Science, Nurses, Physicians and Disease: The Role of Medicine in the Construction of a Modern Japanese Identity, 1868-1912

Dissertation

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By

Roberto Ramon Padilla II

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Dissertation Committee:

James Bartholomew, Advisor

Cynthia Brokaw

Philip Brown
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Abstract

This is a history of the emergence of a modern Japanese identity in the latter half of the nineteenth century as seen through the lens of scientific medicine. This study makes the argument that Japanese physicians’ construction of a modern identity was a two-fold process that identified Japan in line with Western imperialism and Western fields of knowledge, while conceptually distancing the island nation from nearby Asian neighbors. This perspective, which reflected the growing understanding among Japanese of their country’s emerging place in the world in the Meiji era (1868-1912), occurred within the context of the broad social, political, economic and military reforms that defined this period. Western medicine based on the rational proofs and perceived universality of scientific inquiry, positioned Japanese physicians as agents of modernity.

I examine the way scientific medicine informed Japanese modernity in two ways: I begin by looking at how the Japanese Red Cross Society nurse came to be perceived as a national heroine, then I explain the Japanese Army Medical Bureau’s struggle to prevent beriberi, a nutritional deficiency illness in its ranks. These case studies offer a window into the interplay between modern medicine and traditional social values and underscore the reality that a field of knowledge is not adopted, but rather adapted and negotiated. In this case identity formation in Japan was not merely the result of scientific
medicine transforming Japan, but was also influenced by Japanese society’s impact on scientific medicine.

For Japanese physicians it was not enough to assert a modern identity they were also compelled to draw clear distinctions between a modern Japan and what they perceived to be a “backward” Asia. They did this by using disease categories related to cholera and other contagious illnesses to define the Asian continent as a particularly dangerous epidemiological space. In addition, Japanese practitioners of scientific medicine examined, studied and reported on Chinese and Korean food items, sanitation habits, medical practices and body types to demonstrate what they understood to be social, cultural and physical differences between Japanese and other Asians.

This study is supported by the qualitative analysis of an array of primary source materials related to nineteenth century medicine in Japan. These include writings in medical journals, Army Medical Bureau reports, Japanese Red Cross Society reports and the Home Ministry’s Central Sanitary Bureau reports, as well as the writings of influential physicians like Ishiguro Tadanori, the founder of the Japanese army’s system of military medicine in the period, and Mori Rintarō, Ishiguro’s protégé who rose to the rank of Surgeon-General of the Japanese army.
Acknowledgements

Dissertations are collaborative efforts that reach fruition only through the patience, guidance and insight of others. I will try to acknowledge the contributions and efforts of the many individuals and institutions that have been instrumental throughout the life of this project and have left their imprint on me as a scholar. To begin with I would like to thank my instructors and graduate school colleagues here at The Ohio State University who spent time reading drafts of chapters and teaching me the craft of the historian. I am indebted to my advisor, James Bartholomew, for his strategically offered advice and willingness to give a plodding student the time and freedom to produce at a decidedly modest pace. This project would not have been possible without the personal attention of Richard Torrance in the Department of East Asian Languages and Literatures, who over the better part of two years forfeited more lunch hours than I dare to recall to teach me to read nineteenth century literary Japanese. I learned to read history under the careful instruction of Christopher Reed. He tirelessly improved my workman-like approach to historiography through a combination of gentle prodding and thorough appraisals of my work. I benefited in many ways from my studies with Philip Brown, foremost among all others was his careful and meticulous approach to grant writing. Without his assistance I would never have received the funding necessary to complete this project. I am also grateful to Cynthia Brokaw for her willingness to write letters of
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There is a host of graduate student colleagues that contributed intellectually, as well as socially to the completion of this project. Emre Sencer and Yu Li are two good friends who read my work and offered careful comments, both have moved on to careers in academia and continue to serve as inspirations for me. My dissertation was improved by the time Steven Hyland and Christianna Thomas spent reading and commenting on drafts of chapters. I would like to extend a special thanks to Steven for his critical eye in keeping me in between whatever lines exist when applying theoretical frameworks.

This project would not have been possible had it not been for the generous funding I received over the years from a number of sources. I am thankful to the Ohio State University for granting me a fellowship year while I was writing the dissertation. I would also like to acknowledge the following campus institutions for providing funds for my initial research trip to Tokyo; these include the Office of International Education, the Mershon Center and the Department of History. I am grateful as well to the US Department of Education for two Foreign Language Area Studies Grants, one year each
in the advanced reading of Chinese and Japanese respectively. Lastly, this project could not have been pursued without generous funding from the US Department of Education in the form of a Fulbright-Hays Doctoral Dissertation Research Grant, which provided me with a year in Tokyo.

While in Japan I benefited from an affiliation with Juntendo Medical University in Tokyo thanks to the kindness of Sakai Shizu, who freely offered to assist a graduate student that had the temerity to initially contact her in a brief introductory email. Sakai and her staff in the Department of the History of Medicine were tireless in guiding me in my research during the year and three summers I spent in Tokyo from 2003 to 2007. I am also thankful to Sakai for so graciously introducing me to each and every collection in Tokyo, all of which proved essential to my project. I will never forget sitting in her office the first day we met. After discussing my research interests she picked up her office telephone and began to call collections introducing me as her researcher. When she finished she handed me a set of her personal cards, which I was to give to each institution I was slated to visit. On the back of each card was a note to the head of the collection requesting their full assistance in my pursuit. Her assistance opened doors that otherwise might have remained shut. Here I should also thank the staff at the library of the Red Cross Nurses College in Tokyo for their help in finding a long forgotten cabinet filled full of dusty Meiji period documents and reports that I had been told by others no longer existed. I am also thankful to Dr. Kuwabara, the Director of the Self Defense Forces
Central Hospital, who took the time to introduce me to the staff at the Self Defense Forces School of Hygiene in Ikejiri, Tokyo. In the reading room at the School of Hygiene I was granted full access to the collection, and on hot summer days they provided me with a continuous supply of iced green tea and popsicles.

