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The Female Body and Eugenic Thought in Meiji Japan

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Introduction

Japan is renowned for its "selective adaptation of ideas and institutions."[1] This chapter deals with one example, the transplantation and domestication of "eugenics."[2] "Eugenics" is a term coined in 1883 by British scientist Francis Galton to describe the notion that human genetic stock could be improved by controlling heredity. The boundary between the "fit" who were encouraged to reproduce, and the "unfit" often coincided with boundaries of "race," gender, and class. It is thus intriguing to ask why some Japanese chose to adopt and adhere to the Western science of eugenics, even though it seemed to prescribe inferior status to the Japanese in a white-dominated international "racial" hierarchy. In the late nineteenth and early twentieth centuries, Japanese leaders, aspiring to make Japan capable of competing with industrial and "civilized" Western nations, launched comprehensive modernization programs. Scientists were among those who eagerly participated in this process of "building a new era."[3] In this context, eugenics can be seen as a "biological" approach to this far-reaching modernization plan.

In this chapter, I explore the eugenic thought of physiologist Ōsawa Kenji (1852–1927), and the ways in which scientific authorities were employed in efforts to apply eugenic policies to society. Ōsawa was one of the first scientists to systematically "medicalize" race improvement discourse,[4] which had been dominated by nonmedical professionals, including Fukuzawa Yukichi. Ōsawa's ideas were pivotal in the history of eugenics in Japan because he emphasized the female body as a strategic site in which constitutional improvement of the Japanese "race" could be made. He saw that women's bodies could be eugenically controlled by marriage, and advocated the exchange of prenuptial health certificates, prepared by qualified physicians. In other words, he medicalized one of life's most important events, marriage.[5] Moreover, he allowed feminists, educators, and social reformers, particularly temperance activists, to appropriate his scientific authority, hoping that they, in return, would help him put his eugenics proposals into practice.

As a professor of medicine at Tokyo University,[6] Ōsawa, of course, was a state employee. By examining these two-way interactions, I demonstrate the complex relationships between agents of the state and private citizens involved in eugenic policy formulation. We can also observe a pattern of transplantation of a foreign idea. Ōsawa emphasized indigenous customs, including arranged marriage, as conducive to the Japanese adoption of eugenics. This conscious mobilization of local practices as "traditions" is a fairly typical response to Western-inspired modernity in Meiji Japan.

Early Life of Ōsawa Kenji

Ōsawa Kenji was born to the family of a Shinto priest in 1852. His name by birth was Ōbayashi Ukonji. As a child, Ukonji was adopted by Ōsawa Genryū, a medical doctor who had been trained in European medicine in Nagasaki and was serving the local Mikawa domain lord in modern day Aichi prefecture. Before leaving for Edo (present day Tokyo) in 1866, Kenji received a samurai education—he studied Confucian classics at a domain school—since the Ōsawa belonged to the warrior class. Political disturbances, which led to the breakdown of the traditional Tokugawa order and the establishment of the modern Meiji government (the 1868 Meiji Restoration), interrupted Ōsawa's study at the Shogunal Institute of European Medicine, in the capital city of Edo. Yet, he managed to resume training at the same school after it was taken over by the new Meiji government. In 1870, Meiji leaders sent Ōsawa, along with 13 other students, to Europe. He pursued his study in medicine at Berlin University. There he took Hermann von Helmholtz's physics and Emil du Bois-Reymond's physiology classes. Although the government wanted him to study pharmacology, du Bois-Reymond's class further stimulated Ōsawa's interest in physiology, which he had developed while reading imported textbooks in Tokyo. Because of a government policy change, he was called home in 1874 before completing his doctoral study. After a few years of teaching physics and physiology as an instructor at Tokyo University, he resigned the post to finish his postgraduate study in Europe, 1878–1882. This time he specialized in physiology at Strassburg University.[7] He chose Strassburg because the hired foreign (*oyatoi gaikokujin*) physiologist at Tokyo University, Ernst Tiegel, recommended his former teachers. At Strassburg, he studied closely with the medical chemist Felix Hoppe-Seyler and physiologist Friedlich Leopold Geoltz. Ōsawa's dissertation research was a neurophysiological study concerned with transmission in dogs' spinal cords.

Upon returning home in 1882, 30-year-old Ōsawa was immediately appointed Professor of Physiology of the Faculty of Medicine at Tokyo University. He replaced Tiegel as holder of the chair of physiology. As his interest in hygiene grew, Ōsawa also taught that subject during this time. He also organized an interdisciplinary medical study group whose members, mostly professors, exchanged new knowledge acquired by reading the most recent Western journals in their respective fields. Even after his retirement

from Tokyo in 1915, he continued to publish many articles and books concerning a wide array of topics such as diet, digestion, excretion, hunger, development of various senses, reproduction, heredity, anesthesia, drinking, and sexology before his death in 1927. During his tenure, Ōsawa assumed numerous important positions both within and outside the university, including deanship of the Faculty of Medicine, and membership in the House of Peers by Imperial decree (*chokusen kizokuin giin*).[8] Some of his articles advocated meat eating (formerly proscribed by Buddhist teachings) and improvement of the human bodily constitution. These articles reflected the optimistic belief that conscious effort could ameliorate the Japanese body's appearance (i.e., size and shape) as well as capability (i.e., speed, power, and endurance). As such, they embodied the Meiji reform spirit applied to customs and morals.

Takahashi Yoshio's Race Improvement Theory

Beginning in the 1880s, the theory of evolution captivated the thinking of Meiji intellectuals.[9] The theory served as a scientific endorsement for the notion that the body was open to biological reconstruction; and in this context, the message of eugenics was attractive. Indeed, as early as 1881, two years before Francis Galton coined the term "eugenics," the prominent promoter of Western ideas, educator, and journalist Fukuzawa Yukichi, commented on Francis Galton's study concerning inheritance of talents.[10] In 1884, Fukuzawa's protégé, Takahashi Yoshio, published Japan's first book on race betterment, *Nihon jinshu kairyōron* [On the improvement of the Japanese race]. Here Takahashi discussed how to improve the Japanese race and proposed different approaches to achieve this goal. He supported his arguments with the theories of many Western scholars, including those of Francis Galton. But he did so without referring to the newly invented term, "eugenics," which means "well-birth science" in Greek. In addition to emphasizing the reform of physical education, clothing, diet, and housing, Takahashi suggested intermarriage between the Japanese and "whites." After presenting the statistical data of physical size among different nationals, he showed that an average Japanese was shorter and lighter than an average (white) Westerner; and the cranial size of the Mongoloid was smaller than that of the Caucasoid, implying that the former's mental capacity might be inferior to the latter's. As a quick remedy to the "undesirable" Japanese body, Takahashi suggested the "crossbreeding" of the two "races."

