

## The Ripples of Rivalry: The Spread of Modern Medicine from Japan to its Colonies

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**Abstract** Because the medical modernization of Meiji Japan has been identified with progress in Asian societies, Japanese colonial medicine has been viewed as a carefully planned project. Colonial propaganda capitalized on this image in bringing “civilization to colonies.” In postwar scholarship, this view lends credibility to Basalla’s diffusionist model of the spread of Western science. However, a factor in the spread of modern medicine from Japan to its colonies was the academic rivalry between Kitasato’s pupils and Todai faculty between 1899 and 1914. Before medical modernization in Japan had produced sufficient resources to meet domestic need, the rivalry had driven many medical elites to colonies, with a ripple effect that produced a web of colonial medicine largely outside Todai’s influence. In contrast to popular interpretations, this article proposes another possibility for understanding the formation of Japanese colonial medicine—rather than being carefully planned, it emerged from a professional feud.

**中文摘要** 由於日本明治時期的醫學現代化常被視為是東亞社會裡進步的象徵，因此也理所當然地認為其殖民醫學是一組精心設計的規畫。當時的殖民宣傳機制亦以「殖民地之文明開化」為由，強化這樣的印象。戰後學界又根據這樣的論點，呼應巴薩拉(George Basalla)之西方科學傳播的擴散理論。然而，導致現代醫學從日本傳播到其殖民地的原因之一，卻可能導因於1899-1914年間北里柴三郎及弟子們與東京帝大教授間的角力競爭。事實上，早在日本醫學現代化產生足敷國內需求的醫療資源前，這場角力已然將許多醫學精英驅迫到殖民地；因這樣的漣漪效應所生成之殖民醫學網絡關係，實非東大所能完全掌控。相對於過去常見的解釋角度，本文提出了解日本殖民醫學

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形成的另一個可能性：與其說日本殖民醫學是個精心計畫的產物，倒不如當它是個專業衝突下的副產品。

**Keywords** Japan · Colonial medicine · Taiwan · Kitasato Shibasaburo · Tokyo Imperial University (Todai)

Studies of colonial medicine first became popular in Western scholarship in the 1980s. East Asian scholars began publishing widely on the subject in the 1990s, and soon colonial medicine was broadened to include colonization of the mind as well as the body.<sup>1</sup> Medical knowledge and sanitary regulations in Meiji Japan were associated with such political-cultural slogans as “a wealthy nation and a strong army” and “civilization and enlightenment”<sup>2</sup> and thus exerted an important colonizing force in their own right. These new concepts about the nature of colonialism have recently inspired scholars to take a cross-disciplinary approach in engaging the theoretical, historical, and discursive aspects of the subject.

Post-war scholarship on colonial medicine in Taiwan embraced the diffusion model, which implies a surplus of advanced medical resources from the Japanese Empire that overflowed to the colonies. Such interpretation potentially supports the traditional pursuit of social history by exploring Japanese colonial discourses without concern about the quality and quantity of Japanese medicine. Such efforts inevitably end in a contradiction: the success of colonial medicine in—and the implied modernization of—Japan-ruled Taiwan was a well-planned project, and yet brutal colonization was necessary to bring that project about. The contradiction in this model has persisted for years.

This article uses Taiwan as a case study for recasting the debate away from a narrow focus on Japanese policies in Taiwan to the dynamics of Japanese medical and academic networks in modern East Asia, giving much more attention to nuanced issues of personality, individual motives, and contingency in shaping the flow of personnel and policies. In doing so, this article exposes flaws in previous interpretations, which either applied the diffusion model or uncritically accepted Japanese colonial discourse.

## Popular Models Explaining the Spread of Western Medicine

Part of the contradiction between merciful civilization and brutal colonization lies in the very concept of colonial medicine. The popular interpretation of colonial science/medicine mainly focuses on the colonist’s motive to promote modern medicine in

<sup>1</sup>In my opinion, Arnold (1993) should definitely be credited with this development in Asian scholarship.

<sup>2</sup>Lee Jong-Chan has noted that medical Westernization in Meiji Japan was an essential part of consolidated national polity (*kokutai*) and, therefore, “disease was no longer a private misfortune but an offense to public order”; see Lee Jong-Chan, “Modernity of Hygiene in the Meiji Era, 1868–1905: Moralizing Imperial Bodies,” at webpage: <http://www.ihp.sinica.edu.tw/~medicine/ashm/lectures/Lee%20Jong-Chan-ft.pdf>. Similar cases in China are also given by Rogaski (2004).

colonies, ignoring the progress of Western medicine before the mid-twentieth century. In a case study of quinine prophylaxis, Daniel Headrick remarks that “scientific cinchona production was an imperial technology par excellence. Without it European colonialism would have been almost impossible in Africa, and much costlier elsewhere in the tropics (Headrick 1981).” The author in fact emphasizes the effectiveness of quinine as representative of the benefits of Western science. David Arnold points out that some of Headrick’s evidence is rather selective, and that he exaggerates the effectiveness of medical intervention by Westerners (Arnold 1988). Although Arnold demonstrates that Western medicine, as practiced in India, was not simply transferred from West to East but was fashioned in response to local needs and conditions,<sup>3</sup> he remains silent about how appropriate it is to characterize Western medicine as “advanced.”

The spread of “advanced” medicine from Western society to non-Western areas actually follows the famous scenario that George Basalla proposed in 1967. In Basalla’s model, modern science—which would seem to include medicine—diffused from the “Western core” and pooled along the “non-Western periphery,” where the ground was ready to receive it (Basalla 1967). As Basalla describes it, “During ‘phase 1’ the nonscientific society or nation provides a source of European science... ‘Phase 2’ is marked by a period of colonial science, and ‘phase 3’ completes the process of transplantation with a struggle to achieve an independent scientific tradition (or culture).”<sup>4</sup> By Basalla’s definition, colonial medicine should be part of the second and third phases, a critical period of a completed transplantation from the ignorant colonies to an “independent” tradition that remains part of the Western scientific heritage. However, there are only two roles in Basalla’s model: “givers (Westerners) vs. receivers (non-Westerners).” Nor did Japan’s experience of learning Western science and passing it on to its colonies fit this model. Japan’s own process of medical Westernization, based on copying the German concept of *Staatsmedizin*,<sup>5</sup> dated only from 1874, less than thirty years before Japan began to address the medical needs in colonial Taiwan in 1895.<sup>6</sup>

Japanese historians overwhelmingly accepted Basalla’s model, but fitting Japan into it involved adaptation and elaboration. Morris Fraser Low has argued that, despite some exceptions, much of the stimulating work on Japanese science has

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<sup>3</sup>For a detailed discussion, refer to Arnold (1993); or a book review by Li Shang-jen, “Shuping” (book review): Arnold (1999).

<sup>4</sup>George Basalla, “The Spread of Western Science,” p. 611.

<sup>5</sup>The concept of *Staatsmedizin*, which arose in the nineteenth century, was based on the idea that the state should bear the primary responsibility for protecting the public health and had the right to regulate hygiene and sanitation in ways that improve the public good. The strategy was initiated by Prussian medical reformers like the layman J. P. Frank, among others, in response to various social and medical problems, and as a result, public health issues were increasingly addressed by state authorities during the late nineteenth and early twentieth centuries. However, due to political upheaval, state medicine was not fully implemented until the establishment of the German Empire after 1871 (Rosen 1993).

<sup>6</sup>The restored Meiji government in 1867 decided to adopt Western medicine as part of their broader modernization effort. After the Meiji government issued the *Ise* (Medical Regulations) in 1874, the German university-based system gave greater prominence to medical modernization in Meiji Japan (Johnston 1995).

come from outside the country (Low 1989). In exploring popular models of scientific growth in Japanese historiography, Low presents five basic types:<sup>7</sup>

1. “Butterflies and Frigates”: This concept emphasizes the organic growth of modern science after Perry “broke” the Tokugawa heritage and “opened” modern Japan.
2. “East and West”: This model focuses on the difference between “us (Japanese)” and “them (Westerners)” and overemphasizes the exotic nature of Japanese culture.
3. “Teacher and Pupil”: This concept perpetuates the notion of the subordinate, inferior nature of the Japanese and their supposed continued need to learn from the “West.”
4. “Unique Imitator”: This is an indication of how far this parody has gone in modern Japan.
5. “Japan as Model”: This theory asserts that Japan has become an example for the rest of the world, a rising star and victorious case of Westernization in East Asia.

All models end up with a similar conclusion; in Low’s words: “[Post-war] Japanese historians of science have sought to develop Basalla’s model for, as Blussé has noted, the historiography of expansion in Japan has tended to justify Japan’s ‘right’ to expand overseas in Asia.”<sup>8</sup> Low’s argument is sound and powerful. The argument behind the historiography of Japanese modern history of science portrays Japan as a key agent of Western medicine and its colonizing as an essential step in completing the mission to spread “advanced” Western science in Eastern Asia. Such an argument coincides with the old propaganda slogan in colonial Taiwan, “colonization is modernization.”

