## Science, Technology and Medicine in the Modern Japanese Empire

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### Chapter 14

## The science of population and birth control in post-war Japan

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# 14 The science of population and birth control in post-war Japan

Aya Homei

### Introduction

After World War II, the Japanese government adopted a different method of tackling population growth. Whereas the pre-war government was comfortable with relieving Japan's surplus population by emigration and territorial expansion, the post-war government relied on birth control to slow the population growth.<sup>1</sup> Despite the change in population management technique, one theme remained consistent: population scientists acted as policy advisors.

This essay examines the entanglement between population science and population governance immediately after World War II. It analyzes debates on population and birth control research that contributed to the state-endorsed birth control campaign. Drawing on the existing works on the campaign as well as coproduction theory proposed in science and technology studies (STS), this essay depicts how the Japanese state's post-war birth control policy was coproduced with a particular kind of population science that insisted on the necessity of birth control for Japan's post-war reconstruction.<sup>2</sup>

While focusing on the science of population that developed within the Japanese state, my central argument is that transnational exchanges among population and birth control experts also shaped the nexus between state population governance and the making of population science in post-war Japan. I argue that the perspectives adopted so far implicitly privilege the nation-state as a primary category for analysis and undervalue the interaction among various nodes of population governance, including scientists who existed not just within but also beyond a given national border. Twentieth-century population governance was more than just a story of nation building precisely because the problem of population was seen as dovetailing with spatial issues such as food, land and environment, which contemporaries claimed required inter- and transnational cooperation.<sup>3</sup> This discourse of population engaged international and non-governmental institutions to participate in population governance exercises at national and local levels. In post-war Japan, the Allied Occupation (1945–52), in which the US exercised preponderant power over Japan, facilitated the transnational dialogue between American and Japanese population advocates and experts. This transnational element affected the trajectory of the state-endorsed birth control campaign and indicates that the campaign—which has been presented as a quintessentially Japanese and national project—was interlocked with global history.<sup>4</sup>

To highlight these points, I first analyze how the debate on population, predicated on the Malthusian argument, shaped perceptions of population growth and provided foundations for the state birth control campaign after 1945.<sup>5</sup> I focus on Edward A. Ackerman and Warren S. Thompson, American scientists who participated in the disputes over Japanese population issues as scientific consultants to the occupation's general headquarters (GHQ). I describe how the occupation gave non-Japanese scientists an opportunity to participate in state population governance through their science. Consequently, Ackerman's and Thompson's transnational perspective, which regarded Japanese demography as inherently tied to global politics and highlighted Japan's critical position within world population, became a foundational narrative for understanding the population of Japan.

The second part of the essay studies how the theoretical debate on population was translated into concrete medical research on birth control in Japan, and indicates that the transnational element was even integrated into the applied scientific project that allegedly accounted for state population policy. I analyze birth control research organized by Koya Yoshio (1890-1974), director of the National Institute of Public Health. Koya defined his research within the framework of the state's birth control policy yet simultaneously sought financial help from sympathizers of population control from the United States, namely Clarence J. Gamble and the Rockefeller Foundation. Koya's arrangement eventually permitted non-Japanese, non-governmental actors to contribute to running the Japanese state apparatus addressing population policy. By clarifying agency in Koya's birth control research, I demonstrate that inter- and transnational vectors affected not only the theoretical debate over the state's participation in population control but also the medical practice sustaining state efforts to discipline and manage its population. These case studies therefore challenge the assumption of the state monopoly over population control.

