

2009

## Economies of Excrement: Public Health and Urban Planning in Meiji Japan

Anthony Walsh

Follow this and additional works at: <http://scholarcommons.scu.edu/historical-perspectives>



Part of the [History Commons](#)

---

### Recommended Citation

Walsh, Anthony (2009) "Economies of Excrement: Public Health and Urban Planning in Meiji Japan," *Historical Perspectives: Santa Clara University Undergraduate Journal of History, Series II*: Vol. 14 , Article 9.

Available at: <http://scholarcommons.scu.edu/historical-perspectives/vol14/iss1/9>

This Article is brought to you for free and open access by the Journals at Scholar Commons. It has been accepted for inclusion in Historical Perspectives: Santa Clara University Undergraduate Journal of History, Series II by an authorized editor of Scholar Commons. For more information, please contact [rsroggin@scu.edu](mailto:rsroggin@scu.edu).

## Economies of Excrement: Public Health and Urban Planning in Meiji Japan

Anthony Walsh

---

The most common scholarly discussions about modernity and its social effects encompass issues of economic and industrial change, the development and employment of new technology, and a general restructuring of existing social orders. One area that seems to be overlooked as a key marker of modernization, especially in the history of Japan, is the junction between the development of public health practices and urban planning.

This study will explore the history of public health and urban planning in Meiji Japan, 1868-1912. Sanitation, a key element of public health systems, was not ignored before the Meiji Restoration. During the two hundred fifty years of Tokugawa (1603-1868) peace and stability that preceded the Meiji Restoration, human excrement and urine was collected as part of a highly organized and regulated economy of fertilizer production. This system of nightsoil collection, nightsoil being a euphemism for excrement, was so efficient, profitable and sanitary that it defied replacement by modern sewage and water supply systems even in newly expanded urban areas of Japan well beyond the Meiji Restoration. Japanese attitudes toward excrement were radically different than in the West.<sup>1</sup>

---

<sup>1</sup> Edward S. Morse, "Latrines of the East" *The American Architect and Building News (1876-1908)*: March 18, 1893; 39; 899. pg. 172.

Western-style sewage systems and chemical fertilizers were not implemented in large scale projects until the latter half of the twentieth-century. Nevertheless, the adoption of public health discourse, influenced by German notions of *Gesundheitspflege*, was easily integrated into the Meiji government's bureaucratic system.<sup>2</sup> Why were some Western practices adopted by Meiji officials and others left out?

The Meiji period was characterized by increased interaction with Western countries. New ideas, technologies, and discourses that had not been articulated earlier in Japan poured into the country. Many technologies and ideas were embraced, while others experienced resistance.<sup>3</sup> Many Japanese sought to embrace completely all that Western nations represented, from technology and clothing style, to the management structure of private and public offices. This perceived "wholehearted adoption" of all things Western, and thus "modern," has led some historians to patronizingly characterize the Japanese as "clever little copiers."<sup>4</sup> Many other Japanese, however, sought to modernize only in order to compete with Western nations and emerge from the humiliation of the unequal treaties, imposed on Japan in the 1850s by Western nations. For these Japanese thinkers and

---

<sup>2</sup> Susan L. Burns "Constructing the National Body: Public Health and Nation in Nineteenth Century Japan," in Timothy Brook and Andre Schmidt eds., *Nation Work: Asian Elites and National Identities* (Ann Arbor: The University of Michigan Press, 2003), 17.

<sup>3</sup> D. Eleanor Westney ed., *Imitation and Innovation: The Transfer of Western Organizational Patterns to Meiji Japan* (Cambridge: Harvard University Press, 1987) 1-9.