Takahashi's proposal provoked nationalistic reactions from some of Japan's leading men of learning, including a professor of philosophy at Tokyo University, Inoue Tetsujirō, and the president of the same institution, Katō Hiroyuki. The debate over the Japanese version of "whitening" took place in the context of Japan's aspiration for equality with the West.[11] Along with the establishment of tariff autonomy and elimination of extraterritorial

jurisdiction, the Japanese were discussing whether or not they should allow Westerners to live with the Japanese outside of the designated treaty ports where Westerners had been confined. While pro-Westernization advocates, including Takahashi, supported mixed residence, which would result in the increase of "crossbreeding," others, such as Katō and Inoue, were more cautious. Thus the latter group argued that, from a social Darwinist perspective, the Japanese, as the less "civilized" people at least for the moment, were likely to lose out to more advanced Westerners both commercially as well as biologically. Katō was particularly alarmed by the possible disappearance of the "pure" ("*junsui naru*") Japanese race. The popularity of the pro-mixed residence arguments peaked around the mid-1880s but declined and came under severe criticism during the reactionary intellectual climate of the late 1880s.[12]

This mixed marriage/residence debate clearly showed that some Japanese felt they were "racially" inferior to Westerners. Though many were anxious to "improve" the Japanese body, Takahashi's approach, which denied the preservation of the existing Japanese identity, was adamantly rejected. But Takahashi's radical proposal spurred more serious discussion about race improvement based on the idea of controlling heredity through marriage. While environmental approaches such as better nutrition, clothing, and living conditions coincided with (middle class) women's expanding sphere of influence at home, the notion of reproductive race betterment truly brought to the fore the role of women in this important reform movement.[13]

Except for Erwin von Baelz, the Tokyo University professor who taught internal medicine and pathology between 1873 and 1902, few medical or biological experts were actively involved in the debate. However, it is unlikely that the controversy started by Takahashi Yoshio went unnoticed by Ōsawa, who had just returned from Germany. First, the president of the university for which Ōsawa worked was a major participant in the debate. President Katō expressed his view on a high profile occasion, a speech at the Tokyo Academy, and his response to Takahashi's view of the Katō speech was printed in *Tōyō gakugei zasshi*, a respected journal modeled after Britain's *Nature*.[14] Second, Takahashi's race improvement approach touched on Ōsawa's own research subjects of diet and reproduction.

Bodily Improvement and the Female Body

Ōsawa Kenji began writing about marriage in 1890. However, it was only in 1904 that Ōsawa began to advocate bodily improvement (*taishitsu kairyō*) through selective breeding, and stress the significance of the female body in this process. The years between the mid-1880s and 1904 saw several changes worthy of attention. First, the German cytologist August Weismann (University of Freiburg) in 1883 provided evidence antagonistic to the notion that acquired characteristics are inheritable. Weismann argued that germ plasm (sperm and egg cell nuclei) could not be affected by the environment,

and was completely isolated from somatic (or body) cells, which could be. Weismann's doctrine of the "continuity of the germ plasm" and the Mendelian laws, which were rediscovered in 1900, reinforced each other in explaining the phenomenon of heredity. Heredity now became the subject of intensive scrutiny by biologists.

Second, the Japanese government began incorporating the official gender ideology of "good wife, wise mother" into the curriculum of secondary schools for girls after Japan's military victory over China in 1895. Third, educator Naruse Jinzō, dedicated to promoting higher education for women, elaborated on the official ideal of womanhood, and argued that women's physical and mental quality would have a direct impact on future generations of Japanese. Thus, in his 1895 book, *Joshi kyōiku* [Women's education], Naruse explained that a scientific approach to producing mentally, physically, and morally "fit" women would be crucial for Japan's nation-building. Naruse's far-reaching fund-raising campaigns, which drew support from prominent politicians of the day, finally paid off when his brainchild, Japan Women's College (*Nihon Joshi Daigakkō*), was established in 1901.

Meanwhile the government had founded a teacher training college for women in 1875, and a few other private "women's colleges" opened in 1900. They specialized in English, medicine, or art education. These colleges started with only a few faculty members, including the founders, and several students. The Japan Women's College, also a private institution, greatly differed from other colleges for women in that, from the beginning, the College was able to provide a well-diversified and well-balanced liberal arts education. It was made possible because Naruse enthusiastically recruited about 50 qualified teachers including Ōsawa Kenji, who taught physiology at the College between 1901 and 1921.[15]

Fourth, after five years of study in animal and human anatomy at the University of Freiburg, which was a stronghold of the scientification of eugenic theories,[16] Ōsawa's adopted son, Gakutarō (1863–1920), returned home with his German wife, Julia Meyer, to assume a professorship at Tokyo University in 1898. In addition to his scholarly works, Gakutarō also wrote essays on Japanese women.[17] The earlier debate over mixed marriage began to bear personal implications for Ōsawa Kenji. Considering that Kenji began teaching at the Japan Women's College, it was likely that women's issues became a frequent topic of discussion between father and son. Furthermore, while it was certainly likely that the father received up-to-date biological and medical theories from Germany through the son who took August Weismann's course, among others, the older Ōsawa had a first-hand opportunity to get reacquainted with European biomedical communities in 1901. He presented a paper at the International Congress of Physiology in Turin, Italy, and another at the International Congress of Zoology at Berlin.[18] Professionalization of eugenics in Europe did not immediately follow Galton's invention of the term "eugenics" in the 1880s. Rather, the professionalization, which replaced the preceding "liberal and secular cultural movement," began taking shape about the time that Ōsawa revisited Berlin.

This led to the institutionalization of eugenics as evidenced by the founding of the Racial Hygiene Society in Berlin in 1905 and the Eugenics Education Society in London in 1907.[19]

Ōsawa Kenji's 1904 work, *Shakaiteki eisei taishitsu kairyōron* [On the improvement of human bodily constitution from a social hygienic perspective], reflected the scientific and intellectual developments of the preceding two decades. He utilized newly available statistics in Europe and Japan, and identified what kind of diseases and problems would be harmful. His use of the term *shakai eisei*, its focus on the degeneration of "civilized" people in a domestic context, as well as many of his statistics and examples from works by German theorists[20] seem to indicate that the book drew inspiration from the contemporary German notion of *Sozialhygiene*.[21] Indeed, despite its title containing the word "*kairyō*" (improvement), the book was more concerned with the prevention of degeneration than betterment per se. He was convinced that a civilization, after reaching maturity, tends to decline because of racial degeneration.[22] In the second half of the nineteenth century, many European specialists, especially in criminal anthropology and psychiatry, noted the paradoxical nature of civilization—"science and economic progress might be the catalyst of, as much as the defense against, physical and social pathology."[23] Like them, Ōsawa believed the mechanism of natural selection (the survival of the fittest) no longer worked in a modern society because modern medical care artificially extended the lives of the weak, who were naturally "unfit" for survival, and helped them produce offspring with "unfit" genes. Moreover, it was believed that "[m]oral decadence, chronic diseases like tuberculosis, venereal diseases and alcoholism, crime and deviant social behaviour—which included merely having two children or less," frequently observed in "civilized" societies, were considered factors contributing to racial degeneration.[24]

Overtly concerned with the possible decline of the human race by the breakdown of natural selection, Ōsawa classified people into four general categories: those who were fit to have intercourse (*kōsetsu tekisha*); those who were not (*kōsetsu futekisha*); those who were fit to reproduce (*seishoku tekisha*); and those who were not (*seishoku futekisha*). Certain diseases such as tuberculosis, leprosy, syphilis, and gonorrhea would spread through intercourse. While the carriers of diseases would ruin the health of their sexual partners, people who were too young or too old would harm their own bodies. Intercourse would cause pain for those with sexual organs that were underdeveloped or had stopped functioning properly, or became deformed after menopause.[25] Although this applied to both men and women, Ōsawa noted that women were subject to more restrictions. Women should refrain from having sex when in periods of menstruation, puerperium, or lactation, because, for example, if a nursing woman had intercourse, her body might stop lactating. During pregnancy, women should not have sex, or at least reduce the frequency, Ōsawa explained, because copulation might induce miscarriage or inflict other types of damage on the fetus.[26]