The theme of empire acted as a critical backdrop to transnational exchanges on population, prevailing in the disputes over Japan's population management. Specifically, discussions of the population problem in post-war Japan built on the transnational dialogue were predicated on the narrative of Japan's lost empire as well as an imperialistic perspective engrained in the burgeoning discourse of transnational population control that labelled parts of Asia, Africa and Latin America as "underdeveloped." This international context conferred a special status to post-war Japan: its demographic trend and sociopolitical state made Japan an archetype for "underdeveloped areas."<sup>6</sup> According to Ackerman, 1940s Japan had become a hungry, poor, overcrowded, and "underdeveloped" country because it had lost colonies after the collapse of its empire. Ackerman and Thompson suggested Japan should no longer resort to the familiar trope of territorial expansion or emigration precisely because these measures were associated with Japan's aggressive imperial past. Under these circumstances, they understood birth control to be one appropriate policy for post-war Japan. They proposed birth control to replace pre-war methods to support a growing population that hinged on the notion of *lebensraum*.<sup>7</sup> Thus, the image of Japan's lost empire, coupled with a perspective rendering Japan "underdeveloped," acted as a critical backdrop to the promotion of birth control, creating an intersection between the domestic scientific discourse of population, the geopolitical narrative of colony and empire, and the post-war world that shaped population governance in post-war Japan.

### The "population problem" and the state birth control campaign in the immediate post-war period

Shortly after the end of World War II, Japan's population started to grow very quickly, and birth control came to the fore as an answer to a perceived "population problem." Repatriation and a post-war baby boom were assisted by a moderate death rate of 14.6 per 1,000, resulting in population growth of 31 per 1,000 population.<sup>8</sup> The population surge was, however, a temporary phenomenon; the birth rates gradually began to dwindle after 1948, and slowed further after 1951.

Yet demographic trends within the first three years after the war convinced policymakers that Japan was confronted with a "population problem" and that the government should tackle it. After much discussion, the government eventually resorted to birth control. In 1949, the government issued the Pharmaceutical Law that explicitly allowed the sales of condoms and diaphragms for contraception, and on October 26, 1951, the prime minister's Cabinet Council formulated a fundamental policy to popularize birth control across the country and the government began a nationwide campaign. With guidance from central government, local authorities assigned existing female health practitionersmidwives and public health nurses-the additional role of "birth control instructors" and retrained them to educate ordinary men and women about the idea and practice of contraception. In consultation with doctors, these instructors visited individual households and hosted seminars and marriage counseling clinics, teaching the benefits of birth control and making contraceptives available in their communities. Thus, the state birth control campaign in postwar Japan unfolded almost in tandem with the rise in the discourse around "population problem."

The deployment of the birth control campaign as a policy response to the perceived population problem was in no way predetermined. First, intellectuals from diverse backgrounds made many suggestions other than birth control: emigration, reindustrialization, and agricultural reform were all discussed as preferred options. Minoguchi Tokijirō, who approached the population problem from an economics/resources perspective, argued that policymakers should focus on rebuilding Japan's economic and industrial capacity, not birth control.<sup>9</sup> Furthermore, while birth control was a subject of discussion from the onset, some were also resistant to birth control as a national policy partly because they feared that it would promote what eugenicists and doctors called

"reverse selection," or the "lowering" of the quality of the Japanese populace via differential fertility—that is, the "biologically unfit" or those in lower socioeconomic classes would bear multiple children, while others regarded more "biologically fit" would regulate fertility.<sup>10</sup> Finally, even when birth control had become a realistic policy in the late 1940s, the most urgent objective of the campaign was allegedly to tame the surge in abortion rates that had occurred after the amendment of the Eugenic Protection Law in 1949 that created a legal loophole for women seeking abortions.<sup>11</sup> Thus, the path from the ascendancy of "population problem" discourse to the implementation of the birth control campaign was neither unidirectional nor predetermined.

