenth century, the Indian Ocean and the South China Sea were the major arenas of international commerce, which the European countries joined in the fifteenth century. By the seventeenth century, Portuguese, Spanish, Dutch, and English merchants as well as those from China were frequent visitors to Japan. A sign of Japanese participation in these arenas of global commerce was the transmission of syphilis, which, whatever its true origin, had almost certainly reached Japan by the 1520s, perhaps through its contact with trading posts in South China (inevitably, it was called 'Chinese pox' by the Japanese). Even under the seclusion policy, cholera first reached Japan early in 1822, during its first pandemic. The point to be emphasized through such examples is that the seclusion policy did not completely isolate Japan, which was constantly touched by the vigorous traffic of the Asian and European merchants. Japan was a secluded society that kept its windows open.

Internally, similar contradictions were rife in the Tokugawa society. The country was divided into about 400 fragments. Semi-autonomous *daimyōs* ruled each domain. The ruling class was samurai warriors, who bore two swords. Normally individuals could not change the status into which they were born. Peasants were bound to the land where they were born and expected to toil upon it until their death. This feudalistic outlook was deceptive, however. It was an extremely mobile society in many aspects. Local *daimyōs* were ordered to maintain their residence in the city of Edo and to live there in alternate years. There was thus constant and massive movement around the country by the elite members of society. Major highways facilitated domestic travel and commerce. Urbanization progressed. Roughly 5 to 6 percent of the Japanese lived in cities with a population greater than 100,000; the comparable figure for Europe was 2 to 3 percent. By 1700, Edo had around one million people, making it the largest city in the world. A dynamic society lay under an apparently feudal institution.

Medicine during the early modern period testified to this dynamism. In terms of medical theory, early modern Japanese medicine was innovative and pluralistic. Doctors preached theories and therapeutics that were sharply and self-consciously different from each other. For the first and arguably the last time in the history of Japanese medicine, we can talk about serious competition between 'schools' of medicine. This medical pluralism was partly due to the weakness of public authority in medical matters and partly due to the so-called seclusion policy. Overwhelmed neither by the state-backed medical teaching nor by foreign

authorities, Japanese doctors competed with each other through their original medical theories.

First to be noted among them is Manase Dōsan (1507–94), who had learned medicine under Tashiro Sanki (1465–1544?) and imbibed from him rationalistic medical theories developed in China by Li Gao (1180–1251) and Zhu Zhenheng (Zhu Danxi) (1282–1358). Manase's teaching became Goseiha (literally meaning 'Later Generation School') medicine, which was the mainstream medical system throughout the early modern period. Goseiha medicine was characterized by its emphasis on mild therapeutics, using complex multidrug treatments. The use of mild but effective remedies impressed the visiting Spanish and was the hallmark of Manase's therapeutics.

More radical, innovative, and controversial was the so-called Kohōha (literally meaning 'Ancient Method School') medicine, started by Nagoya Gen-i (1628–96) and developed by Gotō Konzan (1659–1733). Kohōha doctors rejected systematic and elaborate theories of Goseiha medicine in favor of the simplicity of ancient Chinese medicine. The key text for Kohōha medicine was *Shōkanron*, one of the earliest medical texts in China dating from around the third century. This call for a return to the ancient text was firmly combined with an emphasis on empirical observation. The first anatomy of a human cadaver in Japan was performed in 1754 by Yamawaki Tōyō (1705–62), a leader of Kohōha medicine based in Kyoto, not by a medical practitioner of Western medicine (the similarity between Kohōha medicine and Renaissance medicine has often been pointed out). The theories of Kohōha medicine were simple. Gotō attributed all disease to just one cause, namely the stagnation of *qi* in the body. Yoshimasu Tōdō (1702–73) claimed 'poison' in the body was responsible for all diseases. Their therapeutics was simple and aggressive. Nagata Tokuhon, a sixteenth-century precursor of Kohōha medicine, was reputed to have employed only nineteen recipes, among which powerful purges such as mercury were the most important. Yoshimasu studied the effect of simple drugs, rejecting the routine use of compound medicines. The controversial nature of Kohōha medicine can be gauged by the strong reactions of numerous doctors against Yoshimasu's theory of poison. At the same time, Yoshimasu's book *Ruijuhō* (1765) was a publishing phenomenon, reputed to have sold 10,000 copies in a single month. Kohōha medicine thus epitomized the innovative nature of medicine in the Edo period, which allowed medical theorists to pursue original theory building and therapeutics within the broad framework of Chinese medicine. Fierce controversies and sharp disagreements among Kohōha doctors themselves were a sign that medical theories were now a topic discussed in the public sphere, a phenomenon facilitated by the printing press.