My time in Tokyo was made all the more bearable thanks to the many kind individuals I encountered from all walks of life, but here I would like to extend a special thanks to Wu Jinrong, then a graduate student at Juntendo Medical University and now a Post Doctoral candidate there for her perpetual good cheer, lively discussions and friendship.

In the United States my academic odyssey was book ended by two trips to the National Library of Medicine (NLM) at the National Institute of Health in Bethesda, Maryland the first in 2002 and the most recent visit in 2007. There I found a number of key materials I could not locate in Tokyo, and the staff, at all levels, was gracious and helpful to a fault. I would also like to recognize the efforts of Peter North at NLM for readily granting me access to rare documents, as well as giving me Sakai’s contact information.

Finally, I would like to thank Hiromi for her tireless and consistent support during this process that took far longer than either of us ever imagined possible.
Vita

1987.........................B.A. International Relations, San Francisco State University

1998.........................M.A. History, San Francisco State University

1999 to present............Graduate Teaching Assistant, Department of History, The Ohio State University


2005.........................Dean’s Graduate Enrichment Fellowship, The Ohio State University

2006.........................Instructor, Department of History, Wittenberg University

2006.........................Visiting Professor, Department of History, Denison University

2006.........................“Blinded by Science: The Role of Military Medicine in the Construction of a Modern Japanese Identity in the Meiji Period (1868-1912),” The 20th Annual Edward F. Hayes Graduate Research Forum, The Ohio State University

2007.........................“How Modernity Combined with Cultural tradition to Perpetuate Beriberi: Japanese Medical Officers in the Late 19th Century,” The 80th Annual Meeting of the American Association for the History of Medicine, Montreal Canada

2008.........................Percy Buchanan Graduate Prize for the best paper on Japan at the Midwest Conference on Asian Affairs held at St. Olaf College, Northfield Minnesota for “Red Cross Nurses in Military Hospitals during Wartime: The Emergence of a Modern Medicalized Female Identity in the Meiji Period (1868-1912),”

2008.........................“Trouble with Women: Japanese Red Cross Nurses in Army Reserve Hospitals during the Sino and Russo-Japanese Wars,” The 12th International Conference on the
History of Science in East Asia, held by The International Society for the History of East Asian Science, Technology and Medicine at Johns Hopkins University, Baltimore, Maryland

2009………………………….“Japanese Physicians and Western Scientific Medicine: The Construction of a Diseased Orient in the Late Nineteenth Century,” The 37th Annual Conference of the National Association of Ethnic Studies held in San Diego, California

Publications


Fields of Study

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Chapter 1: Introduction

Scientific Medicine and a Modern Identity:

In the latter half of the nineteenth century Japan embarked on modernization reforms predicated on the transmission of knowledge and technologies Japanese understood to be the basis of Western political, military, economic and social power. The adaptation of Western knowledge and technological systems occurred under the rubric fukoku kyōhei (rich nation, strong army) and remade Japan in the image of a Western imperialist power through the rapid and radical transformation of domestic modes of production, politics, business, defense and education. In the Meiji period Japan’s institutional landscape became increasingly dotted with organizations associated with Western modernity, these included: universities, hospitals, military bases, post offices, prisons, banks, research centers and factories, to name but a few. The changes at this time were not merely organizational and structural; they were also mental. Gradually, as Japanese interacted with these institutions and organizations—enlisting in the army, entering schools and working in factories—they began to have a more intimate view of their relationship with the nation state. Nationalism and modernity, the conceptual foundations upon which Meiji Japan was built, provided a template for a modern Japanese identity.
Western medicine was one facet of the broad social changes that typified the Meiji period and ultimately gave birth to a modern Japan. As a field of knowledge medicine was perceived to be an essential marker of modernity, because of its universal applicability based on the field’s rational and objective understanding of human physiology and disease. In the nineteenth century the rise of clinical medicine in hospitals in France and the growing prominence of laboratory medicine in research centers and universities in Germany changed the way medical practitioners in Europe, the United States and Japan came to view the human body. The spread of both clinical and laboratory medicine provided the foundation for the emergence of scientific medicine, which was premised on the authority of science and its perceived systematic rationality and objective production of knowledge. Scientific medicine, with its emphasis on Germ theory—that microbial pathogens are the cause of disease—provided physicians with new tools to view the body in terms of contagious illnesses. The patient became an embodied arena defined by disease symptoms and a verifiable causative agent, while an individual’s health was often viewed within a broader social context. The contagious nature of disease, which was the focus of scientific medicine, allowed medical practitioners and the state to marshal the resources of the nation to counter dangerous epidemics. The convergence of modernity and the nation state in the field of scientific medicine shaped the way nineteenth century practitioners of Western medicine in Japan viewed themselves and their country.

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1 Andrew Cunningham and Bridie Andrews, “Introduction: Western Medicine as Contested Knowledge,” in *Western Medicine as Contested Knowledge*, ed. Andrew Cunningham and Bridie Andrews (Manchester: Manchester University Press, 1997), 6. In the introduction the authors offer a detailed discussion of the basis, authority and application of scientific medicine.
The primary purpose of this work is to examine the role of scientific medicine in the construction of a modern Japanese identity. This study is based on the qualitative analysis of a wide array of medical writings that include medical journals, as well as institutional and government reports. My concern here is to glean how Japanese medical practitioners of the late nineteenth century conceptualized the modern Japanese self. More specifically, I posit that the emergence of a modern identity was the result of a two-fold process wherein Japanese physicians consistently associated their country and themselves with the Western imperialist powers, and at the same time used medicine to draw distinctions between themselves and their nearby Asian neighbors. In the pages of these journals and reports the Japan that comes into view is a nation defined as “civilized” and scientific and, at least in terms of medicine, closely aligned with Europe and the United States. Conversely, Korea, Taiwan and China are presented as exotic, dangerous and diseased others devoid of the benefits of “civilization” and science.