Without challenging the core hypothesis in Basalla’s original model and its Japanese modifications, the narrative focuses on the colonist’s selfishness. The diffusionist model allowed historians of Taiwanese history to be more comfortable portraying the harmony between merciful modernization and brutal colonization in Japanese colonial medicine. That is, while the strategy could be mean and the policy sometimes inhuman, modern medicine was advanced and abundant enough to support the colonist’s needs (in Basalla’s model) and to meet the needs of the indigenous people (in Arnold’s revision). However, a glance at the development of Japanese colonial medicine shows that the actual history does not match the criteria of these arguments.<sup>9</sup> Other factors need to be taken into consideration, given the Western-centered and colonist-based models of explanation applied by these researchers.

Finally, the diffusionist interpretation is not the paradigm of this article. In fact, Basalla’s simple evolutionary model has been under extensive criticism in science

<sup>7</sup>Morris Fraser Low, “The butterfly and the frigate: social studies of science in Japan,” 323.

<sup>8</sup>Morris Fraser Low, “The butterfly and the frigate: social studies of science in Japan,” 320. And conclusion made by Blussé (1979).

<sup>9</sup>It worth noting that Low’s argument in 1989 remained influential. His article in 1998 still suggests the importance of understanding local networks of social and cultural factors, rather than seeing Western science as a permanent force to “inspire” the development of modern science in East Asia (Low 1998). For his latest works on Japanese science, see Low (2005).

studies during the 1980s. The critical response was inspired in part by the more general challenge of dependency theories and world systems theory to the diffusionist models of modernization and development.<sup>10</sup> For instance, David Wade Chambers rejected Basalla's diffusionism and asked for more case studies of science in non-Western settings as well as more interactive models of scientific development. This study addresses that request by looking into the spread of Japanese modern medicine to its colonies. However, Chambers also warned that "without a more general framework, we sink into a sea of local history."<sup>11</sup> In addition, reviewing contemporary studies of Taiwan's colonial medicine revealed—similar to Paolo Palladino and Michael Worboys' discovery in regard to European colonialism—a significant trend of imperialism shaping "metropolitan scientific institutions and knowledge (Palladino and Worboys 1993)." This article thus looks beyond old colonial propaganda, which matched Basalla's model and perfectly fit contemporary arguments about Taiwan's colonial medicine, giving up the center-periphery model and proposing instead a study of the traffic of professional ideas and institutions. With Chambers's warning in mind, only major themes will be used to frame the argument. Meanwhile, by reviewing the scenarios Basalla omitted, this study reveals a crack in the diffusionist model and a different story of how the web of Japanese colonial medicine was constructed.

### **The Ripple Effect of an Academic Rivalry in Japan**

The spread of modern medicine from Japan to its colonies was shaped by quarrels and frictions in academic circles in Japan, which began with the rivalry between the pupils of Kitasato Shibasaburô (1852–1931) and the medical faculty of Tokyo Imperial University. Without the feud over the jurisdiction of the Institute of Infectious Disease (Densenbyô Kenkyûjo) between 1899 and 1914, a whole generation of elite Japanese doctors might not have left Japan for its colonies.

#### **The Rivalry**

Modern medicine, mainly German medicine, was established at Tokyo Imperial University (Tôdai) with the support of German bioscientists such as the famous E. Baelz (1849–1913), who taught there from 1876 to 1902 and became the leading figure in introducing modern medicine to Japan. With the support of Baelz and his German colleagues, the first generation of Japanese medical laboratorists appeared at Tôdai after Iijima Isao (1865–1921) returned from Germany. Many Japanese students worked in Baelz's laboratory, including Gotô Seitarô (1876–1935), Miyajima Mikinosuke (1872–1944), Yoshida Sadao (1873–1964), Koizumi Makoto (1882–1952), and Kobayashi Harujirô (1892–1964; Morishita 1961).

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<sup>10</sup>For example, Frank (1969), and Wallerstein (1974). Many critiques, however, contained a similar pattern of center-periphery and the diffusionist models of economy. For the review of these critiques, refer to Joseph (1998).

<sup>11</sup>Chambers (1987). Also Chambers and Gillespie (2000).

In 1892, Tôdai's position as the center of Japanese modern medicine was challenged by Kitasato Shibasaburô. Kitasato had been a pupil of Robert Koch in Berlin from 1884 to 1891. The most important bacteriologist in Japan, Kitasato developed vaccines against rabies and diphtheria and discovered the bacillus that causes bubonic plague (Takeshi 1992a). Kitasato refused to work in a university, especially Tôdai. Nagayo Sensai and Fukuzawa Yukichi proposed the establishment of a research institute for Kitasato, and in 1892, the Private Institute of Infectious Disease (Shiritsu Densenbyô Kenkyûjo) was set up as a private body, since the government could not afford to support such an institute. However, in 1893, Kitasato's supporters asked the state to take over the institute as a part of the policy of *kokuyûka* (nationalization). Many medical bureaucrats, including Gotô Shinpei, the so-called founder of colonial medicine in Taiwan, and the Chancellor of Tokyo



Aoyama Tanemichi (photo by Masaru Ogawa)

Imperial University Aoyama Tanemichi, believed that the take-over by the state was the only way to implement *Staatsmedizin* (state medicine) and that private support would weaken the institute's development. Despite Kitasato's opposition, the Private Institute of Infectious Disease was finally taken over by the state; in 1899, it was placed under the supervision of the Ministry of the Interior, which transferred it to the Ministry of Education in 1914 and renamed National Institute of Infectious Disease.

In 1916, without Kitasato being consulted, the institute was put under the administration of Tokyo Imperial University (Takeshi 1989). It was rumored that the transfer resulted from a conspiracy generated by Aoyama Tanemichi to harm Kitasato's reputation by claiming his incapability (Kitasato Kenkyûjo 1932). Kitasato and his colleagues resigned and established their own institute, the Kitasato Institute. Because of the help they received from Kitajima Taichi (the Chancellor of Keio University), Kitasato and the scientists of his institute went on to establish the Medical School of Keio University in 1916, and Kitasato became its first dean (Keijo Igaku Senmon Gakkô 1931). After the transfer, Aoyama Tanemichi, also a professor at the Medical School of Tokyo Imperial University, became the Deputy Chief of the Institute of Infectious Disease. A new generation of Japanese bacteriologists whose educational background was from Tôdai—Yokote Chiyonosuke, Hayashi Haruo, and Nagayo Matarô—composed Aoyama's staff at the institute (Tokyo daigaku ikagaku kenkyûjo hyakushunen kinen iinkai 1992).

The transfer of the Institute of Infectious Disease to Tôdai was actually a result of various academic conflicts in Meiji Japan. The domination of Tôdai and other imperial universities had been under serious attack. In 1902, Tokutomi Sohô, a supporter of Kitasato, criticized the atmosphere at Tôdai as “suffocating” and warned that “disputes between the authorities and learned circles opposed to feudalism” would continue if the existing academic power structure remained (Tokutomi 1892). The key issue was the lack of freedom of discussion in medical circles. Kitasato was the most influential critic of the domination of the Imperial University and its lack of the spirit of free inquiry. As early as 1892, he cited many alleged misbehaviors as his reason for declining an appointment and even claimed that the Tôdai faculty was unable to carry on “true scientific discussion (Bartholomew 1989).” In addition, the discovery of bacteria and the interpretation of pathological causation created intense competition between Kitasato's institute and Tôdai. A debate over Kitasato's report of plague in Hong Kong (Maruyama 1955) further heated up the rivalry between Kitasato and Aoyama. The result damaged Kitasato's reputation and gave Aoyama the opening to take over the Institute of Infectious Disease. A dispute over cholera in 1902 with another Tôdai medical faculty member, Ôgata Masanori, actually began in the major dailies and then moved to scientific journals and meetings, becoming even more conspicuous when Shibaya of Kitasato institute jumped into the debate. In the debate over the Takeuchi bacillus, Shibayama Gorôzu and Shiga Kiyoshi of the Kitasato Institute strongly objected to the discovery by Ishihara Kitarô of Ôgata's team by claiming problems of its cultivation process. A similar debate extended to endemic tsutsugamushi disease and lasted until the controversy over influenza in 1918 (Maruyama 1961; Ôgata 1940a). Obviously, the competition was no longer a personal feud between Kitasato and Aoyama, but an institutional rivalry between the whole team of Kitasato's pupils and the Tôdai group.



伊原 千三郎 画

*I. Kitasato*

By Courtesy of The Kitasato Institute.