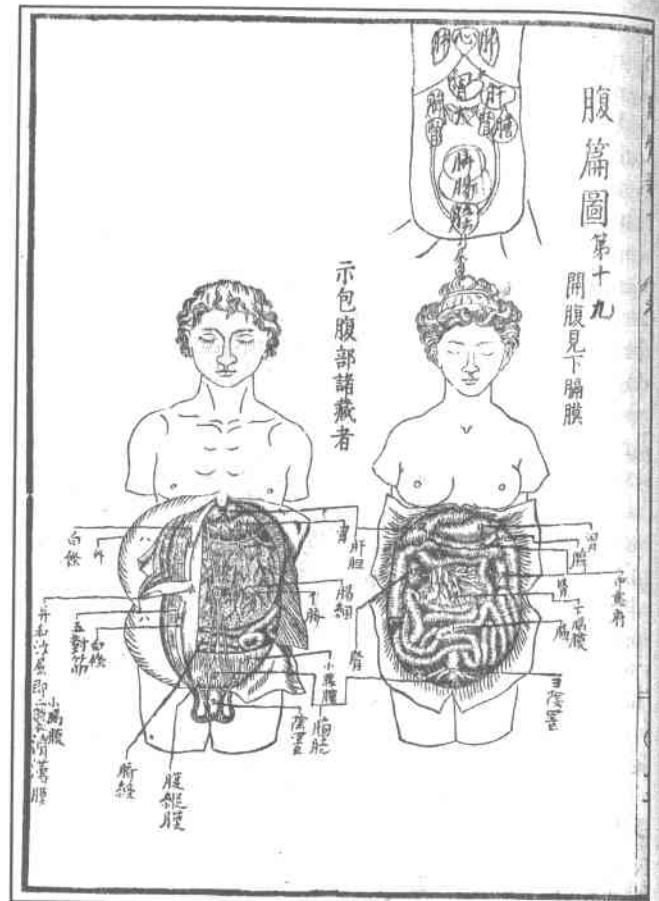
Ranpō (literally meaning 'Dutch style') medicine, or the Western medicine learned from the Dutch, was a late but important addition to this world of dynamic intellectual

ferment. Although its practitioners were in the minority—the medical census of the 1870s counted that about 15 percent of all medical practitioners identified themselves as Ranpō practitioners—Ranpō medicine played a disproportionately important role in forging modern Japanese medicine and society in general.

A brave attempt at translating a Dutch anatomy text with only a modicum of the knowledge of that language began in 1771, when several doctors attended the dissection of a human cadaver in Edo. Sugita Genpaku (1733–1817), a physician to a provincial *daimyō*, acted as an able organizer of the enterprise. Maeno Ryōtaku (1723–1803) provided knowledge of the Dutch language and scholarly conscience. *Kaitai Shinsho* [A new book of anatomy] was published in five volumes in 1774, with high-quality illustrations copied from the original text and other anatomy books. *Kaitai Shinsho* was an instant success, bringing fame and a flourishing practice to Sugita. It should be emphasized that the enterprise was purely a private one, with virtually no help from public authorities apart from providing the original Dutch book. The contrast with the first translation of a Western anatomy text in China around 1720 is striking: the Chinese translation was done at the request of the emperor, and the translation was securely held in the library of the Forbidden City.