Despite competing ideas about the solution to the imminent population crisis, the argument that Japan's loss of colonies after World War II constituted a critical factor in the post-war population problem ran through the debate on Japanese population. After 1945, Japan lost its empire and its territory shrank drastically, to the extent that Aki Koichi implied the country had lost nearly 45 percent of its pre-war territory.<sup>12</sup> The idea of lost colonies fed into the view that Japan was now flooded with repatriates. The image of overcrowded Japan consolidated claims similar to one made by the prominent obstetrician, gynaecologist, and politician Taniguchi Yasaburō, that overpopulation would trigger hunger, poverty, and the infestation of diseases in crowded spaces and eventually lower the quality of the Japanese population.<sup>13</sup> At the same time, leading commentators on resources such as Minoguchi problematized overpopulation in relation to Japan's access to natural resources and capital, now severely hampered by the loss of colonies.<sup>14</sup> This view held wide currency during the post-war period precisely because the country was also confronted by obvious food shortages.<sup>15</sup> Policy intellectuals' gloomy forecasts regarding the consequences of overpopulation for the country's socioeconomic and political future suggested a post-war Malthusian dilemma might preclude war-torn. US-occupied Japan from achieving economic reconstruction and even national independence.<sup>16</sup> Therefore, the post-war "population problem" was derived from the issue of space unique to Japan's recent past, its lost empire.

Since the period when population growth was problematized largely overlapped with the period of the Allied occupation (1945–52), leaders within the occupation's governing body were compelled to react. General Douglas MacArthur, the supreme commander of the Allied Powers (SCAP), chose to proclaim publicly that the GHQ would take a hands-off approach to birth control.<sup>17</sup> Nevertheless, population growth itself remained a high priority within the GHQ, in part because countless non-Japanese studies on Japan's demographic trend during the occupation agreed with the prognosis made by Japanese policy intellectuals.<sup>18</sup> Consequently, the GHQ, in parallel to the Japanese government, embarked on research that explored possible solutions to the population problem. It assigned the three sections dealing with population issues—the Economic and Scientific Section, Natural Resources Section and Public Health and Welfare Section—to investigate the current population problems confronting Japan.<sup>19</sup> In the late 1940s, as an extension of population concerns within the GHQ, SCAP invited noted population experts from the US as scientific consultants. The list of invited experts was impressive, and included prominent demographer Frank W. Notestein of the Office of Population Research at Princeton University who led the "population establishment," the amorphous group that laid the foundation for the transnational population control movement from the 1950s onwards.<sup>20</sup> These expert consultants visited Japan for brief periods to look into population issues and were asked to produce reports that gave specific policy advice to the respective sections within which they served.

Among those invited by GHO were noted geographer Edward A. Ackerman and sociologist Warren S. Thompson. Ackerman visited Japan from July 1946 to February 1948 and from August 1948 to January 1949 and on both occasions served in GHQ's Natural Resources Section.<sup>21</sup> Likewise, Thompson worked for the same section while he stayed in Japan for several months from January 1949.<sup>22</sup> The two stood out as recognized authorities on birth control in occupied Japan. Their Japanese colleagues, including Koya Yoshio, came to advocate birth control after becoming acquainted with Ackerman and Thompson.<sup>23</sup> Furthermore, the two came to have a high public profile for statements they made on birth control and Japan's population problem. Ackerman came to the public's attention when a newspaper article caricature of his report to SCAP (December 30, 1949) "urg[ed] birth control as a 'workable solution" to Japan's overpopulation.<sup>24</sup> In turn, Thompson, who was credited with persuading Prime Minister Yoshida Shigeru to adopt birth control as Japan's policy, was more forthcoming in expressing his support publicly.<sup>25</sup> To be sure, they gained fame in Japan less because the Japanese themselves paid attention to their actions than because the American Catholics residing in Japan were scandalized by their comments.<sup>26</sup> Nevertheless, their media presence assisted acceptance of birth control as a justifiable technology of population control in Japan.

