

Transforming Public Health?: A Critical Review of Progress Made Against Enteric Diseases during the American-led Occupation of Japan (1945–52)

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Abstract: Historical assessments of the Occupation's efforts to tackle enteric diseases (cholera, typhoid, paratyphoid and dysentery) have generally reflected a celebratory narrative of US-inspired public health reforms, strongly associated with the head of the Public Health and Welfare Section, Crawford F. Sams. Close inspection of the documentary record, however, reveals much greater continuity with pre-war Japanese public health practices than has hitherto been acknowledged. Indeed, there are strong grounds for disputing American claims of novelty and innovation in such areas as immunisation, particularly in relation to typhoid vaccine, and environmental sanitation, where disparaging comments about the careless use of night soil and a reluctance to control flies and other disease vectors reveal more about the politics of public health reform than the reality of pre-war practices. Likewise, the representation of American-inspired sanitary teams as clearly distinct from and far superior to traditional sanitary associations (*eisei kumiai*) was closer to propaganda than an accurate rendering of past and present developments.

Key words: Occupation, enteric diseases, immunisation, environmental hygiene, politics of reform

On 1 November 1951 Brigadier General Crawford Sams, formerly Head of the Public Health and Welfare Section of the US Occupation of Japan, addressed the Health Officers Section of the American Public Health Association at their annual meeting in San Francisco on the theme of American public health administration tackling 'the problems of the Orient in Japan'. The title is highly revealing of a recurring theme in Sams' work, namely the stark contrast in public health terms between a modern US and an underdeveloped Orient/Japan that the Occupation had apparently done much to soften. Indeed, in his concluding words, Sams placed the reforms for which he had been responsible at the forefront of the Occupation's success: 'I know of nothing more important in demonstrating to the people of Japan and other nations of the world — particularly those in the Far East — what we mean by the worth of the individual, which we consider to be the essence of democracy, than the literal gift of life which the occupation has brought to some 3,000,000 Japanese who would have died between 1945 and 1951 had these modern programs not been established and had the prewar death rate continued at its normal level.'¹⁾

These remarks are highly revealing of the dual nature of Sams' mission in Japan as he saw it. Firstly, there was the obvious and urgent need to combat disease, to safeguard the Occupation forces but beyond that to promote public health and save Japanese lives, and these worthy endeavours — not surprisingly perhaps — have been the chief focus of appraisals of Sams and his colleagues in the Public Health and Welfare Section of GHQ, SCAP ever since. So strong is the sense of an altruistic, humanitarian commit-

ment to transforming Japan's public health that no less an authority on the Occupation than Takemae Eiji describes 'GHQ's innovations in public health and welfare' as 'fundamentally apolitical in nature'. And yet the first part of the quotation clearly expresses Sams' conviction that the reforms that he championed were pivotal to the Occupation's mission of 'democratisation', a programme with strong political and cultural overtones, defined very much according to American values and beliefs, and, of course, by 1947/48 increasingly in opposition to communist principles and ideas.

In short, the powerful and dominant image of Sams as 'medic' (the title incidentally of his memoirs) should perhaps take more account of motivations other than strictly medical or scientific ones that influenced his work: his determination, for example, to promote his own ideas on public health, welfare, and democracy and, by extension, to deploy public health reform as a weapon in the Cold War. This article draws on some of these ideas in relation to one of the major challenges faced by the Public Health and Welfare Section — the threat posed by enteric diseases,²⁾ namely cholera, typhoid, paratyphoid and dysentery³⁾ — and explores how the Occupation framed the challenges it faced and the solutions it promoted. Focusing on disease prevention and rates of morbidity (rather than mortality), it will argue that the Public Health and Welfare Section overplayed its role as a successful agent of transformation and modernisation through technological solutions to disease and associated medical interventions, the novelty of which for Japan was sometimes exaggerated and the limitations of which were glossed over. Beginning with a brief historiographical overview, the article will then explore the means by which enteric diseases were managed, before considering the intractable problem of dysentery and the grass-roots organisations charged with tackling it.

Historiography

The incidence and impact of enteric diseases during and after the Second World War, as is the case with other groups of diseases, have attracted very little detailed analysis amongst Japanese and Western historians, appearing briefly on the margins of broader studies of the wartime and Occupation periods. For example, Thomas Havens' social history of wartime Japan makes only a few references to wartime epidemics, suggesting that cholera was successfully contained for the duration of the war but highlighting the substantial increase in cases of dysentery and paratyphoid during this period, largely due to deteriorating standards of sanitation.⁴⁾ With regard to the Occupation period, John Dower's celebrated study of the period — *Embracing Defeat* — explores in some detail the 'kyodatsu condition' of exhaustion and despair but hardly mentions communicable disease, prefacing two short paragraphs on the subject with the statement that these were 'widespread during the war' and 'now flourished in the filth, chaos, and poverty that accompanied defeat'.⁵⁾ On the few occasions that contemporaneous accounts of the Occupation referred to its public health campaigns, these were confidently presented as highly effective exercises, insistent declarations of success largely drowning out the whispers of one or two sceptics. Even Honor Tracy, a journalist with the *Manchester Guardian*, who was very critical of the Occupation's record, praised, albeit faintly, the efforts of American medical officers: 'Of all the sections of the occupation, Public Health was beyond any doubt the most, perhaps the only, successful one; and its total achievement was to add something if only a little, to one of Japan's most crushing and immediate problems.'⁶⁾

The only detailed account in Japanese of public health during the Occupation, published in 1995,

chiefly examines US policy and its impact on medical structures and systems, paying much less attention to patterns of disease and the efficacy of measures taken to combat them.⁷⁾ Interestingly, the author of this study, Sugiyama Akiko, notes the inaccessibility of documents emanating from Japanese sources in contrast to the wealth of American materials on advances in public health, the claims of which — she intimates — have been accepted a little too uncritically.⁸⁾ Interestingly, Sugiyama sketches out the contours of US medical policy, highlighting its twin goals of modernisation and democratisation, the latter serving principally as a vaccine against communism. Likewise, Sey Nishimura, writing in the Japanese-language edition of *JAMA (Journal of American Medical Association)* maintains that the Occupation's aims were twofold: '... to democratize the Japanese health care system in the American way as a good in itself. Second, through medicine ... the Occupation forces intended to incorporate Japan into the constellation of US allies'.⁹⁾ Both Sugiyama and Nishimura alert us to the political dimension of public health reforms, cautioning us to subject the dominant narrative of success in this area, particularly in relation to Sams' claims, to more critical scrutiny.