*Kaitai Shinsho*'s success was a great enticement to similar-minded medical practitioners with some access to the Dutch language, who had long been enchanted by detailed and realistic illustrations in Dutch medical books but had been frustrated by their inability to read the text. Further attempts at translating anatomical and surgical texts with lavish illustrations quickly followed. One of them, *Ihan Teiyō* (1805), had fifty-two plates, which were executed by one of the period's leading engravers. As in Renaissance anatomy, the flourishing of Ranpō anatomy in Japan intersected with the rise of the visual culture facilitated by printing technology. The atmosphere of this aspect of Ranpō medicine is best epitomized by the works of Fuseya Soteki (1747–1811), a doctor-literati who performed a series of experiments on the kidneys and the urine of animals and published the results in *Waran Iwa* [Medical discourse between the Japanese and the Dutch] (1805). This work is hailed as the first work of experimental physiology in Japan. At the same time, it was written in an urbane and non-esoteric spirit, even with a hint of pornographic appeal. The serious scholarly quest for Western medicine and science coexisted with a dilettante pursuit of novelty and intellectual excitement.

The flourishing of various schools in Japanese medicine was related to the social structure of medical education. The role of the state in matters related to medicine continued to be small during the early modern period. There was virtually no attempt to regulate medical practice either at the Tokugawa Shōgunate or in the provinces. Although medical schools were established by the Shōgunate and by



Anatomical illustrations of male and female torso. Engraving from *Kaitai Shinsho* (1774), the first translation into Japanese of Johann Adam Kulmus, *Anatomische Tabellen*. Japanese MS 32, Wellcome Library, London.

major *daimyōs*, they did not attain eminence. It should be noted that almost all the famous doctors of the early modern period were individuals who opened their own private medical schools. Manase Dōsan started Keichin'in in Kyoto around 1545 and reputedly taught 800 students. After Dōsan's death, the management of the school was left to his adopted son, who consolidated the reputation of the flourishing Manase school. Gotō Konzan at Kyoto was reputed to have taught 200 students, who imitated their teacher's hairstyle, which eventually became a standard style of medical practitioners. Yamawaki Tōyō attracted so many students in Yōju'in in Kyoto that he drew up regulations for them. Ōtsuki Gentaku's (1757–1827) Shiba Randō was the most popular Ranpō private school in Edo. Large concentrations of medical students were not restricted to Kyoto and Edo, the old and new capitals and the centers of learning. Osaka had Ogata Kōan and his famous Teki-juku, which became, in the 1840s and 1850s, the training ground of the leaders of Westernization in the Meiji era. Even a small village in a remote rural corner could attract students when its medical practitioner became fabulously famous.

That was the case for Hanaoka Seishū (1760–1835), whose celebrated success in a breast cancer operation under a world-first form of general anesthesia attracted hundreds of students to his school in a small village in Kii province. When Dutch medical teaching became a sought-after subject in the nineteenth century, Franz von Siebold (1796–1866) played essentially the same game in Nagasaki. The German doctor opened Narutaki-juku in Nagasaki to teach about fifty Japanese students there.

Part of the reason for the flourishing of various private medical schools was simple: medical practice paid. Much evidence testifies that medical practice was an economically feasible option, which many took. In early nineteenth-century Edo, there were about 2,500 doctors for a population of about one million, the ratio being 400 patients to every one doctor. This is about the same figure found presently in Tokyo. Similarly, Osaka with 300,000 people boasted 300 'eminent doctors' in 1845, listed in the style of a league table of sumō wrestlers. Even the rural and mountainous Yamanashi had a ratio of about 1,000 patients to each doctor in the 1870s. Many of these practitioners must have been part-time. Motoori Norinaga (1730–1801), the greatest Kokugaku scholar, earned roughly half of his income from medical practice and the rest from teaching his Kokugaku students. In the years that saw an epidemic in the area where he lived, his medical earnings doubled that of an ordinary year. Sugita Genpaku received about 130 ryō as a salary of a physician to the *daimyō*, and two to four times as much from his private practice. Several doctors became fabulously rich: Habu Genseki (1762–1848) in Edo and Singū Ryōtei (1787–1858) in Kyoto used their medical income to start commercial banks. For many, if not all, successful practitioners, the key to their success seems to have been the patronage of shōguns and *daimyōs*: appointment as their personal physicians brought not just a stable income, but could lead to fame and huge fortune.