While both men promoted birth control as a solution to the population problem, the ways each considered the problem of population differed, reflecting their distinctive fields of expertise. Ackerman, a geographer whose interest in population derived from his long-lasting engagement with issues of resources. understood Japan's population problem in a manner similar to Japanese Malthusian economists-i.e. that it was caused by the collapsing balance between population growth and economic growth.<sup>27</sup> Noting that over 80 million people, or "more than half as many as the total population of the entire United States," lived on the now much smaller landmass of Japan, Ackerman thought the Japanese situation exemplified "the fundamental problem of balancing production against demand."28 What concerned Ackerman was that this "fundamental problem" would erode Japan's limited land resources and cause a drastic rise in mortality rates if current international food aid were terminated.<sup>29</sup> Furthermore, as a specialist in issues of development and resource availability, Ackerman considered the population problem particularly in relation to Japan's poor and hungry. He thought the loss of colonies and the warobliterated economy transformed Japan into a "have not" country and drove it "backward" on the scale of industrial development. He further argued that population growth exacerbated the socioeconomic situation to such a degree that he classified Japan as one of the "underdeveloped areas."<sup>30</sup> For geographer Ackerman, Japan's population problem posed what was primarily a Malthusian dilemma and denoted issues of land, resource, and development.

In contrast, sociologist Thompson discerned the population problem in terms of world security.<sup>31</sup> Since the pre-war period, Thompson had been leading international debates on population by warning that socioeconomic crises, such as poverty, food shortages and unemployment, were brought on by population pressure, and therefore surplus population could destabilize people politically. He had also participated in the dispute over Japan's population growth that surged after the Rice Riots (1918), and stated in 1929 that population pressure would push Japan into a war, and consequently the Japanese situation jeopardized world peace.<sup>32</sup> In the post-war period, too, Thompson stressed the imminent ramifications of overpopulation on geopolitics, specifically concentrating on the position of the United States in the burgeoning Cold War. Thompson commented that if population growth was not moderated and if the United States stopped current food aid, Japan might fall back on militarism or succumb to communism, compromising the geopolitical balance in the Cold War.<sup>33</sup> Thompson, therefore, discussed population principally in regard to the politics of space.

Ackerman and Thompson's articulation of population issues indicated that however different their emphasis, they were fundamentally in agreement and considered the population problem essentially an issue of space. Convergence of their views should come as no surprise, especially when we take into account that this conceptualization of population was in no way uncommon among world population scientists during the period. Because the population problem dovetailed with issues such as land, migration, territory, colonization, and settlement, the pre-war debate on world population emphasized geography and population policy was predicated on the logic of shifting lebensraum and redistributing people.<sup>34</sup> This line of argument was so prevalent that Thompson in the 1920s endorsed Japan's colonial pursuit by claiming that territorial expansion, e.g., the cession of Pacific Islands to Japan, could act as an alternative to war.<sup>35</sup> Even after the war, the idea of regarding population as part of the problem of space and security did not disappear; as Thompson's articulation of population and the Cold War geopolitics implies, it remained a significant undercurrent in the discussion of population during the period.<sup>36</sup> Ackerman and Thompson's characterizations of the Japanese population problem mirrored international trends in population science.

At the same time, in the context of the international politics of sex, birth control was long considered obscene, and here Ackerman and Thompson diverged from the international currents by presenting birth control as a viable method for population control; yet, one could also argue that their attitude toward birth control ironically reflected a new trend within the field of population science that gradually shifted its focus from geography toward biology to manage surplus population. Reasons for the change varied, but the rise of demographic transition theory that stressed the importance of fertility for population statistics and the realization that the earth was no longer free living space—that there was no such thing as flight to "virgin land" to relieve population pressure—were among critical perspectives underlying the shifting argument.<sup>37</sup> Thus, from the 1950s onwards, population experts increasingly looked to fertility reduction for population management. Thompson was a forerunner in advocating these measures. In the pre-war period he championed manipulating space and shifting people to solve the population problem, but having witnessed Japan's population problem and the bloody Partition of Pakistan and India, Thompson reappraised his underlying assumptions. He concluded that opening land to a large population could provide only temporary relief, and began to campaign for birth control.<sup>38</sup> This shift within population science encouraged Thompson, and to some extent Ackerman, to endorse birth control for Japan.