## The Ripples

The conflict between the Kitasato Institute and the Institute of Infectious Disease of Tokyo Imperial University persisted<sup>12</sup> and affected the structure of Japanese colonial medicine. Many laboratorists from the Kitasato Institute went abroad to study, influenced by their close connection with Gotô Shinpei. The transfer of the former National Institute of Infectious Disease to the medical school of Tôdai could have been a disaster for Kitasato and his pupils, but with Gotô Shinpei's new appointment in Taiwan, the incident instead turned into a wonderful gain for the colony. During the 1910s, Takagi Tomoe invited former researchers on the Kitasato team to conduct important studies in Taiwan. Since Japan was still short in medical resources and manpower in the 1900s (Takenaka 1958), the friction in Japan between the years 1899 and 1914 actually drove out many of Kitasato's brilliant pupils and brought unanticipated support for expanding Japanese colonial medicine in Taiwan: Japan's loss was Taiwan's gain.

### *Takagi Tomoe to Taiwan: The First Wave from the Ripple*

Takagi Tomoe (1885–1943) was unquestionably a member of the medical elite in Meiji Japan. Despite Takagi's established reputation, the politics of academia would change his career. In the 1900s, the political pressure associated with the merging of the Private Institute of Infectious Disease into the government-run Tokyo Imperial University caused many well-known researchers to resign, including Takagi. Takagi subsequently received Gotô's full authorization to design the medical services and public health administration in colonial Taiwan,<sup>13</sup> and his service to medical reforms in colonial Taiwan was the first ripple from the academic feud that spread Japanese modern medicine to its colonies.

Takagi Tomoe graduated from the Medical College of Tokyo Imperial University in 1885. After graduation, he took a position at Fukui Hospital and, when Gotô Shinpei was trapped in a lawsuit, Takagi was asked by Gotô to replace him. Takagi conducted studies at the Kitasato Institute between 1893 and 1897 and because of his reputation in bacteriology won the chance to study at the Koch Institute in Germany in 1897. However, upon his return to Japan in 1900, the Kitasato Institute was facing the controversial transfer, and Gotô Shinpei had already taken the official position in Taiwan in 1898. After resigning from the Kitasato Institute to take a teaching position at Keio University in late 1900, Takagi continued working on epidemic prevention in Japan and also began paying attention to Taiwan since Gotô worked there. For his contribution to medicine, Takagi was awarded a doctoral degree in 1913. Takagi worked with the Central Sanitary Committee in Taiwan and later for the Electric Power Company, from which he retired in 1929, upon Gotô Shinpei's death.<sup>14</sup>

<sup>12</sup>Kitasato kenkyûjo ed., *Kitasato Shibasaburô den*, pp. 175–181.

<sup>13</sup>Tsurumi Tasukuho, *Gotô Shinpei*, p. 361.

<sup>14</sup>For Takagi Tomoe's career, see Du (1957).



高木友枝 Takagi Tomoe (photo by Lin Pin-Yen)

Gotô and Takagi's long friendship was essential in drawing Takagi away from Keio University to Taiwan. Already in 1895, after the Sino-Japanese war, Gotô and Takagi were jointly in charge of the quarantine station in Osaka. Takagi won great acclaim with the success of his mass vaccination program against cholera and plague in Osaka and was rewarded with the post of Deputy Chief of the National Serum Institute. When General Kodama was appointed governor of colonial Taiwan in 1897, Gotô was one of the first invited to serve as Deputy Chief of Civil Affairs (Minsei Chokan).<sup>15</sup> Five years later, in 1902, because of the ongoing conflict between the Kitasato Institute and Tokyo Imperial University, Gotô seized the opportunity to invite Takagi to resign from his position at Keio University to become the Consultant on Sanitary Affairs (Eisei komon) and assist in Taiwan's medical reforms. Takagi accepted the invitation from Gotô to serve as Chancellor of the Hospital of the Governor-General Government in Taipei and principal of the medical school in 1902. Takagi was also asked to take charge of epidemic prevention, including plague prevention and the colony's anti-malaria campaign.<sup>16</sup>

The belief in the adaptability of physical constitutions was fundamental in that it derived from popular notions of environmental influence,<sup>17</sup> which reached a high stage of sophistication in the hygienic studies produced during the Meiji period (Hino 1988). Despite Todai's goals of increasing medical facilities in Taiwan, Takagi and his colleagues set city planning as their first priority as a way of increasing the "healthy" zone for Japanese colonizers.<sup>18</sup> For medical professionals in Taiwan, the German concept of public hygiene became a major guideline in planning.<sup>19</sup> Gotô recruited people outside of the Tôdai group to execute his medical reforms and relied on military surgeons, who had hand-on experience. In a way, colonial Taiwan served as an experimental base for Takagi, where he could try out various approaches to public health.

Takagi devised new sanitary systems and medical institutions, which Gotô had built by 1906. As early as 1902, to reduce the threat of plague, the colonial government proposed a special institute staffed with medical experts. In 1903, the Ministry of Interior approved a plan to establish the Temporary Bureau of Prevention (TBP; Rinji Bôekikyoku). The TBP, a joint institute with the Sanitary Police Department, focused exclusively on anti-epidemic efforts and operated with Takagi as its first chairman. Takagi also helped the government organize the Temporary Committee on Prevention (Rinji Bôekikai) in his role as coordinator between the

<sup>15</sup>On Gotô's cooperation with General Kodama, see Tsurumi (1985). And Nagaki (1995).

<sup>16</sup>Gotô proudly claimed that successful rule in colonial Taiwan depended heavily on various talents from the former Private Institute of Infectious Disease, among them Takagi Tomoe, who was expected to totally reform health conditions and medical services. For this reference and Takagi's early activities in Taiwan, see Nagagi Daiizô, *Kitasato Shibasaburô to sono ichimon*, p. 245.

<sup>17</sup>Nakahashi Tokugoro, "Shokumin seisaku to eisei (The success of colonization and hygiene)," in *Taiwan taikan*, pp. 248–251.

<sup>18</sup>"Eisei kogoto (Sanitary mobilization)," *Taiwan shinpo* no. 54 (1896).

<sup>19</sup>The term used was *koso eisei*, the same Japanese term used to translate "public health" after 1935. This term meant "public hygiene" and indicated the hygienic condition of urban areas. Porter and Porter (1988). And Iguchi (1936).

TBP and the police department.<sup>20</sup> In the years that followed, Takagi designed a plague and cholera control program (1903–18) and pioneered an anti-malaria campaign in 1910.

With the infrastructural basis of clinical medicine left by Gotô, Takagi extended the whole framework of medical services and sanitary works to keep them in line with trends in Japan. In 1907, he proposed the establishment of the Research Institute of the Taiwan Colonial Government (Taiwan Sôtokufu Kenkyûjo, or RICG) as the center for laboratory medicine (Oda 1995). To supplement the insufficient medical manpower and replace traditional practitioners, Takagi twice called on the medical school (*Igaku Senmongakkô*) to provide annually at least 65 vocational-level graduates of the medical college (Taihoku igakkô 1930). Initially begun in 1905, this plan was not fully implemented until 1916 due to financial problems and Taiwanese mistrust of Japanese rule. Because of Takagi's efforts, a miniature Japanese *Staatsmedizin* appeared in colonial Taiwan, complete with a research institute to satisfy the demands of laboratory medicine plus a medical school to educate practitioners in clinical medicine. Takagi's contributions to improving public health in colonial Taiwan won him the nickname "Governor of Hygiene" (Eisei Sôtoku; Iijima 2005).

#### *Kitasato's Pupils in Korea*

Takagi's work was not unique in the Japanese colonies; similar processes appeared in Korea and later in Manchuria. The ripple from the rivalry in Japan did not reach Korea until 1920, 10 years after it was officially colonized. Despite the declaration of the Japanese, colonization was already lagging behind expectations in 1910, and more importantly, there was no one in Korea to play the role Gotô Shinpei played in Taiwan. Shiga Kiyoshi, whose role was similar to that of Takagi Tomoe, was appointed to the dean of the university in Seoul in the 1930s. In addition, the ripple effect in Japan-ruled Korea was offset by American missionaries and the Chosun dynasty, which had promoted Western medicine since the late nineteenth century along with the practice of traditional medicine.

In colonial Korea, Shiga Kiyoshi (1870–1957) and Kobayashi Harujirô (1884–1969), two former members of Kitasato's team, were vital in constructing public health infrastructures and medical services. Shiga Kiyoshi, famous for discovering the dysentery virus (*Shigella*) in 1897, had served as chief of the Parasite Studies Department of the Private Institute of Infectious Disease since 1901. To be away from the controversy with Tôdai, Shiga worked with Paul Ehrlich in Germany until 1905. After his return to Japan, Shiga resigned from the Institute to follow Kitasato at Keio University in 1920 (Shiga 1966). In 1920, Shiga became dean of Keijô Medical College in Seoul (*Keijô Igaku senmon gakkô*, which became Keijô Imperial University in 1929 and Seoul National University in 1945)—which was essential for

<sup>20</sup>Daiichi keisatsu kikan no kôsei (1938). To learn more about the establishment of the Temporary Committee of Prevention, refer to "Keisatsu honsho oku rinji hôekika (The cooperation of the Temporary Committee on Prevention to the police department)" and "Rinji hôe kien kaikitai (Setting the Temporary Committee on Prevention)," in *Sôtokufu fupo kunrei 188 10<sup>th</sup> of October Meiji 36* (1903).