Takemae Eiji was the scholar who brought Sams' views of public health during the Occupation to a Japanese audience by translating his memoirs, supplementing the text with brief commentaries of his own, and publishing this in 1986 under the title of *C. F. Samusu, DDT kakumei: senryōki no iryō fukushi seisaku o kaisō suru* [*C. F. Sams, The DDT Revolution: Looking Back at the Reform of Medicine and Social Welfare During the Occupation*]¹⁰⁾ Reflecting perhaps the dearth of Japanese sources on this subject, the principal text on public health during the Occupation for the next decade therefore drew principally on Sams' interpretation of postwar developments despite doubts amongst Japanese medical historians as to its reliability.¹¹⁾ The privileging of Sams' views¹²⁾ was then reinforced by the publication of his memoirs, edited by Zabelle Zakarian, in 1998,¹³⁾ appearing just four years before Takemae's magisterial study of the Occupation in English, *Inside GHQ*, an updated and much expanded version of his original work in Japanese, entitled *GHQ*. Here Takemae acknowledges cases where medical ethics gave way to political expediency, but remains very positive about disease control and preventive medicine. Regarding the latter, he describes Occupation endeavours as 'relatively inexpensive but effective measures', providing statistical evidence to demonstrate what he refers to as a 'sharply reduced ... incidence of infectious diseases', noting in relation to dysentery an 80% percent reduction of cases by 1949.¹⁴⁾ This suggests a sustained drop of cases, when in fact case rates were spiralling upwards from 1949. Takemae is absolutely right, however, to suggest that the Occupation resorted to 'relatively inexpensive' means to combat disease, namely immunisation, quarantine, and the liberal use of insecticides, mostly familiar to the Japanese officials charged with carrying them out. They set about their tasks with a competence and zeal that can only have come from experience of and enthusiasm for these techniques.

Managing enteric diseases: cholera, typhoid, paratyphoid

This section looks behind the official version of events, strongly associated with Sams, to assess critically some of the claims made of innovative practice and striking successes, both apparently deriving from American example and leadership. As Takemae correctly maintains, the Occupation's drive to improve public health in Japan 'relied heavily on Japan's public health establishment',¹⁵⁾ hardly surprising in the context of what was an indirect Occupation; i.e. it was dependent on the Japanese government and bureaucracy to carry out its directives for the most part. The degree to which there was close co-

operation and collaboration is also not surprising in the light of Japan's reputation as a nation in the vanguard of medical advances from the end of the 19th century, Ilza Veith identifying a number of important Japanese figures: 'The appearance of modern medicine on the world stage is inseparably linked to such pioneers as Hideyo Noguchi, Sahachiro Hata, Kiyoshi Shiga, and above all, Shibasaburo Kitasato'.¹⁶⁾

However, initial impressions of widespread suffering and ill-health amongst Japanese amidst the wreckage of defeat caused many Americans to confuse the relatively short-term effects of war and associated neglect of public health with more long-term, deep-seated deficiencies that suggested the need for a radical overhaul of medical structures. The strong associations Sams drew between 'modern' reform programmes (as quoted in his speech to the American Public Health Association) and saving lives served to exaggerate the degree to which Japan had not kept up with medical advances, when — according to Sey Nishimura — Japanese medicine had fallen only about a decade behind.¹⁷⁾ This estimate seems to be a fair one, given that a 1924 survey by the Rockefeller Foundation of Japan's standard of public health training stated that 'No country was as well endowed with laboratories, and its undergraduate medical students were taught hygiene and public health more effectively than in the US'.¹⁸⁾

What then was the American response to the specific challenges posed by cholera, typhoid and paratyphoid, and how did their strategies for tackling these diseases differ from those previously adopted by the Japanese? In order to address these questions, some brief background on this group of diseases is first required. Enteric diseases are rooted in particular environmental conditions. They most commonly occur in the summer months and are closely associated with poor standards of sanitation, often thriving in the aftermath of natural catastrophes and protracted conflicts that disrupt supplies of food and water and seriously impair waste disposal facilities. Enteric diseases are intestinal infections, the associated pathogens most commonly found in water contaminated by human sewage and entering the body via the mouth. Sometimes flies will act as intermediaries, carrying the micro-organisms from infected faeces to food. Strategies for combating these diseases, therefore, involve restoration of adequate standards of sanitation, reduction of fly populations, and — where possible — strengthening the immune response to these infections by inoculation.¹⁹⁾ In the aftermath of Japan's defeat efforts were made to inhibit the spread of typhoid and paratyphoid by means of immunisation and improvement of sanitary conditions, and to prevent the outbreak of cholera epidemics by means of quarantining traffic into Japan from countries where the infection was present.

Contrary to the impression sometimes given that the US was initiating or introducing these measures to Japan, they had in fact been practised in Japan since the beginning of the twentieth century, when cholera epidemics acted as the chief catalyst for the formulation and implementation of public health regulations, most notably the Law for the Prevention of Infectious and Contagious Diseases of 1897. As Susan Burns makes clear, 'the creation of the treaty ports in Japan brought not only political and economic turmoil but also an epidemiological crisis'²⁰⁾ that generated not only regulations but also medical advances. An effective vaccine against cholera was produced in 1902 and by the following year mass vaccination emerged as 'one of the routine control measures against cholera epidemics', the only misgivings arising from its effect 'being definitely inferior to that of smallpox vaccine'.²¹⁾ Presumably as a result of its limitations, the Institute of Infectious Diseases and the Kitasato Institute, led by the famous microbiologist of that name, competed to produce an advanced cholera vaccine.²²⁾ According to a League of Nations report on cholera in Japan, compiled by three prominent Japanese medical officials

and published in 1926, the choice was between a heated vaccine and a sensitized one,²³⁾ promoted by the Kitasato Institute. The report states that ‘This sensitized vaccine, which has been in use since 1916, has been more readily accepted by the general public and, in spite of heated discussion as to its relative effectiveness, even the opponents of its use must admit that it has done much to popularise prophylactic inoculations’.²⁴⁾

And yet Takemae claims that the Public Health and Welfare Section ‘initiated [my italics] the domestic production of vaccines for cholera, smallpox, typhus, typhoid and tuberculosis²⁵⁾, suggesting — in line with the official version of events — that these processes were new to Japan when clearly the Occupation authorities were merely calling for the resumption of a practice with a long history in Japan.²⁶⁾ Such was also the case with quarantine. As Yamamoto states, ‘as soon as Japan was freed from the fetter of unfair treaties with foreign powers, an autonomous “quarantine law of seaports” came into force in 1899’.²⁷⁾ We can assume that medical intervention in the form of mass immunisation and an effective quarantine regime together account for the low incidence of cholera from 1920, when it passed from its epidemic phase to what Yamamoto refers to as its ‘age of intermittent occurrence (1921–45)’.²⁸⁾