Conceptual and Theoretical Frameworks:

This study is organized thematically and relies on an array of intellectual structures and concepts to give logical coherence to discussions that, on the surface, may seem only marginally linked. This project examines topics as disparate as the use of Red Cross nurses in military hospitals during wartime, the Army Medical Bureau and its struggle to consistently prevent beriberi in its ranks, the use of disease and disease categories to conceptualize Asia as a uniquely dangerous epidemiological space and the role of scientific medicine in constructing an “Oriental” other. Community, gaze and
identity are the most significant concepts that provide the essential connective tissue binding this study.

Central to this project is the understanding that Japanese practitioners of scientific medicine comprised an “imagined community” bound together through a shared education, common affiliations in medical organizations and reinforced and maintained through the pages of medical journals. I am borrowing the term “imagined” from Benedict Anderson’s work on nationalism, which sees the modern nation state as an imagined political community where members feel an affinity and association to others in the state based on cultural and social similitude. The perception of sameness occurred with the development of print media in popular vernacular that allowed for a broad dissemination and recognition of these identifiable similarities. Anderson views the resulting comradeship individuals feel with others in a nation state they have never met to be imagined, because the unity they experience exists as a mental construct.

I take a degree of liberty with Anderson’s framework and apply it in ways that are decidedly both limited and more expansive than he may have intended. To be certain Anderson is concerned with explaining the development and spread of nationalism in the nineteenth century, while my initial application of his conceptual framework is far less ambitious, I limit my imagined community to a subsection of Japanese society, medical practitioners of scientific medicine. Then I extend Anderson’s concept of an imagined community beyond Japanese physicians to include the peoples and places in Asia they conceptualized as others. My rationale here is simply that if a community can imagine

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itself to be a coherent whole based on perceived fraternities and similarities then it can just as easily imagine others to be a distinct group based on observable differences.

In the late eighteenth and early nineteenth centuries the clinic emerged as a space of medical practice in Europe that had a profound impact on the relationship between the sick and the physician. Michel Foucault examines this transition in *The Birth of the Clinic* by highlighting the importance of the “gaze” in the objectification of the patient. For Foucault those hospitalized became objects of instruction, disease and ultimately the authority of the physician.\(^3\) The gaze I refer to is the microbial gaze, which is significantly different from Foucault’s use of the term and represents the shift in medicine in the nineteenth century to scientific medicine with the introduction of bacteriology. The Foucauldian clinical gaze originated in Europe’s hospitals and clinics, and was emblematic of Enlightenment period clinical medicine, while the microbial gaze finds its origins in laboratories in universities and research centers in late nineteenth century Europe. Both forms of viewing denote power and authority; however, while the clinical gaze observes the body and its symptoms, the microbial gaze sharpens its focus on the pathogenic agent responsible for the disease causing the symptoms. With scientific medicine the patient, once defined as a collection of symptoms representing a physiological disorder, is further reduced to a panel of fragmented tissue and fluid samples and defined by the results of laboratory testing and observations. The microbial gaze is symbolic of this dramatic shift in medicine.

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Identity is a concept that is vital to this study. I adapt a social science understanding of the term, in that I see identity as socially constructed and subject to changes brought on by broader shifts in society. This is in line with how most sociologists and those in the field of ethnic studies view identity formation. I am concerned with how Japanese physicians imagined Japan as a modern entity and in turn conceived of other Asians as different. What is important here is a group identity that I locate within medical institutions and organizations, like the Army Medical Bureau and the Japanese Red Cross Society. I am traveling a path parallel to that hewn by David Howell in his book on Japanese identity in the early modern and modern periods, where he sees identity as both external (group) and marked (institutional). We both engage the issue of a national identity; Howell focuses on how the Japanese-self is constructed socially and institutionally across the divide of the early modern and modern periods, while my work highlights the emergence of a Japanese identity as expressed by medical practitioners in the Meiji period.

As an academic term identity originated in the field of philosophy in the seventeenth century and later migrated to psychology. Philosophers initially used identity

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to reference an inherent continuity in an individual’s personality or individuality. In the 1950s the psychoanalyst Erik Erikson articulated the concept of identity crisis, which he saw as a turning point in an individual’s biological development and social interaction. For Erikson identity was the product of an individual’s personality and the subject’s participation in society. Erikson associated an individual’s personality with the Freudian id-ego-superego model, which he argued was an essential element to identity, something continuous and unchanging.

To be clear identity is a term that has a multiplicity of meanings and uses and is not without its critics. Those seeking a more stable and essential definition have sought to limit the terms use. Rogers Brubacker, a sociologist, and Frederick Cooper, an historian, see identity mired in its own crisis of understanding:

We argue that the prevailing constructivist stance on identity...leaves us without a rationale for talking about identities at all and ill-equipped to examine the ‘hard’ dynamics and essentialist claims of contemporary identity politics.... Whatever its suggestiveness, whatever its indispensability in certain practical contexts, identity is too ambiguous, too torn between ‘hard’ and ‘soft’ meanings, essentialist connotations, and constructivist qualifiers, to serve well the demands of social analysis.  

For Brubaker and Cooper identity is overburdened and they seek to free it from its “tangle of meanings” by having scholars adapt a range of terms in its place:

identification, self-understanding and commonality, connectedness and groupness.

Brubaker and Cooper’s attempt to streamline identity by stripping it of its broader socio-

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8 Ibid, 60.
historical implications and applications would leave the social historian, who seeks to examine a society’s “self-understanding” or “groupness,” without an adequate conceptual tool. The terms they offer are too limited and narrow and lack the pliability, flexibility and broad applicability of identity. Societies do not stay between the lines, they are messy, awkward and often irrational, and yet they are meaningful and defining for those in them. Add to this the stretch of time and the opportunity for change and we see that identity’s cluttered complex of connotation is simply a reflection of the mercurial nature of human society that is continually reinventing, redefining and re-imagining itself.