Shiga Kiyoshi 志賀潔

Source: Katahira Elementary School, Sendai City, Japan 仙台市片平丁小学校

promoting Kitasato's ideas of Japanese modern medicine in Korea. From 1929 until 1931, Shiga was the president of Keijo Imperial University and a senior medical advisor to the Japanese Governor-General of Korea (Kitasato kenkyujyo 1966).

Kobayashi Harujirô's career was similar to Shiga's, but he retained his research position until Tôdai officially took over the Institute of Infectious Disease in 1916. He had served at the Kitasato Institute until he moved to Korea in 1916 and took a professorship at Keijô Medical College, where he pursued research until 1945. After carefully studying the careers of Shiga Kiyoshi and Kobayashi Harujirô in colonial

Korea, Iijima Wataru characterized Korea as a laboratory of Japanese colonial medicine led by former Kitasato pupils.<sup>21</sup>

While the discourse of “colonial modernity” haunts contemporary Korean scholarship in the form of Japanese colonial propaganda about “civilization,”<sup>22</sup> some Korean scholars insist that “the structural transformation of Korean medicine from traditional medicine to Western medicine corresponded not only to the growth in Japanese colonial power but also to the medical activism of American missionaries in Korea (Lee and Kee 1996).” It seems that the ripple effect occurred only between Kitasato’s pupils in Korea and their counterparts in Japan. Generally speaking, Japanese colonial medicine in Korea had to face difficult competition from medical Westernization introduced by American missionaries and the reforms of the Chosun dynasty in the late nineteenth and early twentieth centuries.<sup>23</sup> Furthermore, a dual system of medical services—Western vs oriental/Korean—had long existed, as boldly revealed in a 1904 petition, as Korean historians Lee and Kee’s translation: “Despite that the climate of our country is different from that of foreign countries and there is a great deal of diseases unknown to foreign countries, medical school provides only curriculum for Western internal medicine and surgery... Thus we hope our government would establish the *Daehan* medical school that would include Oriental medicine and Western medicine...”<sup>24</sup> Obviously, Japanese modern medicine, a latecomer compared with American medicine and Chosun reform in Korea, still had to deal with a much stronger tradition of *Tongi* (oriental medicine), which had been rooted in Korean society for thousands of years.

### *To Manchuria*

Compared to the ripple effects experienced in Taiwan and Korea directly from the rivalry in Japan, the impact in Manchuria was indirect, via Gotô Shinpei’s being transferred to Manchuria in 1906. With full confidence based on his experience in Taiwan and using public health infrastructures developed there, Gotô soon created a reform strategy to improve public health and medical education in Manchuria. The Japanese government in Guangdong Leased Territory, mainly in Dairen, established public health and quarantine systems and enacted public health regulations based on or identical to those in Taiwan.<sup>25</sup> For example, the Manchurian public health association, Eisei Kumiai, was based on the Chinese local organization, *Hui*, and the blueprint from the Taiwanese model based on the local *hokô* system (Iijima 2000).

Medical education in Manchuria was established much later than in Taiwan but grew faster after Gotô invited former members of Kitasato’s team there. The Medical College

<sup>21</sup>Iijima Wataru, *Mararia to teikoku*, pp. 136–138.

<sup>22</sup>For a brief discussion of “colonial modernity” in Korea, refer to the text on this website: [http://js\\_source/adframe07.html](http://js_source/adframe07.html).

<sup>23</sup>That is the main argument in Lee Jong-Chan, Dr. PH., DDS and Kee Chang-Duk, DDS., DMSc, “The Rise of Western Medicine and the Decline of Traditional Medicine in Korea, 1876–1910,” 1–9.

<sup>24</sup>*Hwangshung Newspaper*: no 1631 (1904), from Lee Jong-Chan, Dr. PH., DDS and Kee Chang-Duk, DDS., DMSc, “The Rise of Western Medicine and the Decline of Traditional Medicine in Korea, 1876–1910,” 7 and f 36.

<sup>25</sup>For details, refer to Perrins (2005).

of South Manchuria was established at Hengtian by the South Manchurian Railway Company in 1911. The College played an essential role in many anti-epidemic campaigns. A former researcher at the Private Institute of Infectious Disease and professor of the Medical College of South Manchuria, Tsurumi Sanzô, became the chief of the Public Health Department of the South Manchurian Railway Company when the Japanese government of the Guangdong Leased Territory organized the Research Committee for Local and Infectious Disease, similar to that of the same name in colonial Taiwan.<sup>26</sup> Although Gotô left Manchuria in 1920 for a new position in Tokyo, the establishment of modern medical services continued since the reputation of the College had been well established. In 1922, the Medical College of South Manchuria was upgraded to the Manchuria Medical College, which housed important scientists and was a major resource for public health policies in the Manchukuo period after 1931.<sup>27</sup>

Because the South Manchuria Railway Company was so influential in manipulating politics in Manchuria, developing health programs within the Company was much more important than expanding medical education. The establishment of the Institute for Public Health of the South Manchurian Railway Company (Mantetsu Eisei Kenkyûjo) in 1926 was essential. The chief of this institute was Kanai Shôji, who had graduated from Tokyo Imperial University and joined the Institute of Infectious Disease of Tôdai in 1918. Although Kanai worked at Tôdai after the transfer of the Institute of Infectious Disease in 1916, he was listed as Kitasato's pupil since 1892<sup>28</sup> and accepted the invitation to be the chief of Mantetsu Eisei Kenkyûjo. Under the influence of Kanai, scientists recruited from the Kitasato Institute formed a reliable medical service team dealing with various public health problems in Manchuria. Because of their great similarity, the Institute for Public Health of the South Manchurian Railway Company was seen as an overseas branch of the Kitasato Institute in Japan (Takeshi 1992b). Interestingly enough, probably because of the chaotic situation in Manchuria, the work of Mantetsu Eisei Kenkyûjo has been overlooked in contemporary Chinese scholarship, and the achievements of Kanai Shôji are recognized as merely political rather than medical<sup>29</sup>—a major distortion created by local politics in Manchuria to veil the ripple effect.

### *To Shanghai: The Second Wave from the Ripple*

The first wave of the ripple from the rivalry between Kitasato's pupils and the medical faculty of Tôdai before the 1920s created a colonial network of learning modern medicine in the sphere of the Japanese Empire. Within this network, Taiwan was not only the first colony to benefit from the ripple effect, but also an outpost pushing the ripple further to China and Southeast Asia in the late-1930s. The

<sup>26</sup>Iijima Wataru, *Pesuto to kindai Chugoku*, pp. 176–186.

<sup>27</sup>Iijima Wataru, *Mararia to teikoku*, pp. 168–171.

<sup>28</sup>Refer to Nagaki Daiizô, *Kitasato Shibasaburô to sono ichimon*, chapter 8. And official website of Kitasato University on <http://www.kitasato-u.ac.jp/gakuen/gakuso.html>.

<sup>29</sup>For a case, refer to Chen (1989). The author does not imply that the mission of Tôdai could be more political than that carried out by the former Kitasato Institute before 1916. However, the role of Kanai Shôji in the Japanese rule of Manchuria was indeed very controversial and also to Mongolia during the 1930s. For a brief description of Kanai Shôji's career in 1930s China, see Oedashiji hensan iinkai (2003).

development in 1930s Shanghai reflects the second wave from the ripple—it was generated by medical professionals from colonial Taiwan.

In the 1910s, as Takagi was initiating public health reform in Taiwan, a medical organization in Shanghai, the Hakuaiikai (Boaihui in Chinese), which was supported by the Japanese colonial government in Taiwan, established several hospitals in Fujian and Guangdong provinces, as well as in North Borneo (Taiwan Sôtokufu 1936). The purpose of the Hakuaiikai-affiliated hospitals was to compete with the increasing activities of the Rockefeller Foundation in China.<sup>30</sup> The Shanghai Institute of Natural Science was established in 1931, with Yokote Chiyonosuke, a professor of the Institute of Infectious Disease of Tokyo Imperial University, appointed Deputy President. The original purpose of this institute was to develop cooperation between Japanese and Chinese scientists with the support of the Ministry of Foreign Affairs. The institute organized a research unit for medical science that included infectious and parasitic disease studies—united under the influence of the Central Research Institute (Chûô kenkûjyo) in Taiwan (Kato 1997). Institutional support and academic friendship were key issues linking Kitasato's pupils in Taiwan to the Shanghai Institute.