When cholera burst onto the scene again in early April 1946, it was as an external threat that appeared off the coast of Japan in the form of infected repatriates within sight of their homeland. With energy and determination, Sams called for a system of quarantine stations at ports, which he acknowledged were not new to Japan but ‘had been discontinued during the war’.²⁹⁾ In any case, the Public Health and Welfare Section, working in concert with the Japanese authorities, implemented a plan whereby a convoy of ‘cholera ships’ from ‘cholera ports’ in south China were diverted to Uraga and Sasebo (and later Hakata), the only ports where quarantine facilities were deemed to be of an adequate standard. In a memorandum from the Assistant Adjutant General, dated 6 April 1946, it was stated that the most critical points of the programme are ‘strict isolation ... of the cholera cases which must be brought ashore before hospital ships can be made available, the detection of carriers, and the prohibition of persons from visiting cholera ships while anchored in quarantine or personnel escaping from quarantine’.³⁰⁾ Uraga Repatriation Reception Centre was ‘well isolated on a small peninsula jutting out into Uraga Bay’, its main deficiency being the exposed nature of the harborage, which ‘seriously hampered operations during a short period of the cholera siege when there were an estimated 70,000 people ... held aboard ships in Uraga Bay’.³¹⁾

In his memoirs Sams recalls that ‘personnel and supplies capable of handling 15,000 stool cultures and examinations per day’ were quickly assembled at Uraga, that 233,000 people were detained, leading to the detection and isolation of 500 carriers and an additional 711 cases of cholera among the repatriates. He also commends ‘those Americans and Japanese who worked night and day’ to prevent an epidemic from raging throughout Japan.³²⁾ Their success in limiting the number of cases to a total of 1,805 (with 560 deaths) in 1946³³⁾ derived not only from effective quarantine, but also policies of disinfection and local immunisation, the latter expanding with the availability of cholera vaccine to reach around 36 million people during June–September 1946.³⁴⁾ In the view of one Occupation official, Harry Wildes, Japanese readily consented to such medical intervention, largely because it was ‘in keeping with Japanese practice — Japanese physicians more than those of other regions favoring injections as preventatives and cures ...’.³⁵⁾

Very surprising, therefore, is the claim made by Sams that due to their failure to produce ‘a potent vaccine’, the Japanese medical authorities had ‘turned their backs on typhoid vaccine as a means of

protecting their people against a hazard that, before the war, caused 40,000 to 50,000 cases per year and 6,000 to 12,000 deaths ...'. Sams then extolled the virtues of 'our vaccine', developed in 1910, the success of which 'caused the Japanese scientists to lose face in the eyes of their own people and the Americans who were responsible for the introduction ... of the program to gain the confidence of the people as a whole'.³⁶⁾ No evidence is provided to support this grand claim of gratitude and admiration on the part of the Japanese people, nor is due attention paid to historical antecedents for typhoid immunisation in Japan. Indeed, the Head of the Public Health and Welfare Section need have looked no further than the US Army's Civil Affairs Handbook on Public Health and Sanitation, issued in February 1945, in which it is made clear that not only does a mixed typhoid-paratyphoid vaccine exist in Japan, but also that 'both the Japanese navy and army submit their entire strength to vaccination once each year'.³⁷⁾ Likewise, a contemporaneous study of global epidemiology, co-authored by none other than Sams' mentor, General James S. Simmons,³⁸⁾ stated that the Japanese military had been vaccinated against typhoid and paratyphoid fevers 'for many years', adding that 'in recent times the vaccine has been made available to the general population ..., carried out only upon the request of the person concerned'.³⁹⁾

The comment about availability for civilians is in line with recent research by Nagashima Takeshi, who highlights the introduction of a 'voluntary vaccination program' following the Great Kantō earthquake of 1923, drawing on Tokyo Metropolitan Police data to estimate that around 20% of the capital's population received the vaccine every year in the late 1920s and 1930s.⁴⁰⁾ The League of Nations Report on cholera in Japan, cited earlier, stated that it was the proven benefits of 'sensitised typhoid vaccine' by 1916 that recommended a similar form of cholera vaccine.⁴¹⁾ The fact that the Occupation authorities record a figure of 1,163,044 cc of triple typhoid vaccine⁴²⁾ for September 1945, deemed 'far below requirements',⁴³⁾ suggests that its production continued throughout the war, further casting doubt on Sams' claim of Japanese failure in this regard. A long-term survey of the incidence of enteric diseases, seldom encountered in the official literature produced by SCAP, which tended to measure success against wartime benchmarks,⁴⁴⁾ also suggests that typhoid and paratyphoid were checked at a fairly constant level from the beginning of the Shōwa period until 1942.

Figure 1 illustrates an increasing incidence of typhoid at the beginning of the Taishō period (1912–26) that peaks in the mid-1920s at around 60,000 cases and then oscillates slightly around the 40,000 cases mark until around 1942, when the number of cases climbs steeply to around the level experienced in 1924, only to fall precipitously from 1945 onwards, 1947 witnessing the lowest number of cases (17,810) since 1900. Similarly, the number of cases of paratyphoid seem to have declined steeply from the beginning of the Occupation, one observer stating that after four years of Occupation Japan was experiencing 'the lowest typhoid and paratyphoid case rate in Japanese history'.⁴⁵⁾ However, there are grounds for doubting the accuracy of the figures for 1946 and 1947, the data sets produced by the Public Health and Welfare Section singling out the figures for these years as 'provisional, based on periods of 4 or 5 weeks as taken from the regular weekly reports of the Welfare Ministry'.⁴⁶⁾ Also, the depth of the gorge for dysentery between 1945 and 1952 must cast doubt on the accuracy of the statistics, as does the less noticeable trough between 1939 and 1945. According to Eiji Marui, 'What the GHQ/SCAP staff confronted in its initial survey in early 1946 was a vital statistics system that had in fact broken down'.