In his discussion on reproductive fitness, Ōsawa further differentiated the female body from the male body. The birth of a healthy child requires three

components: a perfect sperm cell, a flawless egg cell, and a mother's robust body.[27] Women, associated with two of the three, obviously had a greater role in reproduction. Concerns with the overall quality of children, which had serious implications for the future of the nation, brought medical attention to the female body. Ōsawa concluded that undesirable intercourse and reproduction could be controlled by education, laws, and contraceptive methods such as condoms and spermicide.[28] To avoid the spousal and transgenerational spread of diseases, Ōsawa proposed the prenuptial exchange of health certificates.[29] This proposal attests to the remarkably current nature of Ōsawa's knowledge. In the same year (1904) when Ōsawa wrote this, it was recorded that Francis Galton's paper provoked discussion on the desirability of prospective bridegrooms to obtain medically certified documents in England. In Germany, the League for the Protection of Mothers and Sexual Reform and the Monist League, both founded in 1905, advocated marriage health certificates, which led to a legislative effort during World War I.[30]

Ōsawa's arguments regarding intercourse and reproductive fitness could be applied to any other "civilized" society. They were more universal than nationalistic. Yet, he did touch on a few local conditions, peculiar to Japan. He observed that many middle- to upper-class women in Europe regrettably avoided breast-feeding for aesthetic reasons and instead used alternative artificial (meaning nonhuman) milk, which made their children's constitution more likely to be inferior. The use of artificial milk was not yet widespread in Japan.[31] Another favorable custom (among upper-class Japanese) was premarital detective investigation to check for the presence of diseases such as tuberculosis and leprosy in the prospective spouse's family. These diseases were considered contaminants to the family blood and lineage. As the Tokugawa orders restricting the change of hereditary professions and residences were lifted, conducting this kind of detective work became steadily more difficult.[32]

Medicalization of Marriage and the Female Body

Three years after he published the *Taishitsu kairyōron*, Ōsawa wrote *Seirigakujō yori mitaru fujin no honbun* [The duty of women from the physiological point of view] in 1908. As the title indicates, in this work he intensified his attention to women and their bodies as a crucial object for successful implementation of the bodily improvement theory. This rather brief book[33] was soon expanded into a 584 page volume, *Tsūzoku kekkon shinsetsu* [Popular new theory on marriage]. It was originally printed as a series entitled "*Kōfuku naru kekkonhō*" ["Ways to ensure a happy marriage"] in the *Hōchi* newspaper and was soon revised and published in book form in 1909. In her article "Marriage, the Newspaper Business, and the Nation-State," Kathryn Ragsdale examines popular romance fiction featuring married female protagonists, a new genre known as the domestic novel, which became common between the Sino- and Russo-Japanese wars (1895–1904). She points out that, in

the late Meiji period, newspaper editors discovered the importance of female readership for expanding their sales, and began printing the serialized domestic novel. Ōsawa's "Kōfuku naru kekkonhō" appeared in the *Hōchi* in this context. The *Hōchi* and its detective agency that would investigate the prospective husband's and wife's individual and family background, promoted Ōsawa's scientific gospel concerning marriage. The agency sold Ōsawa's marriage guidebook in its office and stressed its own capacity to ferret out health information. Thus, Ōsawa's books on bodily improvement, mark not only the scientification of eugenic theories and medicalization of marriage, but also the commercialization and popularization of race improvement through matrimony.[34]

In the introduction of the *Tsūzoku kekkon shinsetsu*, Ōsawa stated that the primary objective of living organisms was to perpetuate their species through reproduction. Humans were no exception. They would achieve this goal by marriages that would determine the fortunes and misfortunes of individuals and families as well as the rise and decline of Japan. Many young men and women had no idea of what was at stake in choosing mates. Especially when they made hasty decisions driven by the temporary passions of love, their marriages tended to result in various health problems among family members, including children. Ōsawa wrote this book as a scientific guide for marriage in the modern era.[35]

Elsewhere he also told readers that marriage could harm the body in different ways. For instance, diseases such as venereal diseases and tuberculosis would be transmitted between husband and wife. The serious nature of health problems was obvious because the mental and physical conditions of both parents would influence the quality of children.[36] Although the title and the introduction were not particularly gender-specific, the main text of the book clearly intended to offer insights mainly for young single educated women who were preparing to marry. Objectification of the female body was justified because women were more likely to become victims of ailments caused by bad marriages. In a patriarchal society like Japan, a (middle to upper class) woman upon marriage was generally expected to leave her own home and move into the husband's. The new wife had to deal with unfamiliar customs, including having sex, in the new environment surrounded by unsympathetic strangers. Moreover, she had to submit to the authority of the husband as well as to those of the father- and mother-in-law. Together with the belief that the female nervous system was more sensitive, the greater stress level on women tended to have a negative impact on women's health. Women were more susceptible to health problems when they went through pregnancy and birth.[37] Compared with nineteenth-century French medical doctor Gustave Le Bon, who had maintained that women were both psychologically and physiologically sensitive to civil strife in general,[38] Ōsawa's emphasis on the connection between the Japanese family system and the mental and physical stress on women is notable. Like European theorists, Ōsawa considered women "a crucial agent of degeneration either . . . by bringing new pathological cases into the world or . . . by failing to reproduce

in sufficient quantity healthy children for the nation."[39] However, because the readers of his book were expected to be middle to upper class women, Ōsawa focused more on women's ability to control the quality of offspring than the danger presented by "unfit" mothers. In the first section of the *Tsūzoku kekkon shinsetsu*, Ōsawa stated:

> [E]ducation for women should aim at producing morally, mentally, and physically "fit" women. These . . . fit women serve as the most important mechanism to improve our racial stock . . . or the Yamato *minzoku* [Japanese race]. . . . [T]he improvement of humans requires men and women of superior quality, which I will explain in the following chapters. . . . To be frank from the standpoint of racial stock improvement, it is actually desirable that those women without much education and cultivation—thus they were close to animals—give birth to few children. However, we would like women of superior quality with education and cultivation to have as many children as possible.[40]

The boundary between "fit" and "unfit" women as described above is defined by whether or not they had received higher education, which was deemed to guarantee morally, mentally, and physically improved women.[41] The improved qualities acquired by a mother's education would then be transmitted to their children genetically. This optimistic two-step approach closely resonated with educator Naruse Jinzō's race improvement view presented in the 1890s.

To support his view, Ōsawa discussed various genetic theories, which made their appearance after the rediscovery of Mendel's Laws. Unlike August Weismann, who thought only egg and sperm cell nuclei could transmit parents' characteristics to their children, Ōsawa believed that egg and sperm cells as a whole (each cell was made up of a cell nucleus [*kaku*] and protoplasm [*genkeishitsu*]) served to transmit inheritable qualities. Ōsawa accepted Weismann's theory of the continuity of germ plasm. The Japanese physiologist, however, disagreed with the German biologist in that the former believed protoplasm *could* be affected by environment. Thus, Ōsawa postulated that environment (e.g., nutrition or substances) would affect protoplasm, which would then influence cell nuclei. In short, his conviction that one could improve the female body through physical exercise and better nutrition and hygiene was based on this genetic view.[42] His distinction between congenitalness (*senten*) and posteriority (*kōten*) reflected his theoretical understanding of heredity. He specified that while congenitalness meant transmission of parents' characteristics to their children before fertilization, posteriority meant the transmission of characteristics after fertilization.