The theoretical concepts of embodied subjecthood, “Orientalism” and classificatory systems are also important to this study. While community, gaze and identity are employed broadly throughout most of this work and constitute a set of overarching organizing frameworks, embodied subjecthood, “Orientalism” and classificatory systems are far more limited in their application and support specific thematic discussions.

Vera Mackie coined the term embodied subjecthood to explain how the Japanese imperial state managed, controlled and mobilized the bodies of its subjects for the purposes of the state from the late nineteenth century to the end of the Second World War. Mackie argues this regimen of state control was evident in institutions important to state power like factories, the army and schools. Mackie’s embodied subjecthood is a refashioning of the Foucauldian concept of biopower, which, in part, centers on the nation state’s ability to control the bodies of its citizens through national organizations. Both Mackie and Foucault see government control of the bodies and sexuality of its citizens as one function of the newly emerging nation state. I limit my use of embodied
subjecthood to explain the control of female sexuality in military hospitals during wartime by the Japanese Army Medical Bureau and the Japanese Red Cross Society.

Another important concept to this work is the use of classificatory systems to make meaning. In *The Savage Mind* Claude Levi-Strauss posits that the use of oppositional binary categorizations are a product of human society, which perceive those beyond their boundaries as others or foreigners that are different, coarse and often defined as dangerous. For Levi-Strauss this form of classification ceases only when oppositional pairings have been exhausted. This relentless human predilection to discern differences is not a capricious act; rather it is a primal form of constructing knowledge that identifies oneself in contrast to another based on perceived cultural signs and symbols. Levi-Strauss’s understanding of the role of classificatory systems in communicating those differences is central in my discussion of the discourse that evolved among Japanese medical practitioners as they encountered their Asian other in the latter decades of the nineteenth century.

The latter half of this project is organized around Edward Said’s examination of Orientalism, which grew out of nineteenth century Europe’s interaction with Africa, the Middle East and Asia. At its core Orientalism is a by-product of European imperialism and the power disparities that existed between the imperialist and its object. Orientalism is essentially concerned with how the “Orient” and the “Oriental” were represented in writings in the West. Said refers to this concept as exteriority, where the Occidental

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writer demystifies, explains and speaks for the Orient.\textsuperscript{10} Exteriority is a type of cultural interpretation where the Orient is presented in fragments and restructured to serve the purposes of the imperialists, which were generally to present the Orient as the “uncivilized” other to the modern West. Exteriority is evident in the medical writings of late nineteenth and early twentieth century Japan. Said views Orientalism within the framework of an Occidental-Oriental paradigm, which leaves no space for Japan, an Asian nation, to engage in Orientalism. I offer that Japan’s embrace of Western imperialism, and subsequent subjugation of Taiwan, Korea and Manchuria created the requisite socio-historical conditions necessary for the development of a Japanese Orientalist discourse.

Lastly, my conceptual approach to Japanese identity bears a striking resemblance to Stefan Tanaka’s intellectual history of Japan’s Tōyō (Eastern) scholars from the late nineteenth century to the early part of the twentieth century. Tanaka explains that as a field Tōyō was concerned with intellectually situating Japan as modern, while simultaneously discarding the Western category of “Oriental.” Tōyō academics achieved this, in part, by objectifying China as Japan’s Orient. The Tōyō historians’ study of the continent situated China as a backward problematic other that stood in contrast to a modern Japan.\textsuperscript{11} In general, I argue a similar process occurred within the imagined community of Japanese medical practitioners, who used the newly developing field of


\textsuperscript{11} Stefan Tanaka, \textit{Japan’s Orient: Rendering Pasts into History} (Berkeley: University of California Press, 1993), 1-18. Conceptually tōyō historians used shina as a term for China in lieu of chūgoku, which was the Japanese character reading for the Chinese Zhongguo, or Middle Kingdom. Shina denied Chinese centrality, and at the same time located China as Japan’s other.
scientific medicine to draw distinctions between a “civilized” Japan and an “uncivilized” Asia and thus identify Japan as the only modern Asian nation.

Review of Literature:

In Japanese history there are a number notable works that discuss the field of medicine and the transmission of Western knowledge in the early modern and modern periods. One of the earliest books is John Bowers’ examination of the entry of Western medicine in Japan during the Tokugawa period. *Western Medical Pioneers in Feudal Japan* emphasizes the role of European physicians in this process of transference and is written as a series of quasi-biographical case studies of Willen Rhijne, Engelbert Kaempfer, Carl Thunberg, Philipp von Seibold and Pompe van Meerdervoort that situate Japan as a backdrop for these individual narratives. Western Medical Pioneers in Feudal Japan is written in the mold of a great man history. What is missing from Bowers’ book is a clear Japanese perspective.

A far more substantial treatment of the transmission and impact of Western knowledge in Japan is James Bartholomew’s *The Formation of Science in Japan*. Bartholomew’s work represents a fundamental shift in the way historians conceptualized the Japanese adaptation of science and medicine in the modern period. Prior to this study science in Japan, and by association medicine, was largely viewed as derivative and stifled by academic factionalism. Bartholomew demonstrates that by the end of the First World War there existed a vibrant scientific community in Japan that had developed into

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a producer of scientific knowledge. Subsumed within this work is the description of a separate and more rapid trajectory of the development of an extensive community of practitioners of scientific medicine that by the turn of the century had already become significant producers of medical knowledge. The Formation of Science in Japan focuses on influential individuals and institutions essential to the creation and maintenance of a scientific community.

William Johnston’s work on tuberculosis in the nineteenth and twentieth centuries takes a view from below. The Modern Epidemic is a detailed social history of Japan’s most lethal disease. Johnston links tuberculosis to nineteenth century economic developments with the emergence of a modern textile industry and shows how the disease spread from urban industrial areas to rural Japan as ill factory workers returned to the countryside, often a sickened and withered shell of their former selves. The author pays special attention to the social ramifications of tuberculosis among families stricken with the illness. To avoid certain ostracism families often pretended the disease did not exist, which in turn contributed to the spread of tuberculosis. Lastly, The Modern Epidemic notes that the duration and lethality of the epidemic was exacerbated by the Japanese government’s slow response to tuberculosis, which it did not view as a threat to national power.