Because of its close relationship with the colonial government in Taiwan, the Shanghai Institute became a shelter for Japanese physicians who were seen as socialists or sympathizers of social medicine during the left-wing movement in the 1920s.<sup>31</sup> Among those physicians, Komiya Yoshitaka (1900–1976), Soda Takemune (1902–1984), and other leftist activists organized the Research Committee for Social Medicine at Tokyo Imperial University. After Komiya and Soda were arrested for “disturbing social order” in 1930, Komiya moved to Shanghai as a scientist at the Institute of Natural Science (Komiya 1969), and Soda worked for the Central Research Institute in Taiwan due to his friendship with former members of Kitasato's team, winning a professorship at Taihoku Imperial University in 1940.<sup>32</sup> Komiya's relation to Kitasato's team can be linked to Dôjinkai, a medical society that Kitasato and other Japanese doctors such as Takagi Tomoe organized in 1902 to promote modern medicine in Japan's neighboring counties (Dinlei 2004). In addition, Soda was close to Komiya through their shared interest in Kunisaki Teidô's theory of social medicine (Shakai eisei) in the early 1920s (Kawakami 1977).

After fleeing to Shanghai and Taiwan and sharing an interest in tropical medicine that had been promoted by Kitasato, Komiya and Soda both studied malaria and other parasitic diseases and published articles in the *Journal of the Shanghai Institute of Natural Sciences* (Yamane 1997). In an article in *Toa igaku* (*Journal of Eastern Medicine*),<sup>33</sup> of which Komiya was a long-term editor, he described anti-anopheles mosquito measures that obviously had been inspired by anti-malarial strategies in colonial Taiwan (Komiya 1940). In 1934, Komiya attended the Nanjing conference of the Far Eastern Association of Tropical Medicine, and Soda attended as the

<sup>30</sup>Iijima Wataru, *Mararia to teikoku*, pp. 122–123.

<sup>31</sup>For the leftist movement's promotion of social medicine in Japan, refer to Kawakami and Kanbayashi (1970).

<sup>32</sup>Iijima Wataru, *Mararia to teikoku*, pp. 148–149, 165, and 187–188.

<sup>33</sup>The journal was published by the Shanghai Union Medical Association, see *Toa igaku*, no.1 (1940): 2, 11, and 139.



representative of the colonial government in Taiwan. Both scientists cited each other's works for inspiration and discussion.<sup>34</sup> The friendship between Komiya and Soda revealed the close linkage between institutes in Taiwan and Shanghai. Meanwhile, the relationship extended the influence of former Kitasato's pupils, via the research institute in Taiwan, to Japanese-occupied areas during the 1930s.

Such relationships were significant in the Shanghai Institute's full support for the investigation and research teams sent to China by the Taiwanese government. Accepting the mission of Hakuai and support from the Shanghai Institute, Shimojyô Kumaichi, the chief researcher of Taiwan's Central Research Institute, was sent to South China to study the prevalence of infectious diseases, including malaria (Shimojyô 1940). Shimojyô's work was not an isolated case but a sign of the cooperative network between the two colonial research institutes. In another case, Ôtsuru Masamitsu (1916–), a medical graduate from Taihoku Imperial University, joined the Army and with support from the Shanghai Institute, studied malaria in Guangzhou and after World War II became a leading scholar in the field of infectious and parasite studies.<sup>35</sup> If we compare the development of colonial medicine in Taiwan and Manchuria, the Shanghai Institute of Natural Science was like an extension of the Central Research Institute in Taiwan, while the Institute for Public Health of the South Manchurian Railway Company was like a twin of the Institute of Infectious Disease in Japan.

### Rethinking the Models in the Light of Case Studies from Colonial Taiwan

To a supporter of the diffusionist model, a common scenario of developing colonial medicine might be described as follows: The colonizing powers took advantage of technologies to extend their geographic and political control and to maximize profits through the expansion of plantations, extractive industries, and new markets. In this process, Western science simultaneously spread to colonies, eventually upgrading the level of civilization and science of colonial society. In this context, medical services were intended, first, to preserve the health of colonizers, including colonial officials, troops, and developers; second, to limit illness among workers, who, depending on colonial economic policy, might be either indigenous laborers or immigrants; and third, to prevent the spread of epidemics that would threaten individual health and social order among the colonized population. However, the motive and sequence of building Japanese colonial medicine before the 1940s does not entirely match the model from Western scholarship.

#### The Incompleteness of Basalla's Model

Basalla's model is correct only if we accept exclusively the story promulgated by the colonial government in Taiwan. In fact, the spread of modern medicine from Japan to her colonies was an accident in part caused by academic friction in Japan that resulted in medical scientists pursuing their work elsewhere in the Empire. Basalla's

<sup>34</sup>Wataru Iijima, *Mararia to teikoku*, p. 165.

<sup>35</sup>Iijima Wataru, *Mararia to teikoku*, pp. 212–213.

model failed to take into account the political and social forces that brought about the diffusion of modern medicine—forces that were kept in balance, maintaining the status of the main center (Todai) in Japan's academic hierarchy.

Although at first glance the development of modern medicine in colonial Taiwan might appear to conform to Basalla's model, in fact the process was not quite so simple. The term "civilization" often appeared in official propaganda as a synonym for colonization, consistent with Basalla's model of the spread of Western science. According to that model, Japan's colonial actions would be interpreted as extending Western civilization, including modern medicine, to "ignorant" colonial society.<sup>36</sup> However, the impetus for transmitting Westernized medicine from Japan to the colony was not mere enthusiasm for extending knowledge and improved health practices to the imperial periphery but the result of an academic rivalry in Japan. In the process of colonization bringing civilization to the colonies, Basalla argued, scientists coming from societies with established fields of science, mainly European countries, in effect "colonized" science in new locations. Then, given certain necessary cultural, social, and economic developments, modern science took root and prospered in the formerly pre-scientific societies. Basalla argued that "resistance to science on the basis of philosophical and religious beliefs must be overcome and replaced by positive encouragement of scientific research. Such resistance... must be eradicated when science seeks a broad base of support at home."<sup>37</sup> To that argument, colonial medicine was not only an advanced scientific surplus of the Empire, but a route to colonial modernity.

A vital element of support for Basalla's model is the abundance of medical resources in the Empire. In the early years of colonization, medical Westernization in Japan was still in its infancy and lacked the medical manpower and funding to overcome the harsh conditions in Taiwan at that time. Japan had 40,215 qualified doctors by the end of the 1890s, of whom only 21.28% were trained in Western medicine, to serve its population of about forty million,<sup>38</sup> and Taiwan already had a population of 2.5 million by 1894 with less than 5% of medical practitioners were qualified doctors (Chen 1979). Meanwhile, with the colonial government facing the threat of military resistance and financial difficulties, the overwhelmingly adverse natural conditions in Taiwan before the 1900s would hardly have been attractive to qualified Japanese doctors. Thus, Mori Ôgai's pessimism about improving Taiwan's public health conditions was understandable,<sup>39</sup> and Gotô Shinpei's suggestions for

<sup>36</sup>Refer to the citation of L. Blussé, in Morris Fraser Low, "The butterfly and the frigate: social studies of science in Japan," 320.

<sup>37</sup>George Basalla, "The spread of Western science," 617.

<sup>38</sup>Numbers refer to Naikaku Tôkekyoku (1930).

<sup>39</sup>Miyamoto (1979). Mori Ôgai was born as Mori Rintarô in Iwami province (today Shimane prefecture). In 1874, he entered the government medical school (the predecessor of Tokyo Imperial University's Medical School), and graduated in 1881 at the age of 19. After graduation, Mori enlisted a medical officer and hoped to specialize in military medicine for Japanese Army. To learn more modern medicine, Mori was sent by the Army to study in Germany between 1884 and 1888. Upon his return to Japan, he assumed a high rank as a medical doctor in the Japanese army, and pushed for a more scientific approach to medical research. At the start of the Sino-Japanese War in 1895, Mori was sent to Manchuria and the following year to Taiwan. In 1902, he was reassigned to Tokyo. In 1907, Mori was promoted to Army Surgeon-General, the highest post within the Japanese medical corps. On his retirement in 1916 he was appointed director of the Imperial Museum. For his career, refer to Nakamura (1992)

improvements before his assignment in 1902 appeared at best impractical.<sup>40</sup> Basically, by 1895 Japan had not yet reached the “established” stage in regard to modern Western medicine that would correspond to Basalla’s model. Therefore, the establishment of colonial medicine in Taiwan was in no way an inevitable result of receiving an overflow of medical resources from Japan.

The whole system of medical service in colonial Taiwan was in fact neither built on a surplus of medical resources from Japan nor based on purely scientific interests directed toward overcoming medical difficulties and diseases in the tropics. Rather, colonial medicine in Taiwan owed its origins to the ripple effect from an academic rivalry in Japan between Kitasato’s team and Tokyo Imperial University. The transfer of the Private Institute of Infectious Disease to Tôdai in the decades before 1916 created great tension between Kitasato’s pupils and the Tôdai medical faculty. The first generation of Japanese laboratorists left for the colonies to avoid the tension and attracted many of the next generation of Japanese doctors to work there as well. Although Gotô Shinpei may not have been an excellent physician by contemporary standards, he was a key figure in the process of spreading modern medicine from Japan to its colonies. One of Gotô’s main contributions to medical services in colonial Taiwan was that he took advantage of the disaffection of Kitasato’s talented experts in modern Japanese medicine and recruited them for the colony.