Ōsawa believed that congenitalness depended on two basic patterns. First, when human reproductive organs were developing, egg and sperm cells (both cell nuclei *and* protoplasm in Ōsawa's understanding) were susceptible to changes in the nervous system, which controlled reproductive functions. Thus, malnutrition, immaturity, senility, or excessive drinking would affect egg and sperm cells. Second, after they completed their development but before fertilization, their egg and sperm cells could be influenced by the parent's consumption of various substances, including alcohol.[43] Ōsawa's

interest in physiology was concerned with nutrition, growth, reproduction, motion, senses, and mental activities, and thus made him attentive to constitution or race improvement theory.[44] His theoretical understanding catered to the assumption that physiology could improve an inferior physique and serve to better the human species. Ōsawa, a trained physiologist, was thus responsible for medicalizing race or constitution improvement theory. This is extremely important considering the fact that another physiologist Nagai Hisomu (1876–1957), Ōsawa's successor at Tokyo, later emerged as Japan's most prominent eugenicist. He popularized eugenic theories, promoted eugenic research and policies, organized scholarly and popular eugenic associations, and lobbied for the enactment of the 1940 National Eugenics Law.[45] An equally significant point is that Ōsawa's optimistic view of heredity allowed the Japanese to believe in efforts to improve their bodies within the framework of science. Healthy lifestyles led by young adults, whose egg or sperm cells were already mature and waiting for fertilization, amounted to quality control over the nation's population. This rejection of outright biological determinism, albeit not uniquely Japanese, explains why some Japanese embraced eugenics. Their sensitivity about their apparent physical inferiority, evidenced in the earlier mixed marriage debate, fueled interest in eugenics, rather than rejection of it.

Another characteristic of this book was its emphasis on the Yamato *minzoku*, as distinct from Westerners. This element hardly existed in the 1904 *Taishitsu kairyōron*, which discussed bodily improvement in a more universal, and biological, but less nationalistic, and cultural sense. In his *Tsūzoku kekkon shinsetsu*, Ōsawa called Japan the country of gods (*Shinkoku*) and argued that the family system and the samurai spirit (*bushidō*) were essential in shaping the Japanese.[46] Mental activity was part of physiology, as Ōsawa understood it. Thus, the samurai tradition of *bushidō*, based on self-sacrificing loyalty to the master, became a physiological subject. In addition, the purity (*junketsu*) of the *minzoku*, ancestor worship, Confucianism, and Buddhism formed the uniquely Japanese altruistic spirit. He also stressed that the Japanese, as descendants of an unbroken line of rulers, were united through the worship of their common ancestors, the imperial clan.

Women's concept of *bushidō*, spiritual conscience or *reinōteki ryōshin*, was seen by Ōsawa as suppressing their self-serving, animal-like sexual desire (*dōbutsuteki seiyoku*) for the good of others.[47] As such, it needed to be preserved. He discouraged "fit" women from pursuing Western-inspired free love (*jiyū ren'ai*).[48] He associated free love with primal sexual instinct and condemned it as a force destructive to the family state; he implicitly defended the framework of the traditional upper class custom of arranged marriage. Its mechanism of choosing the most suitable spouse for one's daughter or son was definitely compatible with the notion of race improvement through controlling heredity. Modern changes in the traditional institution of marriage created a new standard of spousal selection. Now "biological" fitness was added as the most important consideration to ensure happy arranged marriages and the continuation of a family line. Healthy couples without hereditary or

infectious diseases were likely to produce physically "fit" children. Educated parents were expected to stay away from possible health hazards. Ōsawa did not embrace everything Western, nor did he dismiss everything traditionally Japanese. He found certain indigenous practices useful as foundations for "transplanting" eugenics in Japan. His eugenics represented a "hybrid" reinterpretation of Western and Japanese cultures, not a mere transfer of original eugenics to a new environment.

One sees a striking difference in tone between the *Taishitsu kairyōron* (1904) and the *Kekkon shinsetsu* (1909). While the former discussed bodily improvement in general, the latter presented a much more "racialized" view in the context of social Darwinist, imperialist competition. When "yellow" Japan defeated "white" Russia in 1905, many Asian and African peoples of color colonized by the "white" Europeans and Americans were inspired by this victory. At the same time, the erosion of their "racial" supremacy alarmed the "white" imperialists (the "yellow scare").[49] The heightened interest in "racial" competition and the military spirit that existed immediately after the Russo-Japanese war were evident in the *Kekkon shinsetsu*. Ōsawa's constitution/race improvement writings thus represent a dramatic shift from the early Meiji "catch-up" spirit of "the reform of customs and morals" to the late Meiji mentality of nationalism, which resulted from Japan's emergence as a colonial power competing against Western rivals.[50]

Interactions between the Medical Authorities and Social Reformers

Ōsawa developed his "scientific" race improvement ideas and promoted them in his interactions with individuals outside the medical profession in the Meiji (1868–1912) and Taishō (1912–1926) periods. First, employment at Naruse Jinzō's Japan Women's College gave him direct and regular opportunities to speak to female college students about the transgenerational implications of their bodies. Ōsawa's awareness of women's potentially instrumental role in diffusing "modern" hygienic concepts led him to give occasional lectures at meetings of the Greater Japan Private Women's Hygienic Association even before the turn of the century. Yet, as noted, his involvement in the discussions about bodily improvement through marriage became much more active after he started work at the College in 1901. After its founding, Naruse focused on expanding the curriculum and operations. When a new educational law opened the way for some qualified colleges (*senmon gakkō*) to become universities, Naruse aspired to elevate his college. To convince the public that his school deserved to become a university, he announced a school expansion plan in 1917. He proposed to add a faculty of medicine, including a department of race improvement (*jinshu kairyō gakka*), to the Japan Women's College. Both in school and public lectures, as well as publications of articles and books by Ōsawa greatly contributed to legitimizing the college's claim that it was already committed to improving the nation's genetic quality.

One of the students who responded to the calls of Ōsawa and Naruse was Hiratsuka Raichō, who would become the most prominent Japanese feminist in the twentieth century. She majored in home economics at the Japan Women's College between 1903 and 1906. This home economics program was likely the best science education available for women in the country at that time.[51] When women were still denied even participation in political meetings, Hiratsuka attempted to establish Japan's first eugenic law in 1919. Her daring proposal sought to prevent men (but not women) infected with venereal diseases from getting married. Existing scholarly writing often emphasizes that Hiratsuka was inspired by Swedish feminist Ellen Key's motherhood ideology, to which she was exposed in the 1910s.[52] Yet, one should take into account the fact that Hiratsuka was a student of Ōsawa's when he first suggested marriage restriction against the venereally diseased in his 1904 *Taishitsu kairyōron*. Furthermore, like Ōsawa, she also promoted the use of prenuptial health certificates. Criticized for her gender-specific approach to male marriageability as outlined in the petition draft, Hiratsuka, for political reasons, needed to revise the draft and looked to Ōsawa for advice. This is wholly appropriate, for, in his 1909 *Kekkon shinsetsu*, he had delineated three approaches to marriage: individualistic (*kojinteki*), racial (*jinshuteki*), and social (*shakaiteki*).[53]

In the first type, individuals were responsible for choosing their marriage partners (love marriage). Ōsawa was opposed to this because young people tended to make the most important decision of their lives driven by sexual desire, disregarding crucial conditions such as physical fitness and education levels. The opposite extreme was racial marriage. Its primary objective was to improve race (*jinshu kairyō*). It could be achieved when the state intervened in the lives of individuals: the "fit" were allowed to marry, but the "unfit" were not. Ōsawa admitted that he had supported this approach in *Taishitsu kairyōron* (1904) and classified the "insane," "imbecilic," those with syphilis or gonorrhea, alcoholism, epilepsy, or genetic diseases, as "unfit." Although he used the term "racial (*jinshuteki*)," his writing did not explicitly imply competition between the Japanese "race (*minzoku*)" and other "races (*minzoku*)." By "*jinshu*," it seems that he meant state supervision and intervention.[54]