Ann Jannetta wrote a pair of books that examine disease in early modern Japan. Her first work discusses the impact of epidemic illnesses on Tokugawa society.

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*Epidemics and Mortality* is specifically concerned with the role of disease in limiting population growth in Japan in the eighteenth and nineteenth centuries. Jannetta found this Malthusian proposition, predicated on the role of pestilence in keeping pre-modern populations in check, had no relevance in Japan, which had never experienced the plague. Jannetta’s research does however show Japan suffered from a panel of contagious diseases including dysentery, measles, smallpox and cholera by the nineteenth century that hampered excessive population growth at the end of the early modern period.\(^{15}\)

Ann Jannetta’s second book, *The Vaccinators* focuses on the entry of vaccination into Japan in the early modern period and explains how and why this revolution in disease prevention was so slow in taking hold in Japan. The author argues that the transformation of social networks in Japan early in the nineteenth, which occurred as a result of the transmission of Jennerian vaccination, laid the groundwork for the far more extensive social and institutional changes in medicine evident in the Meiji period. Jannetta explains that in early modern Japan medical knowledge was transmitted through vertically constructed social networks that were both private and hereditary in nature. There were no medical journals, medical libraries, universities and medical schools to produce, support and foster a medical community. The spread of vaccination in Japan in the mid-nineteenth century benefited from the formation of a system of strong nationwide social networks by a handful of physicians in the first half of the century.\(^{16}\)


Along a similar vein Ellen Nakamura’s work demonstrates how Western medical knowledge was transmitted from urban areas to rural locales in Japan in the nineteenth century along extensive social networks cultivated by individual physicians. *Practical Pursuits* presents Nakanojō, a rural post town in what is today Gunma prefecture, as representative of how medical knowledge spread. Nakamura describes the significant social network developed by the physician Takahashi Keisaku to demonstrate how these vital links were formed, maintained and functioned.\(^{17}\) Physicians were not only bound to other physicians, but also to various levels of local society through their active participation in a variety of social and cultural activities like village obligations, poetry circles and religious ceremonies.

Another important recent work related to the nineteenth century transfer of Western knowledge to Japan is Daniel Botsman’s *Punishment and Power*, which spans the end of the Tokugawa period into the modern era and examines the practices related to imprisonment and execution. Botsman begins by placing the Tokugawa penal system within the context of the Shogunal power structure and the Tokugawa status system, then he describes the Meiji period transition to a Western based scheme of incarceration. At its core *Punishment and Power* challenges the straightforward proposition that the modern prison system represented progress.\(^ {18}\) Botsman’s work demonstrates that progress is not always a step forward.


The skepticism that Western knowledge was, by its very nature, progress, is a central theme in Gregory Clancey’s study of architecture, seismology and earthquakes in Japan in the late nineteenth and early twentieth centuries. In *Earthquake Nation* Clancey notes that early in the Meiji period Japanese architects embraced the Western practice of erecting stone buildings, the Nobi Earthquake in 1890, centered in western Japan, served as a watershed for architecture on the island as Western style stone buildings lay shattered. This historical moment, caused by a shift in the Pacific tectonic plate, changed the way future generations of Japanese architects would construct buildings, choosing function and seismic resistance over form and stone. What emerged was an approach to architecture and building construction that wedded a newly emerged Japanese technology, ferro-concrete frames with squat, sturdy building designs. *Earthquake Nation* presents a tantalizing tale of adoption, reinvention and adaptation that tempts us to search for similar historical ruptures in other Western transplanted fields of knowledge.

This survey has covered the major works associated with the history of Western medicine in Japan, as well as some recent studies related to the transmission of Western knowledge to Japan. What these works have in common is a focus on the transmission of a Western field of knowledge like medicine, science, seismology, architecture or a penal system. There are a variety of approaches evident in this collection, Bowers’ approach is overly Eurocentric and largely biographical in nature, while Bartholomew, Botsman and Clancey focus on institutions and influential individuals. Nakamura and Jannetta’s

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studies on social networks emphasize the importance of private, personal, local and hereditary relationships in the dissemination of medical knowledge in early modern Japan. And Johnston study of cholera and Jannetta’s work on contagious illnesses stress the significance of the impact of epidemics on Japanese society.

My project is informed, to one degree or another, by each of these works, but will follow none of them exclusively. While I do not stress the importance of social networks per se I do propose that Japanese practitioners of scientific medicine in the nineteenth century comprised an imagined community, a conceptual network that, in part, determined how physicians perceived themselves and so played a role in their construction of a modern Japanese identity. I share the skepticism expressed by Botsman and Clancey in their respective studies on prison systems and earthquakes. I demonstrate that the interaction between modern methods and traditional values did not always have a positive outcome as in the case of the Army Medical Bureau and beriberi. While recent histories related to disease have focused on their demographic and social impacts on Japanese society I see a somewhat different role for epidemics, which I posit are violent social events. In my work disease is used as a way of understanding Japanese attitudes toward Asia through the careful examination of the Japanese medical communities creative use of disease categories.

Chapter Summary:

The challenge of organizing a study around the concept of identity is seemingly daunting when one considers the terms broad applicability and malleable nature. Identity as a binding thematic concept can only be tamed through a precise and limiting definition.
The identity I am discussing in this project is a national one influenced by social reforms that were transforming Japan into a modern imperialist state, and so this identity was constructed at a time when Japan enjoyed a burgeoning nationalism and a nascent modernity. I see the formation of a national identity in Japan within the context of an East-West dynamic, where Japanese, in general sought to project a modern image in line with the West, while at the same time distancing themselves from other Asians. In recognition of this view the dissertation is divided into two parts. The first part discusses the interaction between traditional elements of Japanese society and culture and the demands of scientific medicine. The second half of the project focuses on the imagining of an Oriental other in the writings of medical practitioners and official Army Medical Bureau and government medical reports.