Marui contends that the collapse of the system was particularly evident from 1944, due to the adverse impact of the war on transport and communications.⁴⁷⁾ Still, even if the accuracy of the official statistics is questionable for the period 1944–1948, the downward trend of typhoid incidence is surely indisput-

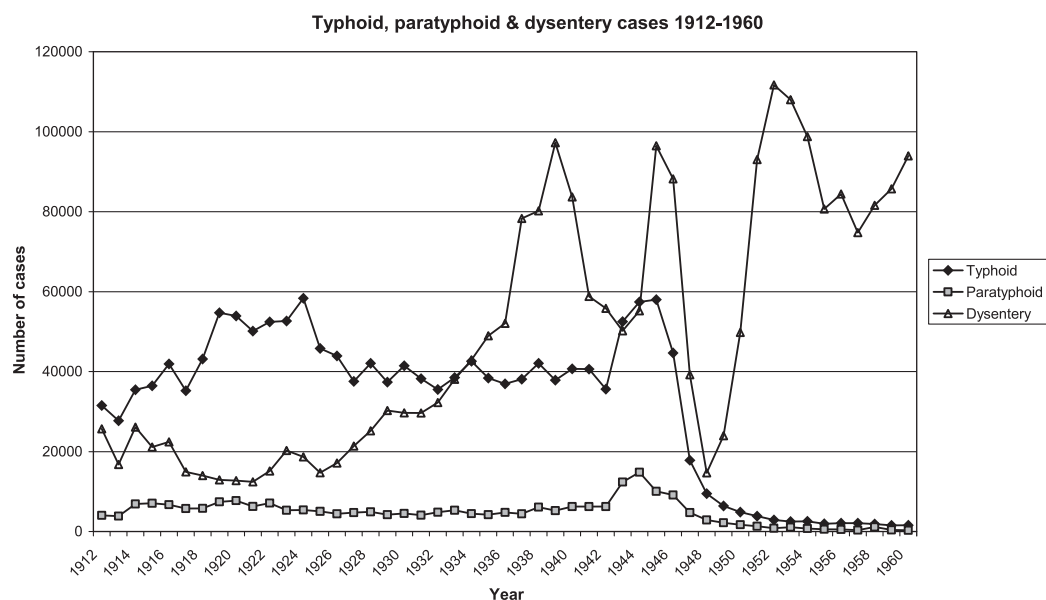


Figure 1

Source: cases of enteric diseases PHW 92491 (for the period 1912–1945), F. Ohtani, *One Hundred Years of Health Progress in Japan*, Tokyo: International Medical Foundation of Japan, 1971, 82–83 (for the period 1945–1960)

able. How can this be explained?

As already intimated, Sams attributed this success story to effective programmes of inoculation. He believed that it ‘settled a scientific controversy which had been going on in the medical profession throughout the world since 1910’ — the question of whether it was the typhoid vaccine itself or improvements in environmental sanitation that caused the incidence of these diseases to fall. Arguing that this drop occurred despite ‘deteriorating sanitary standards’ in Japan, evidenced from 1949 by steep increases in dysentery (for which there was no effective vaccine), Sams stated that this must mean that ‘typhoid vaccine will protect in spite of poor sanitary standards’.⁴⁸⁾

And yet close inspection of the Occupation records reveals that the nationwide immunization programme for typhoid, utilising ‘TAB vaccines and cultures equal in standard to those of the United States’,⁴⁹⁾ did not get under way properly until 1948. In March of that year, Lucius Thomas, the chief of the Preventive Medicine Division of the Public Health and Welfare Section, reported on a meeting with Dr Kinugawa, the Japanese government official with ultimate responsibility for typhoid control, noting that ‘only 35 million people out of 65 million have completed their typhoid immunizations’. Dr Kinugawa was told that ‘PH&W desires that this program be completed by completely immunizing (three inoculations) the remaining 30 million individuals’.⁵⁰⁾ According to the official history of the Occupation, the Japanese responded effectively to Thomas’ urging, administering a full course of inoculations to approximately 50 million of the 60 million scheduled persons by the end of 1948.⁵¹⁾

Despite what Sams claimed, the decline of cases may have resulted as much from the effects of peacetime and the associated resumption of local campaigns to improve sanitary conditions as it did from inoculation. After all, it is conceivable that typhoid was more susceptible or less resistant to these sanitary programmes than dysentery, a trend noted by one authority in relation to the US in the 1930s and early 1940s, who observed that ‘Sanitary and hygienic measures among the civilian population in times of

peace have reduced typhoid fever measurably, while bacillary dysentery remains widely prevalent'.⁵²⁾ As already explained, Sams explained away the apparent contradiction of divergent patterns of typhoid and dysentery by contrasting the efficacy of 'our vaccine' in relation to the former with what seemed to be ineffective efforts — implicitly the fault of the Japanese — to clean up the environment regarding the latter. His analysis unwittingly underlined the limits of Occupation — its inability to tackle the root causes of such entrenched infections as dysentery. Indeed, with reference to dysentery Sams resorted to disarming candour during a wide-ranging, insistently positive presentation to the Allied Council for Japan in 1947⁵³⁾ — principally directed at the Soviet representative — quipping 'Here is where SCAP would like some advice from the Allied Council. How to control it? (Laughter)'.⁵⁴⁾

The intractable problem of dysentery

What comes across clearly from the campaigns against cholera, typhoid and paratyphoid, described in the previous section, is the emphasis placed on immunisation as a counter-disease strategy, the novelty of which has been exaggerated. Running alongside this, however, were initiatives more clearly focused on tackling environmental conditions conducive to the spread of these infections, namely contaminated water and food, inadequate sewage disposal, and the proliferation of flies. These may have been more important in the case of dysentery, when the Occupation had no effective vaccine to fall back on, necessitating engagement with a sanitary culture and infrastructure that drew scathing criticism as alien and primitive. The most conspicuous example of this was the Japanese use of 'night soil', human manure, as fertiliser, a practice that explained and reflected a relatively embryonic sewerage system⁵⁵⁾ and captured for many Americans the limitations of Japanese hygiene.

With typical directness, Sams singled out this practice as chiefly responsible for the pronounced profile of dysentery and other enteric infections in Japan:

In a land where untreated human excrement ... is habitually used on the land for fertilizer, the causative organisms are spread on the fields and then spread to uninfected persons through vegetables or other foods that are grown on the ground and normally eaten uncooked. They are also spread to all of the surface streams and shallow wells when rains wash the fertilizer into these streams or wells.⁵⁶⁾

Given that around three quarters of Japanese obtained their water from such sources,⁵⁷⁾ there were clearly grounds for making these kinds of assumptions. Contrary to the impression created, however, of a long-term, deep-seated problem, night soil accounted for only a small proportion of fertilising materials, contributing a combined total (nitrogen, potash and phosphorous) of only 6.8% in 1937, the 'maximum consumption year for commercial fertilisers'.⁵⁸⁾ Indeed, as William Tsutsui argues in his fascinating survey of the environmental history of wartime Japan, 'before the war, Japanese agriculture was one of the world's most intensive users of chemical fertilisers'.⁵⁹⁾ By 1945, however, these had lost some ground to night soil — 'about 11.8% of all plant foods applied to growing crops' now came from this source,⁶⁰⁾ the increase reflecting the disruptive effects of the war in terms of external supply of chemical fertilisers and diversion of ammonia, for example, 'from nitrogenous fertilizers ... toward the munitions industry'.⁶¹⁾ It is clear, therefore, that when Sams staff, in tandem with the Natural Resources Section, 'encouraged the domestic production and use of chemical fertilisers to replace night soil',⁶²⁾ they were preaching to the converted.