By 1909, however, he had abandoned the racial approach and had begun advocating the social approach, which was a combination of the individualistic and the racial. The racial approach was ineffective when people reproduced outside the marriage institution. In the social strategy, individual freedom was to be respected as much as possible and individuals were responsible for whatever decision they made. However, at times, the state needed to interfere with individual freedom in order to improve national health (*kokumin no kenkō*). What Ōsawa had in mind was for the state to order physicians to prepare health certificates for those about to marry. If any mental or physical problem were detected, the state would prohibit their marriage and sterilize them so that they would not do harm to the state by producing undesirable offspring. Ōsawa compared the state with a human body. If one were starving, he or she would lose fat, muscles, glands, and bones while maintaining the basic weight of the

brain, spinal cord, and heart, which were essential for survival. Like this "natural" mechanism of the body, the welfare of the state (i.e., brain and heart) had to be prioritized over the freedom of individuals (i.e., fat, muscles, etc.).[55] Ōsawa thus identified himself as a "statist" (*kokka shugi o hōzuru mono*).[56]

Hiratsuka's original proposal called for men to present a document guaranteeing their venereal-disease-free status to their prospective brides-to-be before marriage. Sanctions would be imposed on men who got married while concealing a venereal disease. After incorporating Ōsawa's advice, which was obviously based on the social approach explained in *Kekkon shinsetsu*, Hiratsuka expanded her proposed law to cover not only regular marriage, but also *de facto* marriage (*jijitsukon*), to minimize the births of children to parents carrying venereal diseases.[57]

The collaboration between Ōsawa and Hiratsuka, who was known as a frivolous, radical woman tainted by scandals, including a suicide attempt, alcohol consumption at bars, and public debate on such taboo topics as abortion and sexuality, was a strange one. After all, Hiratsuka was a feminist who questioned patriarchal societal norms and such authorities as the state and the father. She was against any arranged marriage that subordinated women's interests to family welfare. Moreover, she chose to have children without marrying her partner. Ōsawa, on the other hand, advocated modified arranged marriage for eugenic purposes and viewed illegitimate children negatively.[58] As long as Hiratsuka used eugenic reasoning, however, Ōsawa found her legislative initiative useful for implementing his race improvement policy. And he was willing to endorse her project in the public media.[59] At the same time, Ōsawa's support was a valuable asset for Hiratsuka. His prestige as a Tokyo University professor, and his medical expertise, legitimized her effort to protect middle-class women from diseases carried by their potential mates.

In a society where the notion of "men's predominance over women" (*danson johi*) dominated, and the belief that only men's characters would affect children's because women merely served as "borrowed wombs" was generally accepted, Ōsawa's view was quite revolutionary and attractive to Hiratsuka. Furthermore, Ōsawa urged that single women be informed so that they could choose their future husbands and produce biologically desirable children, an important task for nation-building. In other words, he encouraged "fit" women to pursue postsecondary education and assume an active and assertive part in marriage decisionmaking. Considering that opportunities for higher education then were virtually monopolized by men, and middle class women were seen as virtuous if they displayed signs of submissiveness, obedience, and docility, his eugenic ideas were potentially instrumental in redefining women's narrowly prescribed role.

One of the members of the House of Representatives who introduced Hiratsuka's petition in 1920 was Nemoto Shō. He was another of the social reformers who collaborated with Ōsawa. Nemoto was an American trained temperance activist in Japan. When Ōsawa's lecture on the degenerative harm of alcohol and preventive measures was printed in the *Hōchi* newspaper

in 1907, Nemoto, editor of the temperance magazine *Kuni no hikari* [Light of our land], was quick to reprint the article to justify the temperance claim of using "scientific authority."[60] Beginning in 1898, Nemoto was elected to parliament ten times. Between 1901 and 1922, he submitted a bill to restrict minors from drinking alcohol 19 times. Although the House of Representatives had begun approving the temperance bill in 1908, the Peers kept rejecting it.[61] During this time of frustration, Ōsawa, himself a member of the House of Peers, gave a speech in support of the temperance bill; the physiologist cautioned the reluctant members of the House of Peers in 1910 that unrestricted drinking would have a negative impact on the Japanese state (*kokka*), people (*jinmin*), and race (*jinshu*).[62]

Ōsawa Kenji's relationship with Naruse Jinzō, Hiratsuka Raichō, and Nemoto Shō can be seen as part of an ongoing pattern. Like Hiratsuka, who wanted to improve the well-being of women, Christian social reformers hoped to reduce the misery caused by addiction to alcohol. Likewise, Naruse wished to promote higher education for women. They advocated eugenics as a strategy for legitimizing their causes and saw alliances with Ōsawa, who had scientific authority, as beneficial. Ōsawa, too, found the collaboration with social activists helpful in converting his eugenic plan into reality. Although he was exposed to Western values through his study abroad and scientific inquiries, Ōsawa was a politically conservative statist who upheld distinctly Japanese "traditions" such as the imperial institution, family system, arranged marriage, and the way of warriors, especially after the Russo-Japanese war. He believed in state intervention into people's everyday lives and people's cooperation with the state, which would result in "racial" well-being. He was neither a liberal Christian nor an enthusiastic feminist. He never attempted to open prestigious Tokyo University to female students nor did he support the upgrading of women's colleges to universities. In spite of rather opposing ideologies, the man of medicine and the social reformers decided to work together for practical reasons.

In addition to illuminating the eugenic appeal to people with a broad range of social, political, and religious views at the time, this essay challenges the common perception of the relationship between the state and the people. Many historians contend that, because Japan, compared with some Western nation-states, started its modernization relatively late, the government took charge of active industry-building by training experts and allocating financial resources instead of waiting for private businesses to evolve. This strong government leadership is said to have been accepted because of the traditional prestige and authority associated with the official sector (*kan*). Many observe that the same top-down policymaking structure has defined modern Japanese society.[63] Many Marxist scholars have drawn attention to how people have been marginalized by eugenic laws. Some examine men and women judged as mentally or physically unfit who were considered for such negative eugenic measures as sterilization and quarantine.[64] And others find that women's bodies became the targets of state control.[65] These studies tend to portray the government as the agent objectifying and victimizing ordinary people's bodies.

As far as eugenic legislative efforts were concerned, however, prior to the enactment of the 1940 National Eugenics Law, private individuals such as feminists and Christian social reformers started many movements. They wanted the government to restrict people's bodies. Naruse Jinzō's case was not a legislative effort; but he wanted the government, more precisely Ministry of Education officials, to see that his college was qualified to attain university status and used the potential utility of women in conjunction with the new science of eugenics to try to achieve his goal. Ōsawa can be seen as part of the Government since he was employed by a state university and served as a member of the House of Peers. Yet, even he was unable to legalize his eugenic policies and sought private activists' organized support. Well into the 1930s, the government was attracted by the general eugenic message of improving the quality of the Japanese population, but many officials remained decidedly unenthusiastic about actually establishing eugenic policies. This was so because they were difficult to implement, their effects were uncertain, and above all, they were long-term investments (taking generations to get results). Japan could not afford spending its limited resources in the face of other problems that required immediate actions. Christian temperance activist Nemoto Shō too was a member of the House of Representatives.[66] Even though the lower house was a part of the state legislature, there were many instances in which the upper house and the lower house, as well as the Cabinet and the lower house, had conflicting views that were difficult to reconcile. In fact, Representatives promoting eugenic bills in the 1930s once lamented that few bills proposed by the lower house were ever enacted. Bureaucrats formulated the majority of laws.[67] Contrary to the popular image that the state monolithically and eagerly imposed the eugenic laws on the people, various eugenic legislative movements can also be seen as private citizens' efforts to convince a reluctant "state" to take control of Japanese bodies. To negotiate with the unwilling "state" more effectively, social reformers with varied agendas strategically and pragmatically mobilized the medical and scientific authority, which Ōsawa represented. Ōsawa's willingness to work with the social reformers came from his understanding that a combination of state intervention and voluntarism (or what he called the "social" approach) would be the best way to counteract degeneration in the modern era.