Ackerman's and Thompson's endorsement of birth control cannot be explained solely by international developments in population science; Japan's status as a former colonial power also underlay their claim. In assessing various population measures for post-war Japan. Ackerman thought that although previous scholars had regarded expansion of territory as effective, and although some Japanese intellectuals were still discussing the possibility of emigration as a countermeasure to overpopulation, the decision of whether or not the Japanese government could opt for these measures was beyond Japan's control precisely because past Japanese leaders used such rationales to justify aggression.<sup>39</sup> Similarly, Thompson commented, regarding emigration as a population control measure, "[o]wing to the aggressiveness of the Japanese in the past, no country cluded that fertility reduction through birth control, which he euphemistically labeled "stabilization of the population," was the only "adequate" measure left for post-war Japan.<sup>41</sup> Ackerman's statement appears as though he reached this conclusion through the process of elimination; however, one could also argue that his characterization of birth control as an "adequate" method-and implicitly characterizing emigration and territorial expansion as inadequate-for population management could not have been made without his interpretation of Japan's aggressive military and colonial past.<sup>42</sup> The image of Japanese colonial power exploiting the idea of lebensraum buttressed the two American scientist consultants' rationale for birth control.

As the abovementioned analysis suggests, the specific political context of the occupation allowed international influence to shape the debates over solutions to Japan's post-war population problem. Under the circumstances, non-Japanese population scientists willingly participated in the debates, but because they felt that the Japanese case was more than just one example out of many that would further their knowledge of world population, they also paid special attention to Japanese demography because it represented a unique experience with the politics of space (gain and loss of empire)—in other words, they reckoned that study of the Japanese population could lead

to an understanding of global population governance as it intersected geopolitics. Japanese policy intellectuals, like the American scientists, agreed that Japan's "shrunken" territory was the source of the "population problem" and this specific understanding of Japan's geographical and geopolitical position helped present the Japanese population problem as a unique case. Equally, the American scientists' understanding shaped the population debate within Japan and ultimately exhorted Japanese policymakers to replace the colonizing motivation of *lebensraum* with birth control as a domestic medical/public health solution.

## Birth control in public health, Japanese demography, and American population controllers

Although the abovementioned arguments on population control had constituted a strong undercurrent for birth control as fundamental policy in 1951, the government officially proclaimed that the policy was not a response to population expansion but intended to curb the imminent health crisis among mothers resulting from the growing popularity of abortion. The official stance regarding abortion and birth control was temporary and the government quickly shifted its argument to favor birth control for the purpose of population control. The initial definition of the 1951 policy, however, determined its position within the public health administration. Thus, public health institutions took charge of implementing birth control policy with the National Institute of Public Health (NIPH) playing a critical role. The NIPH became an officially recognized training center for the popularization of birth control. In consultation with the Ministry of Health and Welfare (and the Public Health and Welfare Section of GHQ until the occupation ended in 1952), the institute ran the program under which local public health leaders and healthcare professionals were trained in the most up-to-date methods of conception control. NIPH thus linked the central authorities and public health institutions in local governments to establish and maintain birth control services nationwide.43

NIPH director Koya Yoshio was the force behind the government's birth control program. Koya, a graduate of the elite Medical Department of the Imperial University of Tokyo and a noted racial hygienist, had long advised the government on matters of reproductive health.<sup>44</sup> During the war he worked for the Ministry of Health and Welfare and participated in drafting the 1940 National Eugenic Law.<sup>45</sup> Even after SCAP moved him to NIPH in 1946, he helped draft the 1948 Eugenic Protection Law. Finally, Koya occupied center stage when the government adopted birth control as national policy. Koya first approached health minister Hashimoto Ryūgoro and persuaded him to consider adopting birth control as a policy for protecting maternal health.<sup>46</sup> Koya also sat on the Cabinet's Japanese Population Problem Council (established 1949) and contributed to draft recommendations that formed the basis for the 1951 birth control policy.<sup>47</sup> Thus, Koya's elite

academic background, as well as his proximity to political authorities, made him a credible scientific advisor on matters of reproductive health, and birth control in particular.