<sup>4</sup> Ibid.

officials, rampant modernization and too much change meant giving up a sense of Japanese identity.<sup>5</sup> Officials who felt this way, like Japan's first head of the Board of Hygiene, Nagayo Sensei, tempered the influx of potentially culturally damaging Western discourse with a motion to only take "useful" Western practices and improve upon them in ways that would make them uniquely Japanese. In turn, this was thought to fuel nationalist sentiment that many saw as key to Japan's emergence as an independent modern nation.<sup>6</sup>

Public health is a useful framework for understanding Japan's interaction with modernity in the nineteenth-century because it applies to so many areas of Japanese life, urban and rural. Meiji-era officials and civilians selectively adopted Western practices while leaving some traditional institutions untouched. By not immediately adopting Western style sewers, Japanese officials displayed a level of critical thinking erodes the outdated idea that the Japanese were "clever little copiers." Instead, they were successful innovators who fulfilled a millennia-old Japanese practice of borrowing practical ideas from other cultures and leaving out less useful ones.

It may initially appear as though Western hygiene discourse expressed dominance and hegemony over Japanese traditions. However, there was a unique discourse of flexibility at work within Japan that valued taking useful parts of systems and leaving out others. This concept, called by its modern derivation,

---

<sup>5</sup> Ibid.

<sup>6</sup> Mahito H. Fukuda "Public Health in Modern Japan: From Regimen to Hygiene" in Dorothy Porter ed., *The History of Public Health and the Modern State* (Atlanta: Rodopi, 1994), 385-9.

*itōkō-dōri*, can be seen in the ancient Japanese adoption of Chinese calligraphy symbols, but not the adoption of Chinese language or grammar structure.<sup>7</sup> A way of thinking that sought a “give and take” relationship with the West was at work in Meiji Japan. Japan modernized and incorporated much of the technology of America, Britain, and France, but never became a colony when much of the rest of the world had. Japan stayed under Japanese control, but also changed in a complex way.

Several sources address the advent of public health practices in Japan. Louis G. Perez’s chapter, “Night-soil” (2002), Ann Bowman Jannetta’s *Epidemics and Morality in Early Modern Japan* (1987), and Susan B. Hanley’s “Urban Sanitation in Preindustrial Japan” (1987) provide secondary source information for the background of what constituted health and sanitation before the Meiji restoration.<sup>8</sup> Also, these sources connect religious practice to notions of cleanliness that may have limited the spread of diseases prior to the advent of medicalization. Susan L. Burns’s “Constructing the National Body” (2003) and Mahito H. Fukuda’s “Public Health in Modern Japan” (1994) each outline the advent of the idea of public health in Japan, the development of sanitation institutions, and how the image of public health became a flash point of

---

<sup>7</sup> Roger J. Davies and Osamu Ikeno eds., *The Japanese Mind: Understanding Contemporary Japanese Culture* (Rutland, VT: Tuttle Publishing, 2002), 127-33.

<sup>8</sup> Ann Bowman Jannetta, *Epidemics and Mortality in Early Modern Japan* (Princeton: Princeton University Press, 1987); Perez 217-26. Susan B. Hanley, “Urban Sanitation in Preindustrial Japan” in *Journal of Interdisciplinary History* (Summer 1987), 1-26.

nationalist sentiment.<sup>9</sup> Alan Macfarlane's, *The Savage Wars of Peace: England, Japan, and the Malthusian Trap* (1997), Takeo Yazaki's *Social Change and the City in Japan* (1968) and David Kornhauser's *Urban Japan: its Foundation and Growth* (1976) each discuss specific public sewage and water supply projects that were started during the Meiji Era.<sup>10</sup> In addition, Macfarlane's book describes the role of nightsoil collection in urban Tokyo as well as the complexity and size of Japan's human fertilizer industry. These works provide the raw data of what was actually built for public health purposes in Japan as it modernized.

One way in which historians examine Japan's process of modernization is by looking at how leaders emulated Western organizational structures. D. Eleanor Westney argues that "[T]he emergent characteristics of the developing organizations have received surprisingly little systematic study. One reason for this partial neglect may be that emulating the patterns of another society has connotations of a lack of originality and even of intellectual piracy."<sup>11</sup> Late nineteenth century officials in Japan, however, felt that the country should build itself up as a "worthy" member of a family of modern nations by modeling Western bureaucratic structures as well as methods of carrying

---

<sup>9</sup> Burns, 17-49; Fukuda, 385-402.