Conclusion

Examination of Ōsawa Kenji's prescriptive eugenic writings and involvement in social causes illuminates why a physiologist became involved in the medicalization of constitution/race improvement theory in Meiji Japan. His physiological interest in diet and reproduction, and a national obsession for reforming customs and morals led him to look into the science of race improvement. His interpretation of heredity allowed a greater role for physical exercise and learning in controlling population quality. He rejected strict biological determinism that disregarded the impact of physical training

and education. Especially because the Japanese were anxious to correct their self-defined physical inferiority, eugenics attracted the attention of some Japanese. Ōsawa's training in physiology had much to do with his early leadership in bodily improvement movements. Ōsawa's basic medical (*kiso igaku*) research interest bordered biology (zoology) and medicine, as we have seen in his dissertation on dogs' spinal cords and his participation in the zoological conference in Berlin. Historian of science, Suzuki Zenji, saw that there was a relative lack of interest in eugenics among Japanese biologists. While the first generation of Japanese geneticists, mostly working on rice and silkworms, operated in the framework of the faculty of agriculture and were not funded to extend their research to humans, no other medical specialists were able to conduct sophisticated experimental research using human subjects either.[68] Only in the 1910s did biologists and medical experts begin to actively participate in discussions on eugenics.

This chapter also shows Ōsawa's crucial role in diffusing race improvement theory by medicalizing an important life event, namely marriage. His understanding of emerging genetic and evolution theories led him to notice the validity of the female body in race improvement. His "hybrid" eugenics, which included such elements as the promotion of the Japanese family system and arranged marriage, and emphasis on the home as women's sphere of influence, were compatible with the patriarchal values, invented as authoritative "traditions" by the Meiji officials and intellectuals.[69] At the same time, his ideas attracted pragmatic feminists such as Hiratsuka Raichō because he explained scientifically that women were at least equally responsible for determining the characteristics of offspring.[70]

Despite the fact that Ōsawa's eugenic thought contained oppressive patriarchal values, from which feminists were struggling to emancipate themselves, Hiratsuka Raichō sought advice from her former professor. And, even though Hiratsuka questioned values he believed in, Ōsawa endorsed Hiratsuka's eugenic marriage legislative movement. He saw the feminist proposal as scientifically sound and good for the nation. The collaboration between Ōsawa and Hiratsuka was similar to that between Ōsawa and others such as Naruse Jinzō and Nemoto Shō. First, individuals with different political and social visions came together to advance toward their immediate goals. Second, such an alliance represented the private citizens' active agency in influencing state policymaking. What was distinct about the Ōsawa–Hiratsuka coalition, however, was that it revealed two remarkably different interpretations regarding the significance of the female body. For Ōsawa the female body was an object to be controlled by the (male) authorities. For Hiratsuka and other women, the female body served as a bargaining chip for negotiation and a source of empowerment.

NOTES

1. I would like to thank James Bartholomew, Kevin Doak, Margaret Lock, Morris Low, Matsubara Yōko, Lawrence Sitcawich, Sharon Traweek, Yuki Terazawa, and

Rumi Yasutake for generously assisting me during the course of this research. The quote is from Mark B. Adams, "Toward a Comparative History of Eugenics," in *The Wellborn Science: Eugenics in Germany, France, Brazil, and Russia*, ed. Mark B. Adams (New York: Oxford University Press, 1990), pp. 225–226.

2. For the hierarchy of center and periphery of scientific knowledge production, see Nancy Stepan, *"The Hour of Eugenics": Race, Gender, and Nation in Latin America* (Ithaca: Cornell University Press, 1991), p. 3; Hiroshige Tetsu, *Kagaku to rekishi* (Tokyo: Misuzu Shobō, 1965), pp. 103–105; Sharon Traweek, *Beamtimes and Lifetimes: The World of High Energy Physicists* (Cambridge, Mass.: Harvard University Press, 1988); and Morris Fraser Low, "The Butterfly and the Frigate: Social Studies of Science in Japan," *Social Studies of Science* 1989, *19*: 313–342. For the concepts of transplantation, domestication, and translation, see Joseph J. Tobin, "Introduction: Domesticating the West," in *Re-Made in Japan: Everyday Life and Consumer Taste in a Changing Society*, ed. Joseph J. Tobin (New Haven, Conn.: Yale University Press, 1992), 1–41, on p. 4; and Tessa Morris-Suzuki, "The Great Translation: Traditional and Modern Science in Japan's Industrialization," *Historia Scientiarum* 1995, *5* (2): 103–116.
3. This was the assessment of the Japanese historian of science Yoshida Mitsukuni, quoted in James R. Bartholomew, *The Formation of Science in Japan: Building a Research Tradition* (New Haven, Conn.: Yale University Press, 1989), p. 4.
4. For existing work that touches on Ōsawa's eugenic ideas, see Suzuki Zenji, *Nihon no yūseigaku: Sono shisō to undō no kiseki* (Tokyo: Sankyō Shuppan, 1983), p. 92; and Saitoh Hikaru, "*Chiiku taiiku iden kyōikuron* o kangaeru: Nihon yūseigakushi no hitokoma," *Kyōto Seika Daigaku kiyō* 1993, *5*: 168–178, on pp. 171–173. Neither Saitoh nor Suzuki suggest that Ōsawa paid a special attention to the female body. Though she analyzes him more as a sexologist than eugenicist, Sabine Frühstück, however, notes that Ōzawa (Ōsawa) Kenji identified "chastity, women's participation in the workforce outside the home, and birth control" as the most important "sexual problems" in 1920. See her *Colonizing Sex: Sexology and Social Control in Modern Japan* (Berkeley: University of California Press, 2003), p. 104.
5. "Medicalization of life" refers to medical professionals' attempt to bring various events, behaviors, and problems into their sphere by diagnosing them as pathological. This means the creation of a new market because previously nonmedical matters are transformed into something that required health scientific treatment and care. See Margaret Lock, "Ambiguities of Aging: Japanese Experience and Perceptions of Menopause," *Culture, Medicine and Psychiatry* 1986, *10*: 23–46.
6. As Japan improved and expanded its higher education system, modern day Tokyo University went through numerous organizational changes. Consequently, it was renamed several times. To avoid unnecessary confusion, I use "Tokyo University" throughout this chapter.
7. At the time, Strassburg (Fr. Strassbourg), a city in modern-day French province Alsace-Lorraine (G. Elsass-Lothringen), belonged to the German Empire.
8. About Ōsawa's life, see his memoir, Ōsawa Kenji, *Tōei chūgo*, ed. Nagai Hisomu (Tokyo: Kyōrinsha, 1928). See also K.R. Iseki, ed., *Who's Who Hakushi in Great Japan 1888–1922* (alternative title: Iseki Kurō, ed., *Dai Nihon hakushiroku*), Vol. 2 (Tokyo: Hattensha, 1925), pp. 4–5, 27–28 (in English) and 4–5, 26–27 (in Japanese); Koichi Uchiyama and Chandler McC. Brooks, "Kenji Osawa, a Pioneer Physiologist of Japan," *Journal of the History of Medicine and Allied Sciences* 1965, *20*: 277–279; Sakagami Katsuya, ed., *Gekidō no Nihon seijishi*, Vol. 1, *Meiji Taishō*

Shōwa rekidai kokkai giin shiroku (Tokyo: Asaka Shobō, 1979), p. 958; and Nihon Seirigaku Kyōshitsushi Henshū Iinkai, ed., *Nihon seirigaku kyōshitsushi*, Vol. 1 (Tokyo: Nihon Seirigakkai, 1983), pp. 272–277.