Koya's interest in promoting birth control was motivated by his preoccupation with population quality, in contrast to Ackerman and Thompson whose support for birth control chiefly arose from concerns over population quantity. As mentioned above, Koya was initially reluctant to endorse birth control because he believed it would promote "reverse selection." After issuing the Eugenic Protection Law, however, Koya changed this view and became an avid promoter of birth control.<sup>48</sup> Immediately after implementation of the law, Koya learned that the rate of unchecked abortions was on the rise and seemed to promote differential fertility.<sup>49</sup> Koya concluded that abortion had a dysgenic effect on overall population quality and suggested it should be replaced by the guided use of birth control, specifically targeting the lower socioeconomic class.<sup>50</sup> Thereafter, he actively dedicated himself to the birth control movement and lobbied the government to promote birth control.<sup>51</sup> Koya's birth control advocacy was, therefore, grounded in his long-lasting involvement to maintain and improve the quality of the Japanese populace.

Koya used multiple channels to spread birth control into various policy arenas, but his research with the demographic team at the NIPH's Department of Public Health Demography was the most important. In the early 1950s, Koya's team embarked on the so-called Three Model Village Study, in which the government tested its birth control service. For seven years a team surveyed 6,936 participants in three "typical Japanese villages" deemed representative of rural Japan.<sup>52</sup> The team distributed to the participants contraceptives of their choice at a low price (initially free) and investigated the relation between contraception practice and declining birth and abortion rates.<sup>53</sup> The study proved the project's success. After seven years, contraceptives-most preferred was the condomwere used by 75 percent of the families that had experienced pregnancies in the past and by 95 percent of families with four or more children. Moreover, these figures correlated with the decline in birth and abortion rates. The crude birth rate fell from 26.7 to 13.6 per 1,000 and after the end of the sixth year, the rate of induced abortions per 1,000 dropped to 1.4, much lower than the nationwide rate of reported abortions for that year.<sup>54</sup> Koya used the study's results to validate the government's birth control policy and demonstrated the efficacy of the particular birth control initiative that he believed was the most suitable and acceptable, as it would not only reduce population size but ensure the high quality of the Japanese populace.

While Koya's birth control research was officially presented as a government project, in reality, American advocates of birth and population control also supported his research. The Three Model Village Study was funded by Clarence J. Gamble, heir of the Proctor and Gamble soap company fortune, birth control activist, and self-professed medical researcher based at the Harvard School of Public Health. Since the 1930s, Gamble had endeavored to institute contraceptive services in public health programs in America's Deep South specifically aimed at women from lower socioeconomic backgrounds.<sup>55</sup> Viewing his mission abroad as an extension of his experiments in the United States, Gamble approached Koya and proposed a collaborative effort.<sup>56</sup> The two shared professional attributes and interests: both were public health specialists working on birth control. Moreover, by SCAP order, Koya once visited the American South to observe birth control programs in public health services, part of which Gamble helped to establish.<sup>57</sup> For Gamble, Koya appeared to be the ideal individual with whom to work. Koya was happy to accept Gamble's offer and Gamble's personal donations consequently helped to maintain NIPH demographic research during the 1950s.

In addition to Gamble, Koya's research group at the NIPH was endowed by the Rockefeller Foundation (RF), whose related organization, the Population Council, was known as a pillar of the US-led transnational population control effort from the 1960s onward. The tie between the RF and the NIPH was long-standing, dating back to 1939. In the immediate post-war era, the RF began to support demographic study at the NIPH. This was partly due to Koya's initiative; he continually applied for RF funds. The RF also paid attention to Kova's research proposals because it was interested in the East Asian population.<sup>58</sup> In September 1948, its International Health Division dispatched two noted demographers from the Office of Population Research at Princeton University, Notestein and Irene B. Taeuber, along with two RF officers, Marshall Balfour (Far East regional director of the International Health Division) and Roger Evans (assistant director for the Social Sciences Division) to Japan. The delegates' advice encouraged the RF to see its mission as fostering "pioneering research ... through the cooperation of private scholars and institutions in the United States and Japan."59 In Tokyo, Oliver R. McCoy, RF representative in Japan stationed at the NIPH and a consultant to the GHQ's Public Health & Welfare Section, pushed the RF's idea of "[d]irect help to such agencies as ... the Department of Public Health Demography of the Institute of Public interest" for his organization.<sup>61</sup> Consequently, the RF funded Koya's projects on reproductive behavior impacts on the demography of Japan.<sup>62</sup>