<sup>10</sup> Alan Macfarlane, *The Savage Wars of Peace: England, Japan, and the Malthusian Trap* (Oxford: Blackwell Publisher Ltd., 1997) 154-70; David Kornhauser, *Urban Japan: Its Foundations and Growth* (New York: Longman, 1976) 149-60.

<sup>11</sup>Westney, 5.

out public works projects.<sup>12</sup> Meiji leaders maintained originality through innovation.

Meiji health officials imitated the West by creating bureaucratic structures like the Board of Public Health (1875), the Bureau of Hygiene (1874), and the Central Sanitary Committee (1879). Each department was overseen by the Home Department and Interior Ministry. Along with the establishment of “National Schools” like the Tokyo Jikei Medical Hospital, the government created offices that were recognizable to Westerners, but were not entirely imitative of Western practices.<sup>13</sup> Indeed, the Tokugawa *bakufu*’s (Shogun-led government 1603-1868) use of a strong bureaucracy in the two centuries before the Meiji Restoration meant that centralized organizations of authority were hardly novel concepts to the Japanese.<sup>14</sup>

Meiji officials, therefore, did not feel that emulating the West meant stepping away from a distinctively Japanese identity. Rather, as Jong-Chan Lee notes, “[a]ll Meiji policies emanated from basic concern with the nation.”<sup>15</sup> In terms of public health, Lee notes that the discourse between national prestige and public health was given a language of such importance that it inspired novelist Natsume Sōseki’s satirical remark: “What a horror if we ... eat for the nation, wash our

---

<sup>12</sup> Jong-Chan Lee, “Modernity of Hygiene in the Meiji Era, 1868-1905: Moralizing Imperial Bodies” *Korean Journal of Medical History* June, 2003. 34-6.

<sup>13</sup> Lee, 3-4.

<sup>14</sup> Perez, 220.

<sup>15</sup> Lee, 2.

faces for the nation, go to the toilet for the nation.”<sup>16</sup> People’s bodies, in terms of their health and hygiene, became state business at the end of the nineteenth century. According to Susan L. Burns, Nagayo felt that devising a national apparatus to protect and promote the “health and welfare of citizens was one of the most important functions of the modern state.”<sup>17</sup> Personal cleanliness became public health; public health became “state health.”

In Tokugawa era Edo (now Tokyo), the success of waterworks infrastructure, sewage disposal systems, and nightsoil collection provide examples with which the extent of Japanese innovation inside the context of Western urban planning and hygiene discourse can be assessed. There is strong evidence, collected by Susan B. Hanley and Louis G. Perez, that indicates that the practice of nightsoil removal for agricultural fertilization purposes kept excrement out of Edo’s water supply and greatly curtailed instances of epidemics.<sup>18</sup> The realization that the level of sanitation was higher in premodern Japanese cities than in the cities of the West in the same centuries may come as a shock to some readers. Part of the reason this information seems obscure is because it appears the situation has been the opposite in Japan during the latter half of the twentieth-century. Hanley notes that “Even after World War II, the Japanese continued to use nightsoil as a fertilizer and thus were seen as backwards to Western-

---

<sup>16</sup> Natsume Soseki, “My Individualism” (1914) in *Kokoro: A Novel and Selected Essays* (Lanham, MD: Madison Books, 1992) 313 as qtd in Lee, 2.

<sup>17</sup> *Ibid.*, 2-3.

<sup>18</sup> Hanley, 6-8. Perez, 220-5.

ers.”<sup>19</sup> However, because the premodern methods for dealing with nightsoil were economically positive and also relatively hygienic, both in collection and overall sanitation, the Japanese were slow to modernize their toilet and sewage systems.