Fame and wealth, however, did not bring high social status to medical practitioners in the Edo period. If compared with Confucian scholars, medics were kept at a much lower social position. In an ideology that put the premium value on serving one's state, medicine was deemed a 'small art', tending only to the body of one's clients. In his early teens, Hashimoto Sanai (1834–59) agonized over his future, as he was destined to a medical career as the son of a medical family. This precocious boy sadly accepted the fate that he should become a man of lowly occupation (i.e., medicine) but found relief in the idea that his true ambition lay elsewhere (in politics).

In rural areas, village officials (wealthy farmers residing in the village) played crucial roles in providing medical care for the people. They needed medical knowledge especially in times of epidemics, and they apprenticed their younger sons to local medical practitioners, doctors at the capital city of the province, or even star teachers of national fame in Edo, Kyoto, and Osaka. At least one of the seventeen



Excision of a cancerous growth from a woman's breast. This treatise made public for the first time the pioneering procedures of Hanaoka Seishū, who performed the operation in 1804 using general anesthetic. Colored block print from Kamata Keishu, *Geka kihai*, 1851. Japanese MS 18 Wellcome Library, London.

original students taught by von Siebold was a peasant hailing from a rural village. When there was no doctor in a village, the village officials invited a medical practitioner to stay and practice.

The ultimate basis for the flourishing of medical practice was demand for medical service by the populace. Much evidence suggests that common people in the Edo period were becoming increasingly health-conscious and sought professional help of one kind or another. A flood of popular manuals for the maintenance of health (*yōjō*) was one of the signs of people's keen interest in self-help regimens. The most famous and enduringly popular was *Yōjō-kun* by Kaibara Ekiken (1630–1714), which told, in a concise and easy style, what to eat and drink, what to wear, and, most famously, how frequently one should copulate. The phenomenal rise in the sales of patent medicine is another tes-



Sign board of an apothecary. Painted and engraved wood, nineteenth century. Wellcome Library, London.

timony to people's demand for professionally produced drugs. These drugs, usually round pills, served for various ailments. Abortion pills were frowned upon, but they were sold under the name of a 'monthly pill' by druggists and peddlers. Fairs and markets were infested by quacks with flamboyant sales dramaturgy; rural villages were served by more trustworthy itinerant merchants. Drugs constituted a huge market, and everyone was keen to take advantage of their potential. Buddhist temples and Shintoist shrines sold their own special brands of medicines, which were popular also as souvenirs for tourist-pilgrims. Cultivation of medicinal plants became a part of major economic policy for the promotion of industry. The Tokugawa Shōgunate ran five physic gardens in Edo, Kyoto, Nagasaki, and Sunpu (now Shizuoka). At least eight provinces had well-tended physic gardens, which acted as regional centers of medical botany and natural history. Local *daimyōs* were keen to develop their own specialty products. Small and poor Toyama province was particularly keen to organize a peddling business, which covered the entire nation as its market. Tsugaru province cultivated poppies for opium. Medicinal plants were also imported from abroad, the most important being Korean carrots. The flourishing drug industry thus involved both public authorities and private producers, urban and rural dwellers, and foreign and domestic trade.