Chapter two discusses the tensions that emerged between scientific medicine and traditional society with the dispatch of Red Cross nurses to military hospitals and argues what was at stake was nothing less than the Japanese sense of self. The formation of the Japanese Red Cross Society (JRCS), an important medical organization established in the latter half of the nineteenth century, was closely associated with modernity because of its promise to ameliorate the human suffering caused by modern warfare. One aspect of the Red Cross mission was the dispatch of medical personnel to military hospitals during wartime, which included the entry of women into army medical establishments. In Japan this modern practice proved to be problematic for the Army Medical Bureau because of the popularly held view that female sexuality was inherently disruptive. The JRCS and the Army Medical Bureau’s strict control of the sexuality of Red Cross nurses convinced the Japanese army to accept their deployment to military hospitals during the Sino and
Russo-Japanese Wars. This created a space for women to engage in national service on par with young men who served in the army. This was reinforced when the army incorporated Red Cross nurses into its hierarchy by granting them official military rank. Furthermore, the JRCS’s policy of linking the Red Cross nurse to upper class society through its institutional connections with the Ladies Voluntary Nurses Association (LVNA) raised the status of Red Cross nursing. I argue that the popularity and positive image of the Red Cross nurse by the late Meiji period was the result a combination of the control of female sexuality, Red Cross nurses’ national service to the state during wartime and an elevated social status from close associations to elite society.

Chapter three examines the failure of the Army Medical Bureau to consistently prevent outbreaks of beriberi, a nutritional deficiency illness, in the army throughout the Meiji period within the context a modern Japanese identity. Here the divide between scientific medicine and traditional dietary practices explained why the army was unable to officially adopt dietary changes that would have prevented beriberi. Scientific medicine, based on the bacteriological understanding of the origin of disease, led Japanese researchers and medical officers in search of the microbial pathogen, in lieu of a dietary imbalance, as the cause of beriberi. In addition, there was a tendency among practitioners of scientific medicine to reject the nutritional food therapies long associated with Chinese medicine on the grounds they were unscientific. The leadership of the army was also unwilling to change its traditional diet of a staple of white rice that it located in Japan’s martial past. White rice was the culprit, stripped of its outer layers this processed food item held little nutritional value and virtually no vitamin B1, the vital element that prevents the onset of beriberi. The leadership of the Japanese Army Medical Bureau
sought to foster an identity that was modern and scientific, and also stubbornly retained an important cultural food item they understood to be an essential cultural symbol of what it meant to be Japanese.

The second half of the study is largely based on a careful reading of journal articles and government reports and demonstrates how Japanese medical practitioners used scientific medicine to construct an Asian other. Chapter four posits that the image of Asia as a particularly dangerous epidemiological space originated in Japanese physicians’ embrace of scientific medicine that sought to understand illness in terms of specific disease pathologies and etiologies. The perception that cholera was a continental illness and that Asia was rife with mysterious local diseases linked to specific geographic regions reinforced the notion that China, Korea and Taiwan were fundamentally different from Japan. In chapter five I show that while Japanese medical practitioners were engaged in the discourse of constructing an Asia that was different and diseased they also sought to identify Asians as “uncivilized” others. Japanese physicians and medical officers used scientific medicine to investigate, examine and study the food, medical practices, sanitation, hygiene and bodies of other Asians to identify them as different.

Discussion of Sources:

One of the challenges associated with researching nineteenth century Japan is the question of extant source materials. In my initial research trip to Japan in the summer of 2002 I heard the often-repeated mantra that the materials I sought no longer existed having been destroyed during the American bombing campaign of the Second World War, or merely lost to the measure of time. In subsequent trips, I found this to be merely
comfortable fiction, most of the sources I sought I ultimately found. The materials I gathered included a wide range of documents related to Meiji period medicine in the Red Cross, the Army Medical Bureau and in medical journals. What follows is a description of a sampling of some of the key materials important to this study.

I make liberal use of medical journals to bring to light the way Japanese physicians of scientific medicine constructed a modern Japanese identity, the two most important publications are *Iji shinbun* (The Journal of Medical Affairs) and *Rikugun guni gakkai zasshi* (The Journal of the Society of Army Medical Officers) both were published throughout the Meiji period. *Iji shinbun* was issued weekly and offered a range of articles from Japanese experiments and studies to the more mundane reports on medical conferences. The section initially titled *Gaihō* (Foreign Reports) and later changed to reflect its actual focus *Chōsen tsūshin* (Correspondence from Korea) and *Gaihō: Shina* (Foreign Reports: China) were particularly useful in understanding how Japanese physicians viewed China and Korea. *Rikugun guni gakkai zasshi* was printed monthly by the Army Medical Bureau; it was less widely circulated than other medical journals being largely limited to the community of army medical officers it served. Historians seldom use this source because access to it is limited; the only complete extant copy is housed in the Self Defense Forces School of Hygiene in Ikejiri, Tokyo. *Rikugun guni gakkai zasshi* offers a wealth of writings related to all aspects of military medicine and developments in scientific medicine in Japan and Europe during this period, and so is arguably the single most significant source essential to this study.

The writings of Ishiguro Tadanori, one of the most influential figures in medicine in the period of the late nineteenth and early twentieth century, are central to this study.
Ishiguro began his career in military medicine as the Director of the Army Medical School from 1888 to 1890, then he was promoted to the head of the Army Medical Bureau in 1890, as well as the Surgeon-General of the Japanese Army, he held both posts concurrently until 1897. During the Sino-Japanese War Ishiguro became the Director-General of Field Hygiene in the Japanese Army. In the twilight of his career, from 1917 to 1920 he held the post of Director of the Japanese Red Cross Society. Many of Ishiguro’s thoughts and concerns about Japanese modernity and medicine can be found in articles in both *Iji shinbun* and *Rikugun guni gakkai zasshi*, additional writings are in *Ishiguro Tadanori kaikyū kyūjunen* (Ishiguro Tadanori’s Ninety Years of Remembrances) and the official history of the army medical school *Rikugun guni gakkō gojunenshi* (A Fifty Year History of the Army Medical School). Lastly, one of Ishiguro’s earliest publications is his 1878 treatise on beriberi, which highlights his initial understanding of the importance of scientific medicine in the prevention of disease. There are only three copies of Ishiguro’s *Kakke ron* (On Beriberi) in existence today, one is held at the National Library of Medicine in Bethesda, Maryland.