Hanley concludes that “the very success of the premodern waste disposal system inhibited modernization in this area, for, despite the shortcomings of sanitation, the Japanese today have the longest life expectancy of any major nation in the world.”<sup>20</sup> Though theoretically correct, Hanley’s compliments of the Tokugawa era sewage disposal systems seem to be missing out on how important the Japanese considered nightsoil. Hanley merely states that waste disposal was efficient and thorough, but mentions nothing about how lucrative a business the nightsoil trade was. Moreover, Hanley’s interpretation that the effectiveness of premodern waste disposal “inhibited modernization” seems to fall into the mental trap of rationalizing the Japanese as “clever little copiers.” By making it appear as though all forms of Japanese modernization were tied to technological innovations and drastic public works projects, Hanley does not consider a more complex view: By *not* drastically changing sewage disposal techniques, Japanese officials showed that they were critically thinking about Western practices and choosing not to employ them. Night soil, after all, was not waste but treasure; it was not a problem of disposal, but a contest for possession

In premodern Japan, sewage and clean water

---

<sup>19</sup> Hanley, 26.

<sup>20</sup> Ibid, 26.

supply were also separately addressed by officials and civilians. Hanley and Perez each provide a good overview of the early development of these systems and demonstrate how intricate and flexible they really were. The first water system constructed during the Edo period, the Kanda system, drew its water from the Inokashira spring east of the city. Water was carried to the city limits in exposed aqueducts, and then underground wooden pipes moved water within the city. The Kanda system was forty-one miles in length and had 3,663 subsidiary ducts. By the mid-seventeenth-century, however the Kanda system was inadequate for the growing city's needs.<sup>21</sup> Four new sewer systems were also added in 1657 –the Honjo, Aoyama, Mita, and Sengawa sewers. These systems largely moved waste water away from the city and did not deal with excrement; *all* night soil was collected by hand and taken out of the city.<sup>22</sup> Hanley also notes the increasing sophistication of techniques employed by Japanese engineers: by 1657, engineers had not only mastered efficient methods of creating and laying pipe systems, but had also begun designing the layout of these systems using methods involving trigonometry and triangulation. These measures greatly improved surveying results and helped solve problems created by differing elevations along pipe routes.<sup>23</sup> These pipe systems were built to ensure the flow of clean water into the city; this improved public health by supplanting the general public's use of standing water and

---

<sup>21</sup> *Ibid.*, 6.

<sup>22</sup> Macfarlane, 154-70.

<sup>23</sup> Hanley, 7.

brackish well water.<sup>24</sup>

Sewage disposal and excrement removal became important issues in the urban planning of Edo only *after* the Tokugawa administration had largely solved the city's water supply demands. Perez argues: "From the mid-seventeenth century on, waste disposal was a major concern for urban administrations."<sup>25</sup> The most important difference between sewage disposal in the West and in Japan was that human excreta was not regarded as "something that one paid to have removed, but rather as a product with a positive economic value."<sup>26</sup> So complex was the issue of nightsoil collection that the *bakufu* issued edicts to control the collection of nightsoil. Only peasants could engage in the practice. Perez points out that this was mainly to keep merchants from gaining some kind of profit from the enterprise: "Contracts had to be employed. Landowners and landlords were judged to be the owners of the solid feces, but the renters and residents continued to "own" their own urine."<sup>27</sup> The nightsoil collection "industry" was made possible and profitable by gigantic networks of collection, fermentation and composting, and distribution. Enormous barges were employed to ship the nightsoil, while tankers transported urine all the way to the cotton fields of Kinai.<sup>28</sup> Even though the idea of "sanitation" may not have worked its way into Tokugawa discourse, nightsoil collection undoubtedly helped keep urban areas clean. In addition, the governmental complexities ascribed to

---

<sup>24</sup> Ibid.

<sup>25</sup> Perez, 222.

<sup>26</sup> Ibid.

<sup>27</sup> Ibid., 222.

<sup>28</sup> Ibid., 223

nightsoil collection show that Japan maintained a long legal and bureaucratic history of allowing and encouraging private ventures that would later become discursively linked to the sanitation movement of the latter half of the nineteenth-century.

Perez also looks at the remarks made by the Portuguese Jesuit priest, Joao Rodrigues, who visited Japan in the early seventeenth century. Perez notes that Japanese privies, according to Rodrigues, were much different from those found in Europe.