9. Masao Watanabe, *The Japanese and Western Science*, trans. Otto Theodor Benfey (Philadelphia: University of Pennsylvania Press, 1990), p. 79.
10. Fukuzawa Yukichi, "Jiji shōgen," in *Fukuzawa Yukichi zenshū*, ed. Keiō Gijuku, Vol. 5 (1881; reprint, Tokyo: Iwanami Shoten, 1959), pp. 225–231. Galton published *Hereditary Genius* in 1869.
11. For "whitening" and "whiteness" discussion in China, Brazil, and Japan, see Sakamoto Hiroko, "Ren'ai shinsei to minzoku kairyō no 'kagaku': Goshi shinbunka disukōsu to shite no yūsei shisō," *Shisō* 1998, *894*:4–34, on p. 7; Stepan, "*The Hour of Eugenics*," pp. 154–156; and Morris Low, "The Japanese Nation in Evolution: W.E. Griffis, Hybridity and Whiteness of the Japanese Race," *History and Anthropology* 1999, *11* (2–3): 203–234.
12. See Takahashi Yoshio, "Nihon jinshu kairyō ron," in *Meiji bunka shiryō sōsho*, Vol. 6, *Shakai mondai hen*, ed. Kaji Ryūichi (1884; reprint, Tokyo: Kazama Shobō, 1961), pp. 15–55. For studies on this subject, see Suzuki, *Nihon no yūseigaku*, pp. 32–44; and Fujino Yutaka, "Kindai Nihon to yūsei shisō no juyō," in *Nihon fashizumu to yūsei shisō* (Kyoto: Kamogawa Shoten, 1998), pp. 371–394. In English, see Hiroshi Unoura, "Samurai Darwinism: Hiroyuki Katō and the Reception of Darwin's Theory in Modern Japan from the 1880s to the 1900s," *History and Anthropology* 1999, *11* (2–3): 235–255.
13. See Fukuzawa Yukichi, "Nihon fujinron," in *Fukuzawa Yukichi zenshū*, Vol. 5, ed. Keiō Gijuku (1886; reprint, Tokyo: Iwanami Shoten, 1959), pp. 447–474; Sugihara Naoko, "Fukuzawa Yukichi no joseiron ni okeru paradaimu tenkan," *Ningen bunka kenkyū nenpō* 1991, *15*: 219–229; and Fujino, "Kindai Nihon to yūsei shisō no juyō," pp. 386–392.
14. Later Ōsawa wrote an article analyzing the lefthandedness of Katō Hiroyuki in 1899. Ōsawa also noted that Katō was involved in the mixed marriage debate a decade and some years earlier, see Ōsawa Kenji, *Tsūzoku kekkon shinsetsu*, (Tokyo: Ōkura Shoten, 1909), p. 245.
15. Sumiko Otsubo and James R. Bartholomew, "Eugenics in Japan: Some Ironies of Modernity, 1883–1945," *Science in Context* 1998, *11* (3–4): 545–565, on pp. 549–552.
16. Paul Weindling, *Health, Race, and German Politics between National Unification and Nazism 1870–1945* (Cambridge: Cambridge University Press, 1989), pp. 96–101.
17. Iseki, *Who's Who Hakushi in Great Japan 1888–1922*, Vol. 2, pp. 27–28 (in English) and 26–27 (in Japanese).
18. Iseki, *Who's Who Hakushi in Great Japan 1888–1922*, Vol. 2, pp. 4–5 (in English) and 4–5 (in Japanese) and Nihon Seirigaku Kyōshitsushi Henshū Iinkai, *Nihon seirigaku kyōshitsushi*, Vol. 1, pp. 272–277. While his physiological paper delivered in Turin was concerned with lefthandedness, his zoological study presented in Berlin was about the collective move of a kind of fish, *Itome*. Upon returning from Europe, he gave a talk on his observation during the trip at a meeting of the Greater Japan Private Women's Hygienic Association. See "Ōbei ryokōchū ni kenbun seshi ichi nisetsu," *Fujin eisei zasshi* 1902, *155*: 1–14.
19. Weindling, *Health, Race, and German Politics*, p. 7.
20. German theorists mentioned in Ōsawa's 1904 work include sociologist Eduard Gumplowicz, a medical practitioner and advocate of contraceptive devices

W. Mensinga, professor of obstetrics at University of Freiburg Alfred Heger, bacteriologist who served as the director of the Department of Health in the Ministry of Welfare Martin Kirchner, and social hygienist Alfred Blaschko trained in dermatology.

21. Weindling, *Health, Race, and German Politics*, p. 9. The German notion of "social hygiene" and the French notion of "social medicine" were often used interchangeably. For social hygiene in Japan, see Nihon Kagakushi Gakkai, ed., *Nihon kagaku gijutsushi taikei*, Vol. 25, *Igaku* Part 2 (Tokyo: Dai-ichi Hōki Shuppan, 1967), pp. 73–104.
22. For instance, Ōsawa published a couple of articles regarding the impact of civilization on the physical and mental quality of humans in 1905. See Nihon Seirigaku Kyōshitsushi Henshū Iinkai, *Nihon seirigaku kyōshitsushi*, Vol. 1, p. 276. For degeneration, see Ian Dowbiggen, "Degeneration and Hereditarianism in French Mental Medicine, 1840–1890: Psychiatric Theory as Ideological Adaptation," in *The Anatomy of Madness, Essays in the History of Psychiatry*, Vol. 1, *People and Ideas*, ed. W.F. Bynum, Roy Porter, and Michael Shepherd (London: Tavistock, 1985), pp. 188–232; Daniel Pick, *Faces of Degeneration: A European Disorder, c. 1848–c. 1918* (Cambridge: Cambridge University Press, 1989), and Matsubara Yōko, "Meiji-matsu kara Taishō-ki ni okeru shakai mondai to 'iden,' " *Nihon bunka kenkyūjo kiyō* 1996, *3*: 155–169.
23. Pick, *Faces of Degeneration*, p. 11.
24. Weindling, *Health, Race, and German Politics*, p. 9.
25. Ōsawa Kenji, *Shaiteki eisei taishitsu kairyōron* (Tokyo: Kaiseikan, 1904), pp. 26–27.
26. Ibid., pp. 28, 49–50.
27. Ibid., p. 37.
28. Ibid., pp. 47, 79–85.
29. Ibid., p. 71.
30. Daniel J. Kevles, *In the Name of Eugenics: Genetics and the Uses of Human Heredity* (Berkeley: University of California Press, 1985), p. 92 and note 29 on p. 325; Weindling, *Health, Race, and German Politics*, pp. 293–294; and Atina Grossman, *Reforming Sex: The German Movement for Birth Control and Abortion Control, 1920–1950* (New York: Oxford University Press, 1995), p. 16.
31. Ōsawa, *Taishitsu kairyōron*, pp. 55–56.
32. Ibid., pp. 70–71.
33. The book, published by Ōkura Shoten in Tokyo, is 118 pages in length.
34. See Kathryn Ragsdale, "Marriage, the Newspaper Business, and the Nation-State: Ideology, in the Late Meiji Serialized *Katei Shōsetsu*," *Journal of Japanese Studies* 1998, *24* (2): 229–255. As for the *Hōchi* marriage detective service (Hōchisha Anshinjo), see its advertisement in the back of Ōsawa, *Tsūzoku kekkon shinsetsu*. For agencies investigating lineage, see Fujino, *Nihon fashizumu to yūsei shisō*, pp. 107, 392–393.
35. Ōsawa, *Tsūzoku kekkon shinsetsu*, pp. 1–2.
36. Ibid., pp. 24–25.
37. Ibid.
38. Pick, *Faces of Degeneration*, p. 92.
39. Ibid., p. 89.
40. Ōsawa, *Tsūzoku kekkon shinsetsu*, pp. 1–2. Here I translate *minzoku* as "race." However, as Kevin Doak suggests, the meaning of "*minzoku*" can only be understood within a process of discursive practice. See his "Culture, Ethnicity, and the

State in Early Twentieth-Century," in *Japan's Competing Modernities: Issues in Culture and Democracy, 1900–1930*, ed. Sharon A. Minichielllo (Honolulu: University of Hawaii Press, 1998), pp. 181–205.