I also made extensive use of official Japanese Red Cross Society publications and documents related to the JRCS. These include textbooks and training manuals like *Kangofu yōsei shiryōkō* (A Manuscript of Historical Materials related to Nurses’ Training), *Nihon sekijujisha kangogaku kyōtei* (The Japanese Red Cross Society Nursing Textbook) and *Kyūgoin seito kyōiku shiryō* (Educational Materials for Students and Members of Relief Parties), which combined provided a fairly detailed picture of the training and education Red Cross personnel received. These are squirreled away in a cabinet in an upstairs storage area above the modest library at the Red Cross College of
Nursing in Tokyo. Another excellent source is a post Russo-Japanese War tome titled *Nichiro sensō sekijufisha* (The Russo-Japanese War and the Japanese Red Cross Society), which is a collection of every published article and essay related to the JRCS during the conflict. This compilation was essential in providing me with direct source materials and background information related to the society’s activities in 1904 and 1905.

The final category of sources I plumbed for this project consisted of a variety of official government reports from the Army Medical Bureau and the Home Ministry’s Central Sanitary Bureau. Most of these reports are housed either in the National Library of Medicine or Juntendo University’s medical library located on its Hongō campus in Tokyo. I relied on a panel of Army Medical Bureau documents that were a compilation of cables from the commanders of individual medical units during wartime or observations, studies, experiments and reports from medical officers in the war zone, or in military hospitals in Japan. Two of the most important Army Medical Bureau reports that gave an insight into either field medicine or hospital work during Japan’s conflicts in the Meiji period were *Meiji 27-28 neneki jinchū Nikki: chū II, Daihoneye eiseichōkanbu* (A Campaign Diary of Service during the Sino-Japanese War: volume II, The Department of the Director-General of Field Hygiene of the Imperial Headquarters) and *Meiji 37-38nen seneki, Hiroshima yobi byōin gyōmu hōkoku* (A Report of Work in the Reserve Hospital at Hiroshima during the Russo-Japanese War). The Home Ministry’s Central Sanitary Bureau Reports were instrumental in describing the Japanese government’s reaction, both in terms of sanitation and hygiene, as well as conceptually, to outbreaks of cholera in Asia and Japan.
Transliteration:

The following is a brief note on the transliteration of Japanese and Chinese personal names and place names, as well as phrases. All Japanese and Chinese names are written in the order they appear in their native languages, with family name first. The names of Japanese authors of English works appear in the order given in the publication. I have omitted macrons from common Japanese place names like Tokyo, Osaka and Kyoto, but use them for lesser-known locales. All Japanese transliterations use the modified Hepburn system of romanization. In general Chinese place names and personal names are written in the Hanyu Pinyin system of romanization. The exceptions include the names of authors of works published in Taiwan after 1949; their names are written in the Wade-Giles form of romanization. In addition, there are a handful of Chinese place names that are well known to English language readers that are not written in Pinyin, these include places like Hong Kong, Macau and Mukden. When they are first used they are accompanied by their Pinyin equivalents in parenthesis.
Chapter 2: Trouble with Women: Japanese Red Cross Nurses in Army Reserve Hospitals during the Sino and Russo-Japanese Wars

Introduction:

During the Sino-Japanese War (1894-95) the Japanese Red Cross Society (JRCS) sent nurses to military reserve hospitals to care for the sick and wounded from the front. Nineteen year-old Iwasaki Yuki was one such nurse. She served in an infectious illness ward in a hospital in Kyoto where she contracted typhoid fever and died. On her death bed Iwasaki wrote a final note in which she addressed her parents and the Empress. In it she equated her service in the infectious illness ward with that of the soldiers at the front. She cautioned her parents, “if I die it is the same honorable death as that of soldiers who perish on the field of battle, so please do not mourn my passing. Please find happiness in your daughter’s service to her country.” Iwasaki concluded, “later should the Empress visit this hospital tell her of this nurse and please tell her gracious majesty not to shed a tear for me.”1 Iwasaki’s story, or bidan (heroic tale) was retold by Ishiguro Tadanori who served as the Director-General of Field Hygiene for the Japanese army during the conflict with China. Ishiguro noted, “of all the bidan related to Red Cross nurses the one that most deeply impresses me is that of

1 Ishiguro Tadanori, Ishiguro Tadanori kaikyu kyujunen (Ishiguro Tadanori’s Ninety Years of Remembrances) (Tokyo: Hakubunkan, 1936), 269-270.
Iwasaki Yuki.\textsuperscript{2} This was most likely because Iwasaki’s tragic tale included elements that reflected the JRCS’s success in linking its relief activities to national service and the patriotism that emerged during the war.

In the nineteenth century the formation of the JRCS was a significant part of Japan’s modernization reforms patterned after western models. In the west the Red Cross societies represented a new form of civilized behavior that sought to ameliorate the suffering of soldiers on the battlefield. A key feature of this new humanity was the work of women as Red Cross nurses. The ability of the Japanese to establish an efficient Red Cross society that trained and dispatched personnel, including nurses, to support the military was seen as a significant indicator of an advanced society. However, in Japan the entry of women into military hospitals, an exclusively male-space proved to be problematic, because Japanese mores of the period largely viewed the work of female caregivers as base and profane. Military leaders perceived female sexuality as an inherently disruptive element that would tarnish the image of the army. Modernity thus challenged traditional views regarding the role of women in the masculine work of service to the state.