The interior of the privies is kept extremely clean and a perfume pan and new paper cut for use are placed there. The privy is always clean without any bad smell, for when guests depart the man in charge cleans it out if necessary and strews clean sand so that the place is left as if it had never been used. A ewer of clean water and other things needed for washing the hands is nearby.<sup>29</sup>

Not only does Rodrigues's account show that Japanese lavatories were carefully maintained for the comfort of occupants, but the Jesuit's account also indicates that premodern Japanese lavatories were not places where pathogens and contaminants from human waste could come in to contact with the public water supply: Tokugawa privies were hygienic in an era when the discourse of hygiene had not even been thought of. Moreover, solid waste was collected from buckets that were present in the lavatories, thus rendering privies a space of economic importance. Most societies pay to have human waste shipped away. In Tokugawa Japan, however, solid waste was a commodity that people

---

<sup>29</sup> Ibid.

were paid to produce. Perez concludes: "It is hard to overemphasize the importance of nightsoil collection for the agricultural productivity of the period...it was perhaps Japan's third national commodity after rice and cotton."<sup>30</sup>

In the beginning of twentieth-century, nightsoil collection remained very important to Tokyo, but human "waste" was increasingly carried away by sewer systems that were augmented by a network of canals linked to the lower sections of the Kanda system.<sup>31</sup> That the Japanese separated human waste from the drinking water supply, and did so with the combined use of canals and sewers, indicates that changes in the nineteenth-century were not the result of radical shifts in ideology, but rather an innovative melding of Japanese and Western ideas that applied to "nation building" in a practical way. The public, signifying the national polity, was kept clean and healthy by an effective water supply system, night soil collection, and the limited application of sewers and canals where needed. Japanese "utilities," including nightsoil collection, were multilayered in a way that brought clean water in, took excrement out, and even provided a living for those who acted as agents between urban lavatories and rural rice fields.

Hanley argues similarly that "Edo's system was so well designed that when it was modernized at the end of the nineteenth century, the only major change was to replace wooden pipes with impervious metal ones."<sup>32</sup> In this way, the Japanese kept using the main features

---

<sup>30</sup> Ibid.

<sup>31</sup> Hanley, 16.

<sup>32</sup> Hanley., 17.

of a system constructed in the seventeenth century when they added a water supply system two centuries later which was based on modern technology.<sup>33</sup>

Even though Hanley observes that water pipe systems were merely replaced with stronger materials, the same cannot be said about the increasing, but still limited, number sewage lines built in Meiji-era Tokyo. Seidensticker argues that the collection of nightsoil had the important effect of keeping Tokyo clean at the time, but the city was growing too large to not be helped by the placement of sewer lines. By the Taisho era (1911-1925), the distance over which nightsoil had to be carted by horse and bucket from the center of Tokyo was considerable, thus making the traditional method impractical: "Houses near the center of the city could no longer sell their sewage, but had to pay someone to take it away. As this crisis mounted, tanks [that held sewage] would be deliberately broken in order that the stuff might quietly slip away, or sewage was carried out and dumped during the night. Edo was no doubt a smelly city, but Tokyo as it passed its semicentennial must have been even worse."<sup>34</sup> This perceived breakdown of nightsoil collection in the most populated parts of Tokyo did not immediately inspire the building of new sewers. It seems that urbanization, not sanitation, ultimately challenged Tokyo's pre-modern night soil economy. At least for the city center, these years marked an important shift in thinking about the products of the body. Excrement was no longer something that was purchased, but something

---

<sup>33</sup> Ibid.

<sup>34</sup> Edward Seidensticker, *High City, Low City: Tokyo From Edo to the Earthquake* (New York, Alfred A. Knopf, 1983), 283.

that people paid to have taken away. For many, excrement became *waste*, rather than simply sewage or product.