In addition to trying to replace human manure with chemical fertilisers, Japanese scientists had long

been engaged in research concerned with eliminating or debilitating pathogenic organisms in night soil by means of effective storage or treatment. A study on the disposal of night soil, published in the *Journal of the Japan Public Health Association* in January 1927, concluded that in order to prevent human manure from spreading disease it was necessary to store it for sufficient periods of time (much longer in winter than in mid-summer)⁶³ to allow proper decomposition, maximising the quality of the fertiliser and minimising the presence of bacteria. Likewise, E. A. Turner, the American official with chief responsibility for sanitary engineering, contended that the Japanese 'have been cognisant of the hazards connected with the using of human faeces for fertilizer and have worked out methods of storing it so that it undergoes a period of digestion designed to kill all pathogenic organisms, and have taught the farmer simple methods of application so as to minimise the danger of direct transmission through eating raw vegetables'.⁶⁴

Unfortunately, despite some advances — the adoption of the 'sanitary privy',⁶⁵ for example — the exigencies of war caused people to disregard these safeguards, applying raw sewage to fields and 'war gardens'.⁶⁶ Turner observed that 'regulations were completely relaxed ... night soil was used indiscriminately on all types of vegetables without undergoing proper digestion processes before being used'.⁶⁷ These irregular practices also reflected the breakdown of systems of sewage disposal — 'private contractors ran short of manpower to haul the accumulation to nearby farms ... and by 1944 the head of sanitation in Tokyo told the *Asahi* newspaper that broken-down trucks, aging equipment, and gasoline shortages meant that city workers could not handle more than 70% of the sewage that was produced each day'.⁶⁸ Dysentery, 'the most sensitive index of changed sanitary conditions', thrived amidst the deprivation and squalor that followed the incendiary bombing of urban areas, showing 'a marked increase in 1945 over that of the four preceding years'.⁶⁹

Confronted with these challenges, Occupation officials inveighed against perceived deficiencies in Japan's approach to public health, not least against what they presented as an indulgent attitude towards the common housefly, a key agent of bacterial transmission. In this connection, Sams and Takemae state that the Japanese had never conducted large-scale or systematic programmes to control flies, mosquitoes, fleas, mites, lice or rodents, Sams referring to 'an old Japanese saying that the better the cook the more flies she attracted to the kitchen'.⁷⁰ Again, there are grounds for questioning these assertions, not least of which is the long-term commitment of the Japanese authorities — evidenced throughout this article — to develop and enhance measures concerned with public health. It is not surprising, therefore, to discover that the 'extermination of flies' is highlighted as one of the recommended measures to counter disease following the Great Kanto Earthquake of 1923.⁷¹ Moreover, the US Army Civil Affairs Handbook, issued in February 1945, detailed the efforts made by prefectural authorities working with local hygiene associations (*eisei kumiai*) to eliminate flies and to destroy their breeding places. A number of measures were listed, including reconstruction of storehouses for manure and night soil to make them fly proof, promotion of fly traps, distribution of larvicides, and 'anti-fly propaganda'.⁷²

Japan's pre-war status as the global leader in the supply of dried pyrethrum flowers, serving as a powerful natural insecticide, also makes any suggestion of inexperience in insect control highly suspect. Around one third of its production was put to domestic use, principally by farmers as agricultural insecticides but also by homeowners as insect powders and sprays.⁷³ Pyrethrum, of course, was upstaged in the final years of the war by DDT, an inorganic chemical compound, which was invested with such miraculous qualities by its American sponsors that its deployment in Japan could be interpreted as

nothing short of revolutionary — all the more so if Japan's pre-war track record on controlling insects could be belittled.⁷⁴⁾

Just as the new chemical insecticide was misrepresented as a sharp break with the past, so too were 'sanitary teams', set up by the Health and Welfare Section to clean up local neighbourhoods and so reduce insect-borne and intestinal diseases, artificially set apart from the existing *eisei kumiai* or hygiene associations, described by Sams as having failed over several decades to 'materially reduce the incidence of diseases attributable to poor environmental sanitation'.⁷⁵⁾ Once again, celebrating the new organisations as agencies of modernisation involved belittling the achievements of their forerunners. In fact, as Takemae explains, these teams were 'formed around' the prewar organisations,⁷⁶⁾ the distinction between them more blurred than suggested by the official line. In order to assess the degree to which initiatives and reforms associated with Sams' organisation really altered attitudes towards sanitation at the community level, it is necessary to consider briefly the record of *eisei kumiai* or hygiene associations and the broader context of their activities during the interwar period and to evaluate their role during the Occupation.

According to the 1897 Law for the Prevention of Infectious Diseases, the *eisei kumiai* were set up 'to make and enforce necessary regulations for cleansing and disinfection as well as other preventive and curative measures against infectious and contagious diseases'.⁷⁷⁾ Initially then, their efforts were principally aimed at 'early detection of infected patients, aiding local governments to perform disinfections, and transportation of quarantine patients'.⁷⁸⁾ Although the performance and leadership of these associations over the following decades were variable, Masami Hashimoto judges their overall contribution to have been a very significant one. He contends that few communities were without them, their scope of activities expanded to encompass all aspects of public hygiene, they served as effective agencies for the dissemination of preventive health strategies, and their impact on public health, particularly when epidemics threatened, was decisive. On the other hand, these semi-official groups inevitably displaced more formal structures at the local level, a deficit which the Occupation was keen to correct.⁷⁹⁾

In his fascinating study of state and society in modern Japan, entitled *Molding Japanese Minds*, Sheldon Garon alludes to the Occupation's dislike of the many intermediary organisations, 'preferring a more direct relationship between the state and individual'.⁸⁰⁾ And yet it is quite clear from the work of Garon, Andrew Gordon and Simon Partner that intermediary organisations like hygiene associations, often led by middle class activists and involving many Japanese women, played a vital role in the interwar 'lifestyle improvement movement' (*seikatsu kaizen undō*), motivated and animated by the concerns of both bureaucrats and community activists.⁸¹⁾ Although there was a mix of conservative and progressive influences acting on this movement and an equivalent variety of priorities and activities, it is evident from the work of the authors cited that one important dimension was hygiene and sanitation; for example, Partner includes 'calls to improve rural kitchens ... and the introduction of more sanitary toilets' in a list of practical activities undertaken by lifestyle improvement leaders.⁸²⁾ All of this is demonstrative of a public health consciousness at the community level that reflects Hashimoto's positive endorsement of the role of hygiene associations in prewar and wartime Japan. Indeed, the man that Sams charged with overseeing sanitary engineering activity remarked of the *eisei kumiai* that their wartime role had included 'mass immunizations, dissemination of hygiene information and education, insect and rodent control activities and national cleanup campaigns twice a year'. He went on to declare that 'The sanitary associations have and still do carry most of the responsibility for municipal sanitation' despite being