41. For the process of redefining middle class in the Meiji period and the significance of education for the new middle class people, see David R. Ambaras, "Social Knowledge, Cultural Capital, and the New Middle Class in Japan, 1895–1912," *Journal of Japanese Studies* 1998, *24* (1): 1–33.
42. Ōsawa, *Tsūzoku kekkon shinsetsu*, pp. 95 and 108.
43. Ibid., pp. 183–189.
44. As for Ōsawa's definition of physiology, see his textbook, *Seirigaku, Nihon Joshi Daigaku kōgi*, no. 9 (Tokyo: Kanda Seibidō, 1928), p. 49.
45. For Nagai's leadership of a eugenics movement, see Suzuki, *Nihon no yūseigaku*, pp. 93, 107, 144, 153–157, 167–168; and Fujino, *Nihon fashizumu to yūsei shisō*, Chapters 1, 3, 4, and 5.
46. Ōsawa, *Tsūzoku kekkon shinsetsu*, pp. 48–49.
47. Ibid., pp. 48–71. In the Meiji period, the *bushidō*, a class-specific tradition of the Tokugawa era, was often used to represent class-encompassing Japanese identity. See Unoura, "Samurai Darwinism," and Low, "The Japanese Nation in Evolution," p. 227.
48. Ōsawa, *Tsūzoku kekkon shinsetsu*, p. 4.
49. Ōtsuka Miyao, *Shinpan Meiji ishin to Doitsu shisō*, ed. Yamashita Takeshi (Tokyo: Nagasaki Shuppan, 1977), pp. 322–335; and Hashikawa Bunzō, *Kōka monogatari* (Tokyo: Chikuma Shobō, 1976).
50. The Emperor Meiji reigned Japan between 1868 and 1912 (the Meiji period). On the mobilization of medical science in the construction of racial difference, see Yuki Terazawa's contribution to this volume.
51. See Sumiko Otsubo, "Women Scientists and Gender Ideology in Japan," in *A Companion to the Anthropology of Japan*, ed. Jennifer Robertson (Oxford: Blackwell, 2005).
52. Suzuki Yūko, *Joseishi o hiraku*, Vol. 1, *Haha to onna: Hiratsuka Raichō to Ichikawa Fusae o jiku ni* (Tokyo: Miraisha, 1989), pp. 50–51; and Miyake Yoshiko, "Kindai Nihon joseishi no saisōzō no tame ni: Tekisuto no yomikae," Kanagawa Daigaku Hyōron Henshū Senmon Iinkai, ed., *Kanagaka Daigaku hyōron*, Vol. 4, *Shakai no hakken* (Tokyo: Ochanomizu Shobō, 1994), p. 65.
53. Ōsawa, *Tsūzoku kekkon shinsetsu*, pp. 555–564.
54. Ibid., p. 561.
55. Daniel Pick has discussed the increasing use of medical metaphors in describing a nation's historical and social phenomenon in late-nineteenth-century Europe. See his *Faces of Degeneration*, pp. 97–99.
56. Ōsawa, *Tsūzoku kekkon shinsetsu*, p. 564. Ōsawa seems to have been influenced by Katō Hiroyuki's theory to equate a society to an organism (*shakai yūkitaisetsu*) and glorification of the altuistic *bushidō*. See Unoura, "Samurai Darwinism."
57. Sumiko Otsubo, "Engendering Eugenics: Feminists and Marriage Restriction Legislation in the 1920s," in *Gendering Modern Japanese History*, ed. Barbara Molony and Kathleen Uno (Cambridge, Mass.: Harvard University Asia Center, forthcoming).
58. Ōsawa, *Taishitsu kairyōron*, p. 84; and *Tsūzoku kekkon shinsetsu*, p. 557.
59. Ōsawa Kenji's article was originally published in the journal *Sei* (November 1920). It was reprinted as "Karyūbyō danshi kekkon seigen-hō hiketsu no fujōri," *Josei dōmei* 1920, *3*: 47–48.

60. Ōsawa Kenji, "Shugai to kinshu hōhō," *Kuni no hikari* 1907, *167*: 20–22.
61. Katō Junji, *Nemoto Shō-den: Miseinensha inshu kinshu-hō o tsukutta hito* (Nagano: Ginga Shobō, 1995), pp. 167–171.
62. "Dai nijūrokkai Teikoku Gikai Kizokuin gijiroku kiroku bassui Ōsawa igaku hakushi no shugai dai enzetsu," *Kuni no hikari* 1910, *202*: 18–24.
63. See, e.g., Chalmers Johnson, *MITI and the Japanese Miracle: The Growth of Industrial Policy, 1925–1975* (Stanford: Stanford University Press, 1982). See also the assessment of this influential view in Morris-Suzuki, *The Technological Transformation of Japan: From the Seventeenth to the Twenty-first Century* (New York: Cambridge University Press, 1994), pp. 72–77; and Andrew Gordon, *A Modern History of Japan: From Tokugawa Times to the Present* (New York: Oxford University Press, 2003), p. xii.
64. See e.g., Fujino, *Nihon fashizumu to yūsei shisō*, p. 40.
65. See Fujime Yuki, *Sei no rekishigaku: Kōshō seido, dataizai taisei kara Baishun Bōshi-hō, Yūsei Hogo-hō taisei e* (Tokyo: Fuji Shuppan, 1997), pp. 320–321; Kondō Kazuko, "Onna to sensō" in *Onna to otoko no jikū: Nihon joseishi saikō*, Vol. 6, ed., Okuda Akiko, *Semegiau onna to otoko: Kindai* (Tokyo: Fujiwara Shoten, 1995), p. 481.
66. Sheldon Garon has analyzed complex state–society relations, see his "Rethinking Modernization and Modernity in Japanese History: A Focus on State-Society Relations," *Journal of Asian Studies* 1994, *53* (2): 346–366.
67. "Minzoku Yūsei Hogo hō-an iinkai giroku (sokki) daini-kai," in *Dai nanajūyonkai, Teikoku Gikai Shūgiin iinkai giroku, Shōwa 13, 14 nen, in Teikoku Gikai, Shūgiin iinkai giroku*, microfilm ed., reel 31 (1938–1939; reprint, Rinsen Shoin, 1990), p. 369.
68. See Suzuki Zenji, "Yūzenikkusu ni taisuru Nihon no han'nō," *Kagakushi kenkyū* 1968, *87*: 129–136, on p. 135.
69. Andrew Gordon states that "a profound anxiety that something was being lost in the headlong rush to a Western-focused modernity surfaced with increasing intensity in the 1880s and 1890s. This worry pushed intellectuals to improvise new concepts of Japanese 'traditions.' It also linked up with the fear of social disorder and political challenge among state officials. They responded by putting in place oppressive limits on individual thought and behavior." See his *A Modern History of Japan*, p. 94. For invented traditions in Japan, see Stephen Vlastos, ed., *Mirror of Modernity: Invented Traditions of Modern Japan* (Berkeley: University of California Press, 1998).
70. Ōsawa, *Taishitsu kairyōron*, p. 37; and *Tsūzoku kekkon shinsetsu*, pp. 93–95, 195–196.