There were, however, days during the 1890s when farmers purchased nightsoil from deep within Tokyo. Seidensticker notes that farmers were willing to pay more for sewage from richer families: "The upper-class product was richer in nutriment, apparently. So, apparently, was male excrement. In aristocratic mansions where the latrines were segregated by sex, male sewage was more highly valued than female."<sup>35</sup> This distinction may have also been informed by ideas of male superiority. Men usually ate better food than their wives and their excrement was thought to be richer in nutrients, thus earning a higher price.<sup>36</sup> Rich households could still be paid to produce excrement in the late Meiji era, but the same cannot be said for slum areas of Tokyo. The dropping price of excrement as more and more people *paid* to have it taken away, may have exacerbated unsanitary slum conditions and caused outbreaks of disease.<sup>37</sup> Many people simply could not pay to have their excrement taken away, and areas lacking effective sewers and canals suffered. Shinjuku, on the Western edge of the city, was even called the anus of Tokyo.<sup>38</sup>

Governmental response to the physical growth of Tokyo, as well as its growing sanitation problem, came in 1888 with the passage of the Tokyo City Improve-

---

<sup>35</sup> Ibid.

<sup>36</sup> Macfarlane, 66.

<sup>37</sup> Andre Sorensen, *The Making of Urban Japan: Cities and Planning from Edo to the Twenty-First Century* (New York: Routledge, 2002) 72-3.

<sup>38</sup> Seidensticker, 83.

ment Ordinance (TCIO).<sup>39</sup> Even though various bureaucratic departments had already been set up to improve health in Tokyo, the TCIO was Japan's first modern urban planning law that sought to restructure the city. According to Andre Sorenson, the TCIO included plans for the "building and widening of 315 streets, improvements to canals, provisions for the extension of the main railway...many new bridges, 49 parks, 8 markets, and 6 cemeteries."<sup>40</sup> The TCIO still managed to affect a number of important redevelopments, most notably to the water system. The sewage system was not as lucky. When the third stage of the TCIO was completed in 1918, only a small portion of the originally planned sewer system had been finished, and only occupied about six percent of the TCIO's budget for that time.<sup>41</sup>

Seidensticker continues Sorensen's analysis by stating that "Sewers scarcely existed at the end of the Meiji [and into the Taisho era]. Kanda had a tile-lined ditch for the disposal of kitchen wastes, but body wastes were left to the *owaiya* (peasant class urban workers that serviced latrines) with his dippers and buckets and carts."<sup>42</sup> Under these conditions, it was fortunate that sewage disposal problems only reached crisis levels after the end of the first world war. The prosperity of Japan's interwar period ushered in larger public sewage projects that further consigned the collection of nightsoil to less populated environs.<sup>43</sup> Both Sorenson and Seidensticker agree that between

---

<sup>39</sup> Sorensen, 70.

<sup>40</sup> *Ibid.*, 72.

<sup>41</sup> *Ibid.*, 73.

<sup>42</sup> Seidensticker, 83.

<sup>43</sup> Macfarlane, 55.

the 1870s and 1890s, nightsoil collection, though diminishing in the city center, was able to meet the demands of most of Tokyo because it was augmented by canals and sewers.<sup>44</sup>

Nevertheless, new TCIO built sewers and canals were not only relatively ineffective, but their construction further shunted nightsoil collection into the suburbs.<sup>45</sup> Nightsoil collectors in the late Meiji and Taisho era (1911-1925) years did not operate in areas that had waste water carriage canals and sewers.<sup>46</sup> In a clear way, Western urban planning and increased urban populations created a sanitation problem where one had not previously existed. “Modernization” led to “primitive” conditions in areas of Tokyo that had once been serviced by nightsoil collectors.

Even though Taisho-era sanitation conditions in Tokyo indicate how modern and traditional methods of sewage management challenged each other, Meiji era sanitation maintained its traditional roots in the face of proposed modernization in other areas. This can be seen in the construction of the common urban latrine space. I have already examined latrines belonging to the Tokugawa era by looking at Joao Rodrigues’s seventeenth-century report. It is noteworthy that the differences between seventeenth-century privies and late nineteenth-century privies are barely discernable. When Edward S. Morse traveled to Japan in the late 1880s, he commented not only on the “cleanliness” of Japanese privies, but also on their function as places of agricultural and economic importance:

---

<sup>44</sup> Seidensticker, 282, Sorensen, 73.