### MODERN AND POST-MODERN PERIODS, 1850–2000

Since the emphasis of this essay is on 'traditional' medicine in Japan, I shall give only a sketchy account of its modern and postmodern developments. Yet again, it was a change in the international situation in the Far East and the Japanese response to it that provided a key in ushering Japanese medicine into modernity. The threat of the Western



Carrot (*Daucus carota*) root with leaves. Watercolor original of an illustration included in a Japanese book of herbs and vegetables. Iconographic Collection, Wellcome Library, London.

powers after the Opium War (1840–42) galvanized Japanese intellectuals, many of whom had learned Dutch medicine and had grasped the precarious situation Japan faced. Abandonment of the seclusion policy (1854) under the pressure of the U.S. gunboat diplomacy further inflamed intense disputes and profound turmoil until the overthrow of the Tokugawa Shōgunate in 1867. Through the fierce disputes over the future course of Japan, something very similar to the notion of the imagined community of the nation-state rapidly crystallized. Most active in this remarkable period were the subelites of society, mainly educated samurai of middle to lower ranks. Since this social sector largely overlapped with that to which the upper medical practitioners belonged, many people who had learned medicine, particularly Ranpō medicine, played prominent roles in the overthrow of the Shōgunate. This means that, even before the Meiji Revolution, medicine in the 1850s and 1860s occupied one of the central places in



building a strong nation-state able to withstand the onslaught of the Western powers. The chronic frustration of medical practitioners, who had deep inferiority complexes about their 'small art' as previously mentioned, finally found an effective vent: medicine at last looked to make a contribution to dealing with the ills of the body politic.

Several key developments in modernizing Japanese medicine thus happened before the Meiji Revolution. During the period that led to the revolution, local authorities and the national networks of private individuals were more important than the initiatives of the central government. Many provinces built their own hospitals that combined clinical education in Western medicine with medical provision for the poor. The diffusion of vaccination, introduced from Nagasaki in 1849 and spread all over the country in less than ten years, exhibited a similar pattern. Helped by a national network of Ranpō doctors, private medical practitioners often took initiatives in starting vaccination, which was quickly supported by the local authority.

In several medical matters, the powerful central government, which followed the Meiji Revolution of 1868, thus regulated and centralized existing local initiatives in medicine. In other matters, however, the central government was innovative and ambitious. One such matter was the determination to replicate the medical education of German universities in Japan. When the Medical School of the University of Tokyo was founded in 1869, its professors were all German: less than thirty years later, virtually all the departments were headed by Japanese professors, who had studied in German universities. The University of Tokyo then went on to dominate medical education in Japan, by installing its graduates in other prestigious medical schools. The Institute of Infectious Diseases, founded in 1892 with the Koch-trained Kitasato Shibasaburō as its director, became a rival institution to the University of Tokyo. These and other institutions were the home to many discoveries made by Japanese medical scientists. The most famous among them included Shiga Kiyoshi's (1870-1957) discovery of the pathogen of dysentery in 1897 and the experiments on cancer (1915) by Yamagiwa Katsusaburo (1863-1930). By the early twentieth century, Japanese medical scientific communities were capable of fostering world-class research projects.

The Westernization of medical teaching and research was thus achieved first among the agenda of modernizing medicine. In contrast, the modernization of medical practice lagged behind, with compromises and half-measures abounding. After Isei (1874), which was the foundational manifesto for modern medical policy regulated by the state, the government attempted to install a medical licensing system based on the formal education of Western medicine and an examination system to ensure competence. Since the system included only Western medicine in the examination



*Photo by Messrs. Kajima & Suwo.*

A JAPANESE DOCTOR AND PATIENT.