‘outlawed by order from SCAP ...’.⁸³⁾

Why did these associations prove so impervious to reform? Coupling a statement of policy with once of actual practice, E. A. Turner, stated that ‘The Japanese as well as the government still feel keenly the absence of powerful local group control and semi-official association (EISEI KUMIAI). Many of these have not been dissolved, but have been simply changed around to comply with the new regulations, which finds them functioning as in previous times’.⁸⁴⁾ The Occupation authorities were prepared to tolerate hygiene associations only if they were purely voluntary, organised along democratic lines, and restricted to the dissemination of health education and information, refraining from ‘assuming functions which properly belong to government’.⁸⁵⁾ The lack of progress on this issue reflected the Japanese government’s reluctance to pay for official governmental organisations, when it could instead make substantial savings by devolving responsibility to community groups that largely financed themselves through membership fees.

More to the point, the Japanese authorities were loath to dissolve organisations that were rooted in communities and served in the front line of disease prevention. The Health and Welfare Ministry underlined their importance by specifying the following functions: ‘acute infectious diseases control’ (including prophylactic inoculation, disinfection, case-finding) and ‘cleansing works’ (disposal of refuse and night soil, control of insects and rodents and the purchase of associated chemicals, cleaning drains and ditches, plans for general cleaning of homes of members).⁸⁶⁾ Comparing Japan’s modern mortality history with those of Italy and England/Wales, Johansson and Mosk argue that ‘the myriad invasive regulations directed at the individual and local level’ by the prewar Sanitary Bureau of the Home Ministry presupposes ‘cultural support for cleanliness’, particularly in relation to the heavily-promoted ‘sanitation-based preventive measures’.⁸⁷⁾ Ultimately, the Occupation seems to have been ambivalent about hygiene associations, wary of what they perceived to be ‘fascistic’ overtones but grateful for the community cohesion they fostered; E. A. Turner, for example, praised the ‘old custom of bi-annual house cleaning’, stating that it should continue under the aegis of the health centres, which were to be the new guardians of community health.

So determined, however, was Sams to project the work of the Occupation as novel and innovative, that he claimed that the new sanitary teams brought about the education of Japanese families ‘in the importance of good environmental sanitation’, stating that this function was ‘one of the most important jobs of the team, since the idea of sanitation...is entirely new to the Japanese who have previously been content to live in areas in which flies and mosquitoes were accepted as normal and in which rats were looked upon as friendly inhabitants of the house’.⁸⁸⁾ These statements were closer to propaganda than an accurate rendering of past practices or indeed current developments. The story of the sanitary teams is a confusing one indeed. After all, apart from overlapping with *eisei kumiai* or supplementing them at times of crisis (such as when typhus epidemics struck in 1945/1946), the sanitary teams also seem to have been short-lived, experiencing only a brief burst of activity from 1946 to 1948, by which time they had apparently fallen victim to budgetary cuts. According to Sams, this was the main reason the incidence of dysentery ‘began a steady return to its prewar rate, which was reached by 1951 and exceeded in 1952’.⁸⁹⁾ And yet Turner’s report of early 1950 casts doubt on this version of events. It continues to present the teams as pivotal to a new system of environmental sanitation coordinated by health centres.⁹⁰⁾ Regardless of how sanitary teams and *eisei kumiai* interacted, it is clear that Sams exaggerated the former’s significance as agitators for a new public health consciousness, spreading awareness of the need to be

vigilant and energetic in terms of preventing outbreaks of disease by proactive environmental interventions.

Conclusion

The principal aim of this article has not been to disparage the achievements of Sams' Public Health and Welfare Section but to subject its claims, particularly with regard to the nature of the challenges they faced and their apparently innovative responses, to critical scrutiny. As Harry Wildes put it, the Occupation's 'triumphs were in fields wherein the Japanese had themselves accomplished success',⁹¹⁾ and their utilisation of 'relatively inexpensive but effective measures' — Takemae's words — paralleled what Johansson and Mosk describe as Japan's 'practical application of all the relatively inexpensive forms of public health' during the pre-war period.⁹²⁾ Rather than taking our cue from Sams and placing so much emphasis on the changes that the Public Health and Welfare Section brought about in preventive medicine, there is a need for a more balanced approach that evidences some of the continuities with pre-war and wartime practices — for example, inoculation, quarantine, and grass roots initiatives for the improvement of sanitation — that sit more easily with the realities of an indirect Occupation.

Also clear from the foregoing is the politics of public health reform, whether it be the intersection of hygiene concerns with the promotion of American-style democracy in relation to the *eisei kumiai* or the broader challenge — as one reviewer of Sams' memoir put it — of 'winning the Cold War'.⁹³⁾ In order to present the American record on public health in highly favourable terms, and so project the US as a sponsor of democracy and humanitarianism, it was necessary to construct a false dichotomy between a chronically dysfunctional system and culture of pre-war public health in Japan and an effective, modern (i.e. American) approach that rapidly reduced the incidence of disease, as evidenced by declining rates of morbidity. The intractable problem of dysentery, the incidence of which apparently fell in the early years of the Occupation only to rise steeply from around 1949, suggested that long-term, structural changes — the improvement of the sewerage infrastructure and, more importantly, the delivery of piped, treated water throughout the country — were required before the challenge of dysentery could be effectively met.

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- 1) Crawford F. Sams, 'American public health administration meets the problems of the Orient in Japan', *American Journal of Public Health and the Nation's Health*, May 1952, vol. 42 (5, part 1), 565.
- 2) Poliomyelitis (polio) is also an enteric infection, but due to its relatively slight profile in Japan until 1949, when there were just over 3,000 cases, it will not be covered in this article.
- 3) Throughout this article 'dysentery' principally refers to bacillary dysentery rather than its amoebic counterpart, which was much less common in Japan. For example, there were only 539 cases of amoebic dysentery in 1950, compared to 49,200 cases of bacillary dysentery.