<sup>45</sup> Ibid.

<sup>46</sup> Macfarlane, 59

In every house, except among the poorest classes, one finds in the immediate vicinity of a privy a receptacle for water and a towel, which is always used for hand-washing...The scrupulous care shown in the preservation of this important fertilizer is in striking contrast to the way in which we wastefully discharge it, thus polluting our air and water...Lowell and Lawrence with their typhoid fever, and Chicago with its overwhelming problem before it, show how far we are yet from dealing properly with this great and perplexing question... Indeed, so valuable is this substance that in Hiroshima, I was informed, in the renting of the poorer houses, of three persons occupied a room together the value of this product paid for the rent of one, and if five occupied the room, no rent was charged.<sup>47</sup>

Morse's commentary indicates that by the end of the nineteenth century Japanese lavatories still maintained the same aesthetic of cleanliness that they did in centuries past. Moreover, privies were still considered places of economic importance. Even though many modernizing practices came into Japan by way of the West, foreigners were taken aback by how the Japanese were in control of a centuries-old method of dealing with what Westerners would have called a "problem." To the Japanese, excrement was not seen as the same type of problem it was in the West. Instead, it was the opposite, an *opportunity* to make money. Excrement only became a problem to some residents of Tokyo when the city's expansion rendered nightsoil collection in their areas inefficient. Even then, human excrement was still thought of differently

---

<sup>47</sup> Morse, 172.

than in the West.

To the Japanese, even those who lived well into the twentieth century, the body's natural processes did not seem to hold the same repugnance as they did in Western discourse.<sup>48</sup> This distinction is crucial because it explains how nightsoil collection practices were able to flourish in Japan, whereas in the West they did not. Moreover, it appears that Japanese attention to the aesthetics of the privy created conditions above and beyond what Westerners would have called "sanitary." Macfarlane argues that the need for fertilizers and a "great attention to cleanliness led to the early development of toilet facilities."<sup>49</sup>

Writing in the 1870s, Morse stated that "the secret of sewage disposal has been effectually solved by the Japanese for centuries, so that nothing goes to waste." As a result, "that class of diseases which scourge our communities as a result of our ineffectual efforts in disposing of sewage, the Japanese happily know but little."<sup>50</sup> Not only are Morse's comments good indicators of the cleanliness of Japanese toilets and sophistication of the methods of taking sewage away, but his comments also indicate the sorry state of Western sanitation, despite all of its scientific approach, at that time. Judging by how awful Western conditions could be, there is small wonder that Japanese officials were slow to "modernize" sewage lines. Simply put, the Japanese system was seen as better, even to some Westerners.

---

<sup>48</sup> Tanizaki Junichiro, *In Praise of Shadows*, (New Haven, Conn: Leete's Island Books, 1977) 3-5.

<sup>49</sup> Macfarlane, 159.

<sup>50</sup> Edward S. Morse, *Japan Day by Day. 1877, 1878-79, 1882-1883*(New York: Houghton Mifflin, 1917) 61.

This study, shows that nightsoil collection was an important part of Tokugawa and Meiji-era economic policy. It not only kept urban areas free of human excrement, which in turn had the hygienic effect of curtailing epidemics and enhancing life expectancy, but its collection and marketing as a fertilizer also drove Japan's ability to feed a large population. The early modern Japanese implicitly understood that human excrement, as well as urine, are very effective fertilizers because they are rich in elements needed to sustain plant life: nitrogen, potassium, and phosphorous.<sup>51</sup> F.H. King documents how much human fertilizer was used in Japan in 1908. This is an important year for this analysis because it shows that even though some areas of Tokyo experienced distressing sewage conditions related to urban expansion and inefficient excrement collection, the nightsoil trade in the late Meiji period was invaluable for sustaining the national population of Japan: "Japan produced, in 1908, and applied to her fields, 23,850,295 tons of human manure; 22,812,787 tons of compost, and she imported 753,074 tons of commercial fertilizer, 7,000 of which were phosphorous in one form or another."<sup>52</sup> The fact that these figures even exist attests to the importance of nightsoil to the Japanese. Furthermore, the unique way in which nightsoil was stored and fermented in cement-lined pits for three to six months created, according to Macfarlane, the most efficient and bacteria free mixture possible. Perhaps the

---

<sup>51</sup> Macfarlane, 158.