Doctor feeling the pulse of a female patient. Halftone reproduction from a photograph by Messrs Kajima and Suwo, nineteenth century. Iconographic Collection, Wellcome Library, London.

subjects, it met substantial opposition from practitioners of Kanpō (Japanese-Chinese) medicine. Leading Kanpō practitioners, many of whom had connections with former provincial medical schools, put up fierce opposition to the Meiji government's policy of the total Westernization of medical licensing. In the end, their attempt failed when in 1894 parliament rejected the bill for the amendment of the Medical Licensing Act (1884). The victory of the government-led Westernization of medical practice was only partial, however. In 1874, there were about 28,000 medical practitioners, of whom only about 5,200 had learned Western medicine. More than 80 percent of medical practitioners had been trained, if they had been trained at all, in Kanpō medicine. A significant minority were barely literate, due to the almost total lack of regulation of medical practice during the Edo period. The government had to bow to this reality and put the quantity before the quality of medical provision. The resulting system thus had a huge loophole: those who had already practiced medicine were not required to take the examination. This exemption of practitioners from licensing requirements was first adopted in 1875, and retained in subsequent pieces of legislation. In 1882, even the sons of practitioners of Kanpō medicine were granted licenses without examination. This led to a situation in which newly granted medical licenses were based on Western medicine, but the majority of practitioners long remained Kanpō doctors. Even in 1900, more than half of the 40,000 medical practitioners received their license without any examination or attendance at modernized medical schools. The Westernization of medicine did not greatly affect the vested interests of

medical practitioners: they continued to be allowed to practice and to make profit at any place of their choice.

Medical provision for those people who could not afford the fees of medical practitioners was also severely limited in the late nineteenth and early twentieth centuries. Public hospitals comparable to European charity hospitals or English voluntary hospitals had not developed in Japan. Koishikawa Yōjō-sho, founded in Edo in 1722 and housing at its height some 170 poor patients, is a famous but isolated exception. When Pompe van Meerdervoort (1829-1908) established a public hospital in Nagasaki, which combined clinical teaching and charitable provision, he was surprised at the rich patients who flocked to the hospital seeking treatment. Similar patterns were repeated later in public hospitals founded by provinces and prefectures in the 1860s and 1870s. By 1877 there were seventy-one public hospitals in Japan, but they were more like today's superior medical centers than charity hospitals in early-modern Europe. The rich patients patronized public hospitals in Japan much earlier than their Western counterparts did. Moreover, the demands of wealthy patients for hospital treatment gave rise to profit-making private hospitals, among which Juntendō Hospital founded in 1875 was the most impressive. Medical entrepreneurs were quick to exploit the situation: between 1877 and 1888, some 300 profit-making hospitals were established. In 1880, there were 241 public hospitals and 122 private ones, while twenty years later in 1899, there were ninety-seven public hospitals and 793 private ones. Hospitals in late-nineteenth and early-twentieth century Japan were typically the symbol of successful private practitioners, rather than the expression of charitable concerns of the elite of society.

With the rapid industrialization and the deepening of accompanying social ills, people started to search for a means to complement the system of medical provision, which consisted almost solely of fee-based service. Such a search was called the 'socialization of medicine', a catchall term that included ideologically diverse policies and schemes. The two early attempts at the socialization of medicine made in 1911 testified to their diversity. The first was Saiseikai, a charitable body established by the government with the help of the Imperial household. Through medical institutions all over the country, it treated 42,000 patients in 1912, 5.4 million in 1926, and 8.8 million in 1935. The second was the nonprofit clinic movement (Jippi-shinryo-jo), a brainchild of two socialist-leaning reformers. It aimed to provide medical treatment to the laboring poor at prices much lower than those fixed by medical practitioners' associations. Despite vehement attacks from medical practitioners, the movement became extremely popular. In 1929, more than 150 clinics and hospitals around the country provided treatment in this way. With diverse concerns and ideological motives as its background, the mixed economy of medical welfare progressed in the 1910s and 1920s. In 1922, the government passed the

Health Insurance Act, which covered industrial laborers' medical expenses. By 1935, the Act had about three million individuals insured.