- 4) Thomas R. H. Havens, *Valley of Darkness: The Japanese People and World War Two*, Lanham: University Press of America, 1986, 145–47.
- 5) John Dower, *Embracing Defeat: Japan in the Wake of World War II*, New York: Norton, 1999, 103–104.
- 6) H. Tracy, *Kakemono: A Sketchbook of Postwar Japan*, London: Methuen, 1950, 94.
- 7) Sugiama Akiko, *Senryōki no iryō kaikaku*, Tokyo: Keiso Shobo, 1995, 12.
- 8) *Ibid.*, 14.
- 9) Sey Nishimura, ‘Censorship of medical journals in Occupied Japan’, *JAMA*, 9 August 1995, vol. 274, no. 6, 456.
- 10) Iwanami shoten, 1986.
- 11) Watanabe Mikio, ‘“DDT kakumei” to sono jidai’, *Juntendō Igaku*, 2003, 49(2), pp. 260–61.
- 12) The celebratory narrative associated with Sams is captured in the title of Nishimura Sey’s recent monograph *Nihonjin no seimei o mamotta otoko: GHQ Samusu Junshō no tatakai*, Tokyo: Kōdansha, 2003.
- 13) Crawford F. Sams, “Medic” *The Mission of an American Military Doctor in Occupied Japan and Wartorn Korea*, Armonk: M. E. Sharpe, 1998.
- 14) Takemae, *Inside GHQ: The Allied Occupation of Japan and its Legacy*, London: Continuum, 2002, 412.
- 15) Takemae, 405.
- 16) Ilza Veith, ‘On the mutual indebtedness of Japanese and Western medicine’, *Bulletin of the History of Medicine*, 1978, vol. 52, 384.
- 17) Sey Nishimura, ‘The US medical occupation of Japan and history of the Japanese-language edition of *JAMA*’, *Journal of the American Medical Association*, 2 August 1995, vol. 274, no. 5, 436.
- 18) John Farley, *To Cast Out Disease: A History of the International Health Division of the Rockefeller Foundation (1913–1951)*, Oxford: Oxford University Press, 2004, 246.
- 19) Although the terms ‘inoculation’ (or ‘variolation’), ‘vaccination’ and ‘immunisation’ have particular historical associations, they are used interchangeably in this work to mean medical interventions designed to produce immunity against a particular disease.
- 20) S. Burns, ‘Constructing the national body: public health and the nation in nineteenth-century Japan’, *Nation Work: Asian elites and national identities*, Ann Arbor: University of Michigan Press, 2000, 20.
- 21) Shunichi Yamamoto, ‘Cholera in Japan’, in Teizo Ogawa (ed.), *Public Health: Proceedings of the Fifth International Symposium on the Comparative History of Medicine — East and West*, Tokyo: Saikon, 1981, 177–78.
- 22) *Ibid.*, 178.
- 23) Sensitised vaccines were made by combining the living cholera micro-organisms with the useful constituents of immune serum.
- 24) Rokuro Takano, Itsuya Ohtsubo and Zenjuro Inouye, *Studies of Cholera in Japan*, Geneva: League of Nations Health Organisation, 1926, 43.
- 25) Takemae, *Inside GHQ*, 412.
- 26) Indeed, Sams states in his memoir that ‘Our policy was to produce in Japan, whenever possible, all supplies, including biologics, antibiotics, and pharmaceuticals, rather than import them’ (81), the implication being therefore that a sturdy medical/scientific infrastructure already existed for these practices.
- 27) Shunichi Yamamoto, ‘Introduction of the Western concept and practice of hygiene to Japan during the 19th Century’, in Yoshio Kawakita, Shizu Sakai, and Yasuo Otsuka (eds), *History of Hygiene: Proceedings of the 12th International Symposium on the Comparative History of Medicine — East and West*, Tokyo: Ishiyaku Euro-America, 1991, 183.
- 28) Shunichi Yamamoto, ‘Cholera in Japan’, 170–86.
- 29) Sams, “Medic”, 89.
- 30) Memo, dated 6 April 1946; from: J. W. Mann; subject: quarantine procedures for cholera in repatriates, Public Health and Welfare Section (PHW) fiche number 00813. All fiche cited in this article were made available to the author by staff of the kensei shiryōshitsu of the National Diet Library, Tokyo.
- 31) Report entitled ‘Cholera at the port of Uruga, 4 April to 19 June 1946’, author and date unknown [PHW 00811].
- 32) Sams, “Medic”, 90–91.
- 33) Yamamoto, ‘Cholera in Japan’, 187.
- 34) *History of the Non-military Activities of the Occupation of Japan, Monograph 19: Public Health*, Tokyo: Historical Section, 1951, 42–43.
- 35) H. E. Wildes, ‘Post-war public health development’, *Contemporary Japan*, 1953, vol. 21, no. 10/12, 586. Dr Harry Emerson Wildes worked in Government Section from May 1946, and was Chief of Social and Political Affairs Division of the Civil Historical Section from January 1950 to July 1951. See his refreshingly candid account of the Occupation entitled *Typhoon in Tokyo*, London: Allen & Unwin, 1954.
- 36) Sams, “Medic”, 93, 95.
- 37) Civil Affairs Handbook Japan Section 13: Public Health and Sanitation, HQ Army Service Forces 10 February 1945, 65.