The American benefactors did more than just aid Koya and his team's research financially; they actively participated in it. However, the RF retained its policy of distancing itself from birth control research.<sup>63</sup> Birth control was still a controversial cause in some quarters of American society, and the RF was reluctant to be seen as collaborating with birth control proponents anywhere. Under the circumstances, Koya's RF-funded research principally focused on population statistics rather than projects assessing birth control methods. In contrast, Gamble used his benefactor status to advance his cause: establishing clinical trials in Japan investigating the effectiveness of emerging birth control methods.<sup>64</sup> Gamble shipped foam powder to Koya and asked him to promote his sponge and powder method. He further suggested that Koya "can test the clinical effectiveness of a sponge using 10 percent sodium chloride solution," and also encouraged the jelly and syringe method, a kind of barrier method.<sup>65</sup> From the mid-1950s

onward, when Gamble was acquainted with the foam tablet, he advised Koya to conduct an experiment on Sampoon, a variation of the tablet produced by Japan Eizai Pharmaceutical Company in Tokyo.<sup>66</sup> Gamble was keen to establish the clinical trials he had so far been unable to conduct, and expected Koya to play the role of local confidante who performed clinical trials on his behalf.

Koya was a cooperative collaborator for the most part. Koya closely monitored the use of the sponge method, which he believed would suit Japanese users.<sup>67</sup> Furthermore, Koya even asked for Gamble's advice whenever he was about to change directions in his research or embark on a new project.<sup>68</sup> However, Koya was never simply docile when responding to Gamble's requests.<sup>69</sup> He was motivated by his sense of mission to solve Japan's population problem and by his desire to expand the field of demography in Japan, in particular the field of public health demography that specialized in the correlation between reproductive behaviors and demography.<sup>70</sup> Koya believed he could achieve his goals with the additional foreign funds and the networks forged by that funding. Gamble and the RF's offers of support arrived just at that moment, and he accepted their offers because he foresaw benefits in collaborating with the American philanthropists for his own projects. With regard to Koya's birth control research, the amicable collaboration between Koya and Gamble eventually influenced its trajectory.

This collaborative aspect of Koya's research highlights the important role local and global population science played in formulating population policy in post-war Japan. Population science provided a site that allowed transnational interests to participate in population management exercises that were sanctioned by the Japanese state. Although Koya designed his research to benefit state planning by providing data for the government's birth control policy, by allowing Gamble to influence his research, Koya-however unintentionallyfacilitated the process by which transnational elements were integrated into state machinery whose purpose was solely domestic. This in turn meant that the state-endorsed birth control campaign was partially undergirded by nongovernmental and non-Japanese forces, even though it was situated within the Japanese government's structure and derived from statist discourse of national independence and economic recovery. The story of Koya's research confirms how the practice of population management, which is chiefly presented with the framework of the nation-state, also involved interactions with vectors, local and international, beyond the state.

### Conclusion

To the degree that population issues affect vast areas of human endeavor, debates on population have embraced diverse perspectives and wide-ranging views of the population problem. The process of making the state's birth control campaign embodied this complexity domestically and internationally. To date, studies of the topic have focused attention on the biopolitical aspect of the campaign.

This essay presented a multi-level response to a historiography focused on the nation-state. We have seen the influence of international scientific debates involving Ackerman and Thompson that underscored issues of space and spatiality related to Japan's colonial past. I have demonstrated that the campaign was not only a story about sex, reproduction, or biopolitics, but that geographical topics—e.g. land, food, emigration, colony, and security—buttressed debates leading to the campaign. This concern was also reflected in domestic Japanese debates.