<sup>52</sup> F.H. King, *Farmers of Forty Centuries: or, Permanent Agriculture in China, Korea, and Japan* (Emmons, Pa: Organic Gardening Press, 192?) 194.

unintended consequence of the way nightsoil was stored was that the heat generated by the process fermentation killed much of the harmful bacteria and fly-larvae that would otherwise manifest in open air waste fields.<sup>53</sup> This advanced system was over two hundred years old by the beginning of the Meiji period.

During the Tokugawa era, Japanese officials oversaw public and private systems of sewage transport and waterworks. These systems not only reduced instances of epidemics in the cities, but also provided the foundation of the fertilizer industry and helped to sustain growing urban and rural populations well into the twentieth-century. The continued efficient use of centuries-old public water systems in Tokyo and the agricultural and economically sound system of nightsoil collection throughout the country erodes the idea that Meiji-era Japanese were “clever little copiers” of *all* things Western. The persistence of “old systems” into the twentieth century indicates that the Japanese held a more complicated view of modernity than some scholars have assumed.

It is true that Japanese officials at the end of the nineteenth century directly modeled Western practices at many levels. The Japanese government emulated Western bureaucratic structures with the development of The Board of Public Health and the Bureau of Hygiene. However, because the Tokugawa was also a heavily centralized government before it was influenced by the West, the idea of a functioning bureaucracy was not a strange concept to Meiji officials. Even though Western sanitation discourse had not entered Japan prior to the Meiji restoration, it easily attracted

---

<sup>53</sup> Macfarlane, 167.

followers in the Meiji government like Gotō Shinpei and Mori Rintarō. It seems the Western concepts of hygiene did not conflict with or revolutionize already existing Japanese notions of cleanliness and religious purification. To these officials, the creation of agencies that oversaw public health issues, including sanitation, was a logical step that came from blending Western discourse and Japanese tradition.

The cleanliness ascribed to Japanese toilets at this time was also directly linked to the fact that Japanese attitudes toward excrement were radically different than Western ones. The acceptance among Japanese that excrement was a valuable fertilizer allowed for the creation of a nightsoil economy. Nightsoil collection became so popular and efficient, even in urban areas, that it successfully avoided being “replaced” by Western-style water carriage sewers until much later in the twentieth century. By 1908, Tokyo’s urban population had grown so dense in some sections of the city that nightsoil collection became impractical. For these areas, water carriage sewer systems were built, but only to the extent that they needed to be.<sup>54</sup> This trend continued in urban Japan well into the 1920s.<sup>55</sup>

Meiji era officials clearly recognized that private systems of nightsoil collection provided a valuable service to urban and rural populations. It kept cities clean; it fertilized fields; it provided a livelihood for thousands; and helped feed the nation. In conjunction with an efficient water supply system in Tokyo, the preponderance of clean lavatories, and a bureaucracy that recognized public health, the practice of nightsoil

---

<sup>54</sup> Hanley, 20.

<sup>55</sup> Macfarlane, 169.

collection can be seen as part of a moneymaking industry that simultaneously fed Japan and helped keep the nation relatively free of many diseases. Nightsoil collection was not actively replaced by a government that wanted to “copy” every aspect of the West. Meiji officials looked at Western methods of handling sewage critically and decided that their own method met the agricultural and public health needs of the country more efficiently. Indeed, Meiji officials were successful innovators that streamlined Western ideas about hygiene with already existing infrastructures and sewage management techniques.

*Anthony Walsh is a senior History major at Santa Clara University. His paper “The Economics of Excrement: Public Health and Urban Planning in Meiji Japan” has won the Santa Clara University History Department McPhee Prize, given for the best presentation of original historical research and first place in the undergraduate division of the 2009 Northern California Phi Alpha Theta Regional Conference.*