#### The “Teacher–Pupil” Relationship: A Norm of Japanese Medical Circles

Compared to other Japanese-occupied areas, the teacher–pupil relationship between Japanese and Taiwanese was very significant in the medical professions during the colonial period.<sup>41</sup> The teacher–pupil relationship has been appreciated as a moral value throughout Chinese Confucianism, which influenced other cultures in East Asia. Because various *li* (rituals and social regulations) symbolically draw on the essence of the teacher–pupil relationship, it serves as a model not only for the father–son relationship but also for the proper way to manage a country. That is, the teacher–pupil relationship in East Asian culture is not only a social relation, but also a basic norm for proper behavior (Lai 1995). Taking advantage of the metaphor of education implied in the teacher–pupil relationship, Japanese officials soon converted education to colonization, partly through manipulation in government propaganda. By taking medical modernity for granted, Taiwanese doctors showed a different attitude toward Japanese colonists and teachers. Therefore, despite Taiwanese doctors’ intention to retain their identification with the colonized and to avoid being viewed as a “colonial agency,” as Miriam Ming-cheng Lo claimed,<sup>42</sup> they barely challenged the teacher–pupil relationship set by the Japanese colonizer

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<sup>40</sup>For example, Gotô was thinking the sanitary police force and public dispensary system were good ways of ensuring the cleanliness of the immediate environment for Japanese residents without considering the financial burden and manpower shortage. See Tong (2004).

<sup>41</sup>The teacher–pupil model is another pattern favored by historians of science to explain the “long-term, one-way traffic in knowledge...from ‘West’ to ‘East’.” See Morris Fraser Low, “The butterfly and the frigate: social studies of science in Japan,” 328–329. However, Low not only sees it as a model of interpretation but as a social norm with great influence on East Asian societies.

<sup>42</sup>For her illustration of the argument of Taiwanese doctors’ self-identity as the colonized, see Lo (2002).

and even passed that hierarchical relationship on as a norm to other professionals, nurses, midwives, and pharmacists.

The pupils' acceptance of the teachers' authority in Taiwanese medical circles could have arisen from traditional Asian values rather than from insights related to colonization. As in the case of Japanese biologists rejecting the Nazis' racial policies in the 1930s, a bacteriologist, Ôgata Norio, boldly expressed his reluctance to betray his Jewish teacher to follow Hitler's *Rassenhygiene* policy in Japan. He did not deny the scientific evidence of *Rassenhygiene* but emphasized his reluctance to see his Jewish teacher as being of an inferior race (Ôgata 1940b). To Ôgata, his response to the influential Nazi *Rassenhygiene* in the late 1930s meant that the norm of the teacher–pupil relationship in Japanese culture could be more important than “truth” in science. As pupils of Japanese teachers in the medical professions, Taiwanese doctors exhibited a similar attitude: They often criticized the ruthlessness of Japanese colonization but at the same time appreciated their Japanese teachers for bringing modern medicine and, possibly, a new civilization to Taiwan.<sup>43</sup> To these Taiwanese doctors and pupils, brutal colonialists and decorous teachers shared the same ethnicity, and their roles in politics and education could be judged separately.

In addition, the fact that Tôdai edged out Kitasato's team may have created sympathy among medical students in Taiwan for the Japanese experts/teachers who came to the colony. Sometimes the sympathy was mutual. As an exiled medical elite, Takagi Tomoe often showed his sympathy to those who had been treated badly by the colonial ruler. On one occasion when speaking about the assimilation of the alumni of Taihoku Medical College, Takagi remarked, “The Japanese and Taiwanese should cooperate on the basis of thought (*Shisô no kiso*; Takagi 1957).” Using the metaphor of combining hydrogen and oxygen to make a powerful material, water, he said that assimilation would “make Japan line up with other first-class powers” after adding in educated Taiwanese.<sup>44</sup> Takagi's expectation of integrating Taiwanese and Japanese thought via modern education was totally different from that of his Japanese colleagues, including Gotô Shinpei himself. Gotô had described colonization in Taiwan with a famous metaphor: “It is impossible to transplant a sea bream's eyes to a flounder...they have to grow as they should because of biological reasons...That is the same key rule in politics...It is equally important that we should not plug civilization into a barbarian area [i.e., Taiwan] (Shinobu 1941).” Although Gotô's biographer Kitaoka Shinichi attempted to portray Gotô as merely a “politician with a biological mind” in regard to this metaphor,<sup>45</sup> the metaphor of bream and flounder was, in fact, racist, bearing notable similarity to a statement by the German racist Alfred Ploetz (1860–1940): “The reason that human beings differ from chimpanzees is biological heritage...modern education is of no use in trying to alter biological nature...there is thus no way to train all kinds of dogs to be police dogs, watchdogs, or hunting dogs...they are already determined by hereditary nature

<sup>43</sup>For cases and general feelings about this attitude, refer to Guo and Lin (1995).

<sup>44</sup>Takagi Tomoe, “Dôkakai ni tsuite (taishô nana nien),” p. 52.

<sup>45</sup>Kitaoka (1988). Kitaoka Shinichi's interpretation appears to have influenced many Taiwanese scholars, who understand Gotô's metaphor not as racist but reflecting his interest in applying biological principles to the scientific colonization in Taiwan. See Xu (1996).

(Klee 2001).” To Japanese doctors in Taiwan such as Takagi Tomoe, physically isolating the Japanese settlers from the Taiwanese was obviously impossible. The cooperation of Taiwanese doctors was needed to reduce the immediate threat of diseases. To ensure that cooperation, compromises had to be made in the partnership between Japanese teachers and Taiwanese pupils in the medical profession.

Responding to Japanese who shared Takagi’s heartwarming attitude, Taiwanese medical students were willing to support their Japanese teachers in Taiwan to resist the monopoly of the Tōdai group in Taihoku Imperial University after 1936 (Zheng 2005). As Tōdai graduates monopolized seats at the medical department of Taihoku Imperial University, all Japanese faculty at Taihoku Medical College were rejected by the university, with the exception of Du Congmin and Yokogawa Sadamu. Du Congmin is a Taiwanese graduate of Kyoto Imperial University and was politically treated as a symbol of Japanese mercy to the Taiwanese. Yokogawa was definitely chosen due to his Tōdai education. The monopoly of Tōdai graduates caused great turbulence among the Japanese faculty at Taihoku Imperial University in 1937 and 1938. To protest the unfair promotion of colleagues from Tōdai, Japanese faculties at the Medical College of Taihoku Imperial University massively resigned in 1937. Their action was greatly supported by Taiwanese students of the college (Lin 1997). The chaos of these two years was in fact simply a *déjà vu* of the 1910s academic rivalry. Both emotional sympathy regarding oppression by Japan and practical compromises necessitated by grappling with immediate health crises strengthened the teacher–pupil partnership in colonial Taiwan.

## Concluding Remarks

In the context of the development of Japanese colonial medicine, David Arnold says the following:

There is indeed a sense in which all modern medicine is engaged in a colonizing process...It can be seen in the increasing professionalization of medicine and the exclusion of “folk” practitioners, in the close and often symbiotic relationship between medicine and the modern state, in the far-reaching claims made by medical science for its ability to prevent, control, and even eradicate human diseases.<sup>46</sup>

Influenced by such hypotheses, Taiwanese scholars overvalued the advance of modern medicine, viewing it as a “magic bullet”; as a result, what is read as characteristic of colonial medicine may simply be characteristic of biomedicine generally. The “magic bullet” concept obviously supports the application of Basalla’s model and some interpretations of colonial science in Taiwanese scholarship, in which the Japanese colonist is seen as an exacting father, mercifully offering medication to ignorant Taiwanese. We could say that interpretations of Japanese colonial medicine in Taiwan based in that image have not yet been

<sup>46</sup>David Arnold, *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-Century India*, pp. 9–10.

decolonized.<sup>47</sup> However, to avoid the difficult argument of post- vs de-colonization, this article is simply written to reveal various characteristics of Japanese colonial medicine and to propose explanations for the long-puzzling relationship between merciful modernization and brutal colonization.

Beyond the *cliché* about modern medicine advancing colonial society, the conflict in Japan between Kitasato's pupils and the Tōdai faculty and the traditional Asian moral value placed on the teacher–pupil relationship promoted the spread of modern medicine in the Japanese Empire—which means that understanding Japanese colonial medicine is more complex than is recognized in existing interpretations. The case study of colonial Taiwan reveals this complexity and also reflects the local diversity among the colonies in Taiwan, Korea, Manchuria, and other Japanese-occupied areas. Despite local conditions in Korea and China (multiple-medical systems vs nationalist resistance) that might obscure the teacher–pupil norm in Japanese medical circles, the cases of colonial Taiwan and Shanghai reveal the importance of this relationship in extending modern medicine throughout the Empire. This article was not written to challenge the application of these popular models for explaining Japanese colonial medicine, but to provide an alternative way of critical thinking and supplemental information on important events that have been overlooked in previous studies. Current interpretations of Japanese colonial medicine by Taiwanese historians could be enhanced by incorporating this additional information instead of simply adopting Basalla's model.