Another central question analyzed was the relationship between science and state sovereignty and I have indicated that development of a particular trend among Japanese population scientists played a critical role outside the state apparatus. In order to complement the historiography that has hitherto largely assumed the existence of scientists within the policy-making process, the second part of the essay analyzed Koya's birth control research that directly responded to the state's population governance effort and also to nongovernmental influences. The case study pointed out the significant role Japanese population scientists played in population policy, thereby showing that the development of a particular type of population science emphasizing birth control was interlocked with the vector within the modern state that insisted on population management involving fertility reduction.

However, I also demonstrate that interactions between population science and population governance in post-war Japan centering on birth control were buttressed by the transnational flow of ideas and people that transcended state sovereignty. This flow was in part facilitated by the political structure of Japan under the occupation. The occupation paved the way for American population experts to partake in Japanese population governance exercises as consultants to the GHQ. Likewise, the occupation helped transnational population actors of the RF and Gamble to connect with Koya's policy-oriented research. The occupation was not the sole reason why this transnational flow occurred: ongoing transnational interest in Japanese demography since the prewar period stimulated the movements of actors and ideas across national borders. Thompson served the GHQ partly because he had been closely watching over Japanese demography even before the war and because he believed it would directly influence issues of world peace. For Thompson, Japanese population trends provided a case study that enabled him to further his analysis of the links between world demography and security. Similarly, Gamble supported and even guided Koya's research because he saw Koya's birth control research as a compelling experimental case study that would benefit global population governance. In sum, occupied Japan, as well as the ongoing international interest in Japanese demography, enabled the vectors that shaped the transnational exchange of ideas and people in the arena where population science and state population governance intersected. Consequently, Japanese population management was embedded in the broader network of global population governance.

This formulation of state population governance compels us to reappraise our sense of the state. The post-war state was never a neat and self-contained category but rather a porous entity allowing space for transnational elements to exist within its workings. Simultaneously, the image of the modern Japanese state as an aggressive empire was pivotal in the course of population governance in post-war Japan. It shaped arguments about the specific ways in which the state should pursue population management.

Finally, an undercurrent in this essay has been the pivotal position of population science in the Japanese state's pursuit of population governance at sites where reality and rhetoric intersected. The population grew and birth control was used by the Japanese state for the sake of population control during the post-war period. Yet at the onset of population debates it was evident neither that population growth would constitute an imminent crisis nor that policymakers must resort to birth control to alleviate the crisis. Amidst uncertainties, population science problematized demographic trends and presented birth control as a desirable option. In other words, population science provided a rhetorical device with which population governance actors could seize convoluted, open-ended, and at times less intangible phenomena and translate them into something pertinent to, and workable within, the framework of the Japanese state. Although there were countless possibilities among the perceptions of population trends and in the solutions to the perceived demographic crisis, what reigned over Japanese population governance was the ontologically coherent narrative that contended that Japan immediately after the war was confronted with overpopulation to which the state responded by replacing discredited colonial motivations with a domestic birth control policy. Population science helped construct the rhetoric of population and state governance and transformed it into tangible reality involving birth control.

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#### Notes

- 1 See Ryoko Nakano, *Beyond the Western Liberal Order: Yanaihara Tadao and Empire as Society* (Basingstoke: Palgrave Macmillan, 2013), 41–63.
- 2 For recent examples of work on the post-war history of birth control in Japan, see Ogino Miho, "Kazoku keikaku" e no michi (Tokyo: Iwanami Shoten, 2008); Tama Yasuko, "Kindai kazoku" to bodi poritikkusu (Kyoto: Sekaishisosha, 2006); and Hiroko Takeda, The Political Economy of Reproduction in Japan: Between Nation-State and Everyday Life (London: RoutledgeCurzon, 2005). Susan Greenhalgh, Just One Child: Science and Policy in Deng's China (Berkeley, CA: University of California Press, 2008) best represents STS studies of the population field.

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