- 38) General Simmons was Dean of the Harvard School of Public Health from 1946 to 1954.
- 39) J. S. Simmons, T. F. Whayne, G. W. Anderson & H. M. Horack, *Global Epidemiology: A Geography of Disease and Sanitation, volume 1, part 1 India and the Far East, part 2: the Pacific area*, Philadelphia: J. B. Lippincott, 137.
- 40) T. Nagashima, 'Sewage disposal and typhoid fever: the case of Tokyo 1912–1940', *Annales de demographie historique*, 2004, vol. 108, no. 2, 109–10, 117.
- 41) Rokuro Takano, Itsuya Ohtsubo and Zenjuro Inouye, *Studies of Cholera in Japan*, Geneva: League of Nations Health Organisation, 1926, 42.
- 42) During the First World War paratyphoid A and B strains were combined with the typhoid vaccine to constitute the so-called triple vaccine i.e. TAB vaccine aimed to protect subjects from typhoid and paratyphoid. For more details about the history of prophylactic inoculation against typhoid, see R. L. Huckstep, *Typhoid Fever and other Salmonella Infections*, Edinburgh: E.&S. Livingstone, 1962, 7–8, 110.
- 43) *Summations of Non-military Activities in Japan*, 3, December 1945, 161.
- 44) In relation to this, H. E. Wildes claimed that Sams, intent on demonstrating the positive impact of the Occupation, 'fell back perforce upon the late war years, particularly 1943, 1944 and 1945; but these chaotic years were far from satisfactory as an index base' (*Typhoon in Tokyo*, 214).
- 45) G. H. Stuart, *Public Health in Occupied Japan*, PhD thesis, London School of Hygiene and Tropical Medicine, April 1950, 38.
- 46) Typhoid fever monthly cases Japan, 1900–1947 [PHW 92491].
- 47) Eiji Marui, 'The American and Japanese experience with vital statistics reform in the early days of the Occupation', in Yoshio Kawakita, Shizu Sakai & Yasuo Otsuka, *History of Epidemiology: Proceedings of the 13th International Symposium on the Comparative History of Medicine — East and West*, Ishiyaku: Tokyo, 1993, 200.
- 48) Sams, "Medic", 94
- 49) *History of the Non-military Activities of the Occupation of Japan, Monograph 19: Public Health*, 41. Interestingly, this source notes that 20 million Japanese were immunized in the first year of occupation, presumably using existing Japanese vaccines.
- 50) Memorandum for Record, dated 25 March 1948; subject: Typhoid Fever Control [PHW 02102].
- 51) *Monograph 19: Public Health*, 41.
- 52) Joseph Felsen, *Bacillary Dysentery, Colitis and Enteritis*, Philadelphia & London: Saunders, 1945, 16.
- 53) This was an advisory body in Tokyo, made up of representatives from the US (Chair), the British Commonwealth, China and the Soviet Union (General Derevyanko). Combative as ever, Sams recalled that 'We were able, in our presentation, to refute all of the statements of the Russians; we believe we made a very effective counterattack'. "Medic", 178.
- 54) PHW 01632.
- 55) The relevant US Civil Affairs Guide noted that only large cities possessed water-borne sewerage systems (*Civil Affairs Guide: Water Supply and Sewage Disposal in Japan*, War Dept Pamphlet no. 31–61, Sept 1945, 5. PHW 00895).
- 56) Sams, "Medic", 92.
- 57) Plan for civil information activities on sanitation and insect control, HQ US Army, 28 May 1948 [Civil Information and Educations Section CIE (B) 01358]. A report by E. A. Turner, Chief of the Sanitary Engineering Branch, Preventive Medicine Division, PH&W Section, covering the period September 1945 to December 1949, stated that 27% of Japanese were 'fortunate enough to live in areas served by municipal supplies ...' [PHW 01143].
- 58) C. L. W. Swanson, 'Preparation and use of composts, night soil, green manures, and unusual fertilizing materials in Japan', *Agronomy Journal*, July 1949, vol. 41, no. 7, 278 [Natural Resources Section NRS 02325].
- 59) Tsutsui, 'Landscapes in the dark valley: toward an environmental history of wartime Japan', *Environmental History*, April 2003, vol. 8, no. 2, 8.
- 60) Swanson, 'Preparation and use of composts ...', 278.
- 61) Tsutsui, 8.
- 62) Takemae, *Inside GHQ*, 412.
- 63) By Takano, Naito, Minamizaki and Katsumata, 'Results of studies at the Omiya laboratory for disposal of night soil', *Journal of the Japan Public Health Association*, vol. III, no. 1, Jan 1927 [NRS 07914].
- 64) Summary report of sanitary engineering activity in Japan (September 1945–December 1949) [PHW 01143].
- 65) Civil Affairs Handbook Section 13: Public Health and Sanitation, 8.
- 66) Medical Division, 'The Effects of Bombing on Health and Medical Services in Japan', *US Strategic Bombing Survey*, dates of survey 24 October–31 November 1945, Washington, DC: Government Printing Office, 1947, 107.
- 67) Summary report of sanitary engineering activity [PHW 01143].
- 68) Havens, *Valley of Darkness*, 147.

- 69) Medical Division, 'The Effects of Bombing on Health and Medical Services in Japan', 119.
- 70) Sams, "Medic", 93; Takemae, *Inside GHQ*, 409.
- 71) T. Nagashima, 'Sewage disposal and typhoid fever: the case of Tokyo 1912–1940', 110.
- 72) Civil Affairs Handbook Section 13: Public Health and Sanitation, 89.
- 73) Natural Resources Section, Report Number 78, 9 May 1947, Pyrethrum in Japan, 6–9, 20.
- 74) See Chrisopher Aldous, 'Typhus in Occupied Japan (1945–46): an epidemiological study', *Japanese Studies*, December 2006, vol. 26, no. 3, 317–33.
- 75) Sams, Report on sanitary teams, 1948 [PHW 01693].
- 76) Takemae, *Inside GHQ*, 410.
- 77) Central Sanitary Bureau of the Home Department, *The Sanitary Laws of Japan*, 1911, 59.
- 78) Chieko Kawata, 'A historical view of people's involvement in health care in modern Japan', *History of Hygiene: Proceedings of the 12th International Symposium on the Comparative History of Medicine — East and West*, Tokyo: Ishiyaku EuroAmerica, 1991, 250.
- 79) M. Hashimoto, *Kōshū eisei to soshiki katsudō*, Tokyo: Seishin-Shobo, 1955, 101–104.
- 80) S. Garon, *Molding Japanese Minds*, 150.
- 81) A. Gordon, 'Managing the Japanese household: the New Life Movement in postwar Japan', *Social Politics*, summer 1997, vol. 4, no. 2, pp. 245–283; S. Partner, 'Taming the Japanese wilderness: the lifestyle improvement movement in rural Japan, 1925–1965', *Monumental Nipponica*, winter 2001, vol. 56, no. 4, 487–520.
- 82) S. Partner, 'Taming the Japanese wilderness', 492.
- 83) E. A. Turner, Summary report of sanitary engineering activity in Japan (September 194–December 1949) [PHW 01143].
- 84) *Ibid.*
- 85) Memo for record, dated 28 December 1948; subject: corporations developing sanitary interest; from: Lucius G. Thomas, Chief, Preventive Medicine Division [PHW 04553].
- 86) Welfare Ministry, Imperial Japanese Government, Sanitary Association (district) — reasons which call for compulsory membership [PHW 04554].
- 87) S. Ryan Johannson and Carl Mosk, 'Exposure, resistance and life expectancy: disease and death during the economic development of Japan, 1900–1960', *Population Studies*, 1987, 41, 221.
- 88) Sams, Report on sanitary teams, 1948 [PHW 01693].
- 89) Sams, "Medic", 94.
- 90) E. A. Turner, Summary report of sanitary engineering activity in Japan (September 1945–December 1949) [PHW 01143].
- 91) H. E. Wildes, 'Post-war public health development', *Contemporary Japan*, 585.
- 92) S. Ryan Johannson and Carl Mosk, 'Exposure, resistance and life expectancy', *Population Studies*, 1987, 41, 222.
- 93) Bryan R. Ross, review of "Medic", *Korean Studies*, 2000, vol. 24, 179.