Since Japanese colonies served as havens for Kitasato's pupils after 1916, Basalla's model is not adequate to judge these Japanese experts' role in the spread of Japanese modern medicine. A more accurate description of Japanese colonial medicine is that the colony served as a laboratory for experimenting with various ideas in modern medicine. In fact, the development of modern medicine within the sphere of the Japanese Empire can be seen in terms of a partnership model, at least before the 1940s. The geography of Japan and its colonies as well as the deficiency of its medical resources before the 1930s postponed the expansion of the Tōdai group. The monopolization of the Medical School at Taihoku Imperial University in 1936 was evidence of Tōdai's endless thrust toward expansion. Also, because of the efforts by Kitasato's pupils in the colonies, the variety of Japanese colonial medicine was sustained, and many medical specialties such as parasitology and tropical medicine were extended after the 1930s. Basalla's model treats the spread of modern medicine from Japan to its colonies as a one-way route. Although the beginning of that spread was a feud in Japan's academic circles, this article proposes a concept that puts the imperial center and peripheral colonies in an unintentionally cooperative relationship that resulted in the development of modern medicine in eastern Asia. Finally, unveiling the complexity of Japanese colonial medicine may offer a stepping-stone for more comprehensive study of modern medicine within the

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<sup>47</sup>My understanding of decolonization is inspired by current cultural studies of postcolonialism. Decolonization may be a social and conceptual process even more than a political one, in invalidating social values and norms introduced by the colonist and undoing their effect in postcolonial society. Therefore, decolonization requires "an imaginative creation of a new form of consciousness and way of life." Such a process involves all parties of colonization and reflects "the relationship between power and culture, domination and the imaginary." See Pieterse and Parekh (1995).

sphere of the Japanese Empire then and now. Thus, this article presents not a final conclusion to the question of how modern medicine spread from Japan to its colonies, but historical details and inspiration from contemporary scholarship in medical history. With this information, Asian scholars can look beyond what Basalla suggested in the 1960s and re-envision Japan's colonial medicine within a rich contemporary argument about colonial medicine in Western scholarship.

## References

- Arnold, D. (1988). Introduction. In D. Arnold (Ed.), *Imperial medicine and indigenous societies* (pp. 10–11). Manchester: Manchester University.
- Arnold, D. (1993). *Colonizing the body: State medicine and epidemic disease in nineteenth-century India*. Berkeley: University of California Press.
- Arnold, D. (1999). Colonizing the body: State medicine and epidemic disease in nineteenth-century India. *Xinshixue (New History)*, 10(4), 159–167.
- Bartholomew, J. R. (1989). *The formation of science in Japan: Building a research tradition* (p. 164). New Haven: Yale University Press.
- Basalla, G. (1967). The spread of western science: A three-stage model describes the introduction of modern science into any non-European nation. *Science*, 156(3775), 611–622.
- Blussé, L. (1979). Japanese historiography and European sources. In P. C. Emmer & W. L. Wesseling (Eds.), *Reappraisals on overseas history: Essays on post-war historiography about European expansion* (pp. 193–221). The Hague: Martin Nijhoff for Leiden University Press.
- Chambers, D. W. (1987). Period and process in colonial and national science. In N. Reingold & M. Rothenberg (Eds.), *Scientific colonialism: A cross-cultural comparison* (p. 314). Washington, DC: Smithsonian Institution Press.
- Chambers, D. W., & Gillespie, R. (2000). Locality in the history of science: Colonial science, technoscience, and indigenous knowledge. In R. MacLeod (Ed.), *Nature and empire: Science and the colonial enterprise* (p. 231). *Osiris* no. 15. London: Routledge.
- Chen, S. (1979). Taiwan renkou shi de jige wenti. In *Taiwan de renkou bianqian yu shehui bianqian (Demographic transitions and social changes in Taiwan)* (p. 18). Taipei: Lianjing.
- Chen, S. (Ed.) (1989). *Riben qinlue Zhongkuo dongbei shi (The history of Japanese invasion of the Chinese Northeast region)*. Jilin: Jilindaxue.
- Dinlei (2004). Riben jindai yiliao tuanti tongrenhui (A modern Japanese group: Tongrenhui). *Zhonghua yishi zhaji*, 34(2), 99–103.
- Du, C. (Ed.) (1957). *Takagi Tomoe jinianji (The collection to remember Takagi Tomoe)* (pp. 1–3). Tokyo: Takagi Tomoe kinenji iinkai.
- Frank, A. G. (1969). *Capitalism and underdevelopment in Latin America*. New York: Monthly Review Press.
- Guo, W., & Lin, Y. (1995). Yixue yu jenwen lishi de jiaohui—Fang Zhuang Yungming tan Taiwan yixueshi (The interaction between medicine and humanity—interview with Zhuang Yunmin on Taiwan's medical history). *Yiwang (Hope)*, 8(20), 19–21.
- Headrick, D. R. (1981). *The tools of empire: Technology and European imperialism in the nineteenth century* (p. 73). Oxford: Oxford University Press.
- Hino, S. (1988). Gotô Shinpei no eisei gyôseiron no itchisei ni tsuite (The concepts of Gotô Shinpei's *On The Sanitation Administration*). *Nihon ishigaku zasshi*, 34(3), 1–29.
- Iguchi, J. (1936). *Toshi eisei to sono kyôka (City hygiene and its education)*. Tokyo: Chuô kyôka.
- Iijima, W. (2000). *Pesuto to kindai Chugoku (Plague and modern China)* (pp. 113–114 and 180–184). Tokyo: Kemmbun Shuppan.
- Iijima, W. (2005). *Mararia to teikoku (Malaria and empire)* (pp. 36–37). Tokyo: University of Tokyo Press.
- Johnston, W. (1995). *The modern epidemic: A history of tuberculosis in Japan* (p. 170). Cambridge, MA: Council on East Asian Studies.
- Joseph, G. M. (1998). Close encounters: Toward a new cultural history of U.S.-Latin American relations. In G. M. Joseph, C. C. LeGrand, & R. Salvatore (Eds.), *Close encounters of empire: Writing the cultural history of US-Latin American relations* (pp. 3–46). Durham and London: Duke Univ. Press.