While urban laborers started to benefit from these measures of socialized medicine, peasants and agricultural laborers were left to suffer, often hard hit by violent fluctuations of the price of agricultural products. The shrinking of medical provision in rural areas exacerbated their plight: Japanese medical practitioners were attracted to cities, which left many villages without any practicing doctor. In 1935, cities had 1.3 doctors per 1,000 patients, while the figure for villages was 0.35 doctors per 1,000 patients. About 30 percent of towns and villages had no medical practitioner at all. To facilitate rural workers' access to medical provision, various measures were taken, such as mutual-aid societies in villages. Perhaps the most important breakthrough came in 1938, when the National Health Insurance cast a wider net to include peasants and agricultural laborers. The impetus for National Health Insurance came both from below and from above: while peasants wanted access to medical provision, the government attempted to secure as many healthy soldiers and workers as possible, with the war in China in progress and the increasingly inevitability of war against the United States in their mind.

Although the health status of the Japanese populace started to show signs of improvement from around the 1920s, the present longevity of the Japanese population draws largely on post-World War II developments. During the Edo period, Japanese people seemed to enjoy relatively good health. The infant mortality rate is estimated to have been around 200 per 1,000 live births, which is a low figure for an early modern society. Urban mortality in Edo and other major cities was perhaps not as high as that of comparable European cities in the eighteenth and nineteenth centuries. One historian has attributed this to sophisticated sanitation practices, particularly the disposal of night soil into the agricultural hinterland for fertilizer. From the mid-nineteenth century, the Japanese population started to grow after the stagnation of the previous two centuries: from around 33 million in the 1870s, it grew to 43 million in 1900, and to 60 million in 1925. This increase was, however, perhaps less to do with declining mortality than to rising fertility. In all probability, the health status worsened in the late nineteenth century and the first two decades in the twentieth century. The opening of Japan to foreign trade deprived it of a natural cordon sanitaire, and in the 1880s and 1890s, Japan was hard-hit by a series of epidemics, among which cholera had the most devastating effect. Although cholera subsided after around 1900, in the first half of the twentieth century, life expectancy rose only slightly. S. Ryan Johansson and Carl Mosk have estimated that between 1891 and 1936, the life expectancy of Japanese males rose only slightly, from 42.8 to 46.9 years, while during the same period the comparable figure for England and



Newborn baby being bathed in a wooden tub while its mother watches from her bed. Halftone reproduction from Heinrich Ploss and Max Bartels, *Das Weib in der Natur—und Völkerkunde* . . . Leipzig, 1913. Wellcome Library, London.



Disposal of the dead under police supervision during a cholera epidemic. The corpse, packed tightly in a wooden tub according to Japanese custom, is carried off to be cremated. Halftone reproduction of a drawing by Meisenbach after Charles Edwin Fripp, c. 1890. Iconographic Collection, Wellcome Library, London.

Wales rose by more than ten years. The underdevelopment of the sanitary infrastructure and poor nutrition must have played a large part in keeping Japanese life expectancy low. Mortality from tuberculosis was high, both in urban and rural areas. Johansson and Mosk have pointed a blaming finger at Japan's spending on its huge military budget as a means of achieving its imperial ambitions.

Their speculation sounds more convincing when one observes the phenomenal improvement of health status after Japan's defeat in World War II and the subsequent disarmament. In the fifteen years between 1947 and 1962, the crude death rate almost halved, and infant mortality declined to approximately a third of its former level. It remains a mystery why the rapid improvement of these health indices started in the late 1940s, when millions were facing starvation in the war-ravaged cities. Certainly one of the keys was the introduction of antibiotics, whose domestic production was encouraged by the U.S. army of occupation. The so-called 'Economic Miracle', which was kicked off because of the Korean War in 1950, confirmed the upward trend of the people's health. Various policies of socialized medicine, which had been established before the war in the government's efforts to secure healthy soldiers, were revived and extended. The coverage of insurance plans continued to widen, until in 1961 an insurance plan of one kind or another covered all people in Japan. The rapid improvement of health status continued through the

1970s. Around 1980, the life expectancy of Japanese people became the longest in the world. Since then, Japan has remained the world's healthiest country.

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