- Kato, S. (1997). Shanhai shizen kagaku kenkyujyo no setsuritsu kouso (The establishment plan for Shanghai Institute for Natural Science). *Nenpo kagaku gijutsu shakai (Japan Journal for science, technology, and society)*, 6, 1–34.
- Kawakami, T. (Ed.) (1977). *Sakai eiseigaku kara kakumei e: Kunesaki Teidô no tegami to rôbun* (pp. 42–43). Tokyo: Keisô.
- Kawakami, T., & Kanbayashi, S. (Eds.) (1970). *Kunisaki Teido, teiko no igakusha (Kunisaki Teidô as a medical scientist of resistance)* (pp. 122, 131, and 181). Tokyo: Kieso Shobo.
- Keijo Igaku Senmon Gakkô (The Keijo Medical College) (Ed.) (1931). *Keijo igaku senmon gakkô ichiran (The handbook for Keijo medical college)* (pp. 1–5). Tokyo: Keijo University.
- Kitaoka, S. (1988). *Gotô Shinpei: Gaikô to Pojon (Gotô Shinpei: Diplomacy and vision)* (pp. 38–41). Tokyo: Chuo koron sha.
- Kitasato Kenkyûjo (Ed.) (1932). *Kitasato Shibasaburô den (Biography of Kitasato Shibasaburô)* (pp. 180–181). Tokyo: Kitasato kenkyûjo.
- Kitasato kenkyujyo (Kitasato Institute) (Ed.) (1966). *Kitasato kenkyujyo gojunenshi (Fifty-year history of Kitasato Institute)* (pp. 676–681). Tokyo: Kitasato kenkyujyo.
- Klee, E. (2001). *Deutsche Medizin im Dritten Reich—Karrieren vor und nach 1945* (p. 93). Frankfurt/M: Fischer.
- Komiya, Y. (1940). Mararia boatsu no ichijuyo shudan toshiteno anoferesu bokumetsu ni tsuite (On the method to control anopheles in malaria prevention program). *Toa igaku*, 1, 188.
- Komiya, Y. (1969). Iryo shakai ka no zengo iijyo (the process of medical socialization). In T. Kawakami & Y. Komiya (Eds.), *Iryo shakai ka no dohoyo (The process of socialization of medicine)* (pp. 23–33). Tokyo: Keiso Shobo.
- Lai, K. L. (1995). Confucian moral thinking. *Philosophy East and West*, 45(2), 249–272.
- Lee, J.-C., & Kee, C.-D. (1996). The rise of western medicine and the decline of traditional medicine in Korea, 1876–1910. *Korean Journal of Medical History*, 5, 7.
- Lin, J. (1997). *Taida Yiyun bainianshi (I) Ritshishiqi, (1897–1945)* (pp. 47 and 53). Taipei: National Taiwan University Medical College.
- Lo, M. M.-C. (2002). *Doctors within borders: Professions, ethnicity, and modernity in colonial Taiwan* (p. 193). Berkeley: University of California Press.
- Low, M. (1998). Beyond Joseph Needham: Science, technology, and medicine in east and southeast asia. *Osiris*, 13, 1–8.
- Low, M. (Ed.) (2005). *Building a modern Japan: Science, technology, and medicine in the Meiji era and beyond*. New York: Palgrave Macmillan.
- Low, M. F. (1989). The butterfly and the frigate: Social studies of science in Japan. *Social Studies of Science*, 19(2), 313–342.
- Maruyama, T. (1955). Tanemichi sumbyô (Tanemichi epidemic). *Nihon iji shinpo (The new report of Japan's medical affairs)*, 1507, 1020.
- Maruyama, T. (1961). Eiseigaku no reimei o kataru (Deates over the hygienic study). *Nihon iji shinpo*, 1956, 34.
- Miyamoto, S. (1979). *Mori Ôgai no igaku shisô (The medical thought of Mori Ôgai)* (p. 253). Tokyo: Keisô shobô.
- Morishita, K. (1961). Nihon ni okeru Kiseichugaku Hattatsu shi (A history of the development of parasite study in Japan). In K. Morishita, Y. Komiya, & H. Matsubayashi (Eds.), *Nihon ni okeru kiseichugaku no hattastu (The development of parasite studies in Japan)* (Vol. 1, pp. 6–7). Tokyo: Meguro Kiseichukan (Meguro parasite museum).
- Nagaki, D. (1995). *Kitasato Shibasaburô to sono ichimon (Kitasato Shibasaburô's puples)* (pp. 294–297). Tokyo: Keioshioshinsha.
- Naikaku Tôkekyoku (Ed.) (1930). *Meiji go nen ikô wagakoku no jinkô (The population of our country since Meiji five year)*. Tokyo: Naikaku Tôkekyoku.
- Nakamura, H. (1992). *Mori Ôgai to Meiji kokka (Mori Ôgai and Meiji state)*. Tokyo: Sanichi shubô.
- Oda, T. (1995). *Taiwan igaku gojunen (The fifty years of Taiwanese medicine)*, trans. by Hong youxi (p. 101). Taipei: Qianwei.
- Oedashiji hensan iinkai (Ed.) (2003). Môko rengô seifu no saikô komon to nakta seijika Kanai Shôji (The highest consultant of Mongolia Federal Government, Kanai Shôji). In *Ashita o hiraita Oeda no hitobito (The people who impact tomorrow)* (pp. 46–47). Oeda shi: Oedashiji hensan iinkai.
- Ôgata, N. (1940a). *Saikin heno chôsen—nihon no saikingakushi (Challenges to bacteria: The history of bacteriology in Japan)* (pp. 101–104). Tokyo: Nippon hôsô shuppan kyôka.
- Ôgata, N. (1940b). *Saikin heno chôsen—nihon no saikingakushi (Challenges to bacteria: The history of bacteriology in Japan)* (p. 184). Tokyo: Nippon hôsô shuppan kyôka.



- Palladino, P., & Worboys, M. (1993). Science and imperialism. *Isis*, 84, 99–100.
- Perrins, R. J. (2005). Doctors, disease, and development: Engineering colonial public health in southern Manchuria. In M. Low (Ed.), *Building a modern Japan: Science, technology, and medicine in the Meiji era and beyond* (pp. 103–132). New York: Palgrave.
- Pieterse, J. N., & Parekh, B. (1995). Shifting imaginaries: Decolonization, internal decolonization and postcoloniality. In J. N. Pieterse & B. Parekh (Eds.), *The decolonization of imagination: Culture, knowledge, and power* (pp. 1–15). London: Zed Books.
- Porter, D., & Porter, R. (1988). What was social medicine? An historiographical essay. *Journal of Historical Sociology*, 1(1), 91.
- Rogaski, R. (2004). *Hygienic modernity*. Berkeley: University of California Press.
- Rosen, G. (1993). *A history of public health* (pp. 223–235). Baltimore: Johns Hopkins University Press.
- Shiga, K. (1966). *Aru saikin gagusha no kaisō (The memory from a biologist)*. Tokyo: Setsukasha.
- Shimojō, K. (1940). Nanshi kanton chihou ni okeru mararia chosa hokoku (The report of malaria in Guangdong, South China). *Tokyo iji shinshi (Tokyo medical journal)*, 3177, 116–138.
- Shinobu, S. (1941). *Gotō Shinpei: Kagakuteki seijika no syōgai (Gotō Shinpei: The career of scientific politician)* (pp. 133–134). Tokyo: Hakubunkan.
- Taihoku igakkō (Ed.) (1930). Yamaguchi Taiwan Sōtokufu igakkōchō enzetsu (The speech of Yamaguchi, the principle of Taiwan Sōtokufu Medical School). In *Sōritsu nijūgo shōnen shukugakiji (The archive collection after the 25 years of transformation)* (p. 4). Taihoku: Taihoku igakkō.
- Taiwan Sōtokufu (Ed.) (1936). *Nanshi nanyo no iryo shisetsu (The medical institutions in South China and Southeast Asia)*. Taihoku: Taiwan Sōtokufu.
- Taiwan Sōtokufu Keimugyoku (1938). Daiichi keisatsu kikan no kōsei (the first duty and mission of police force). In Taiwan Sōtokufu (Ed.), *Taiwan Sōtokufu keisatsu enkakuji (The development history of Taiwan Sōtokufu Police Force)* (pp. 115 and 122). Taihoku: Morikomu shoji.
- Takagi, T. (1957). Dōkakai ni tsuite (taishō nana nen) (To the society of assimilation—Taishō four year). In C. Du (Ed.), *Takagi Tomoe sensei tsuokeshii (The collection to remember Takagi Tomoe)* (p. 52). Tokyo: Takagi Tomoe kinenji iinkai.
- Takenaka, M. (1958). *The development of social, educational and medical work in Japan since Meiji* (p. 39). Brussels: Uitgeverij Van Keulen.
- Takeshi, O. (1989). Naimusho shokan densenbyō kenkyūjo (The institute of infectious disease under the Ministry of Interior). *Nihon ishigaku zasshi*, 35(4), 1–35.
- Takeshi, O. (1992a). *Densenbyō kenkyūjo (The institute of infectious diseases)* (pp. 1–60 and 72–83). Tokyo: Sakai shuban sentaa.
- Takeshi, O. (1992b). *Densenbyō kenkyūjo; Kindai igaku kaitaku no michinori (The history of the institute for infectious diseases)* (p. 369). Tokyo: Gakkai Shuppan senta.
- Tokutomi, S. (1892). Shisō jo ni okeru Teikoku Daigaku no nanka (The condition and opinion to Imperial university). *Kokumin no tomo (The citizen's affairs)*, 173, 753.
- Tokyo daigaku ikagaku kenkyūjo hyakushunen kinen iinkai (The Celebration Committee for the 100th Anniversary of the Institute for Medical Science) (Ed.) (1992). *Densenbyō kenkyūjo/ikagaku kenkyūjo no hyakunen (The one-hundred year history of the Institute for Infectious Disease/Institute for Medical Science)* (pp. 13–15). Tokyo: Institute of Medical Science, University of Tokyo.
- Tong, H. (2004). Xingzhang jiankong yu yiliao quixun (Administrative structure and medical disciplines) (p. 83). Master's thesis, Nanhua University, Jiayi.
- Tsurumi, T. (1985). *Gotō Shinpei* (pp. 657–750). Tokyo: Kubisō shoten.
- Wallerstein, I. (1974). *The modern world system*. New York: Academic Press.
- Xu, J. (1996). *Taiwan jindai fazhanshi (Modern history of development in Taiwan)* (p. 267). Taipei: Qianwei.
- Yamane, Y. (1997). Shanghai shizen kagaku kenkyūjo iho somokuji (Catalogue of academic articles in the Journal of the Shanghai Institute for Natural Science). *Tokyo joshi daigaku kiyo ronshu (Essays and studies; science reports of Tokyo Woman's Christian University)*, 30(1), 1–38.
- Zheng, Z. (2005). Zhimin yangban huo taijen yingxiang: Shirun Du Congmin yu rizhishiqi Taiwan de yixue jiaoyu (A colonist's sample or a Taiwanese hero: The study about Du Congmin and medical education in the Japan-ruled period). *Taiwan tushuguan guanli jikan (Taiwanese Journal of Library Management)*, 1(1), 104–105.