This chapter is concerned with how the Army Medical Bureau and the JRCS regulated the sexuality of Red Cross nurses and in the process created a space for female participation in the military in times of war. What is at issue here is the role of national service in the transformation of the image of the Red Cross nurse in the late Meiji period from a questionable occupation to a popular paragon of virtue. I posit that this was the result of policies enacted by the Japanese Red Cross Society and the Japanese Army

\textsuperscript{2} Ibid.
Medical Bureau, which raised the social status of Red Cross nurses, controlled their sexuality and integrated them into the military hierarchy during wartime.

Two important recent works focusing on Red Cross organizations and nursing in Japan are John Hutchinson’s *Champions of Charity* and Aya Takahashi’s *The Development of the Japanese Nursing Profession*. Both Hutchinson and Takahashi correctly stress that the unifying philosophy, which intimately tied the Japanese populace to the JRCS was “the subordination of organized charity to patriotism and military authority.”³ Takahashi takes this view further by drawing causal links between the JRCS’s ties to patriotism and the emergence of a positive image of nursing in Japan. For Takahashi the key was the JRCS’s policy of linking nursing to national service and subordinating relief activities to military command, both allowed for the acceptance of a “new model of respectable womanhood,” in the form of the Japanese Red Cross nurse.⁴ This chapter builds on the foundations laid by Hutchinson and Takahashi by specifically focusing on how the training, use and control of Red Cross nurses in Japan allowed for the emergence of a modern medicalized female identity.

The state control of sexuality is closely tied to the emergence of the modern nation state in the 18th and 19th centuries. Michel Foucault highlights this causal link in his discussion of what he terms the hysterization of women’s bodies, wherein “...the female body was analyzed—qualified and disqualified—as being thoroughly saturated

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For Foucault the emphasis on controlling female sexuality, or the policing of sex, is essential to the notion of “biopower,” which centers on the state’s ability to subjugate its citizens’ bodies through the development of national institutions and organizations like the army and schools. Vera Mackie, in her work on feminism in Imperial Japan, sees biopower as the basis of “embodied subjecthood,” a term she coined to explain the Japanese government’s management of the bodies of its subjects from the Meiji Restoration (1868) to the end of the Second World War. In the late nineteenth and early twentieth centuries in Japan the Army Medical Bureau and the Japanese Red Cross Society, concerned with society’s traditional views on female sexuality, employed a form of embodied subjecthood by establishing layers of control to manage the actions and behaviors of Red Cross nurses.

The Formation of the JRCS:

In February 1877 the Japanese military faced its first significant test in the Satsuma Rebellion. The fighting was limited to the southwestern island of Kyūshū and pitted the newly formed Japanese national army against a renegade regional force. The Japanese Army Medical Bureau was ill prepared to meet the needs of the army. Within the first month of combat more than 1,500 sick and wounded had been admitted to the

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provisional army hospital established in Osaka. Sano Tsunetami sent a letter to the Army Medical Bureau about the possibility of forming a volunteer medical organization to care for the wounded on the battlefield. Sano had been to Europe twice as a member of Japanese delegations, once in 1867 to visit the Paris Exposition and later in 1873 as a member of the Iwakura Mission. While in Paris he learned of the Red Cross organization and now sought to replicate that model to alleviate the suffering on the battlefields in the southwest.

The Army Medical Bureau set the parameters for the new organization Sano referred to as the *Hakuaisha* (Benevolence Society). The organization was to be self-funded by the volunteers, who would initially serve on the battlefield caring for the wounded of both sides. The members of the organization were to obey all military regulations and follow the orders of medical bureau commanders. Lastly, for their own protection *Hakuaisha* volunteers were to affix an agreed upon symbol to their clothing that could be recognized from a great distance.

The volunteer organization had modest beginnings, but from the start enjoyed Imperial patronage. From May through October 1877 the *Hakuaisha* attracted 129

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7 Nihon sekijujisha (The Japanese Red Cross Society), *Kangoin seito kyōiku shiryō* (Educational Materials for Students and Members of Relief Detachments) (Tokyo: The Japanese Red Cross Society, 1911), 186. Hereafter this source is referred to as *Kangoin seito kyōiku shiryō*.


9 Ibid.
individuals, the majority of whom were attendants. The organization received an initial donation from the Imperial household of one thousand yen and a supply of hand rolled bandages from the Empress. Later in September the newly appointed President of the *Hakuaisha*, Imperial Prince Komatsunomiya Akihito donated an additional one thousand yen to the organization. *Hakuaisha* members carried out relief operations while the conflict entered its final phase and cared for a total of 788 patients.

Despite the limited role the *Hakuaisha* played during the Satsuma Rebellion it is significant, because it served as an organizational stepping-stone to Japan’s entry into a select group of Western nations that had Red Cross societies. In 1886 the Japanese signed the International Red Cross treaty and changed the name of the *Hakuaisha* to the Japanese Red Cross Society. The International Red Cross committee officially recognized this transition in 1887, at the conference in Karlsruhe, Germany. Sano became the first director of the JRCS. As Oliver Checkland notes the egalitarian nature of the treaty, which stood in contrast to the unequal treaties forced on Japan by Western

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10 Ibid, 71. The 129 volunteers consisted of only 23 physicians, 5 staff members and more than one hundred attendants.


12 *Nihon sekijujishahattenshi*, 71

13 Hutchinson, 205. The Karlsruhe gathering was the 4th International Red Cross conference. The first International Red Cross conference was held in 1864 in Paris and eleven European nations signed onto the treaty.
imperialist powers, was particularly significant to Japan’s drive to be seen as “civilized.”\(^\text{14}\)

From the establishment of the *Hakuaisha* the medical community in Japan understood the JRCS as a key marker along the path to modernity. In Meiji period documents modernity is often equated with “civilization” (*bunmei*). In 1885 an editor-authored article in *Iji Shinbun*, called for Japan to enter the International Red Cross treaty because, “if this happens then our organization will stand in association with the civilized nation’s of the world (*sekai no bunmei koku*) and will enable us to promote our national glory overseas.”\(^\text{15}\) In this context overseas refers to the West. In 1887, after the formation of the JRCS Sano wrote, “this is answering the call to stand in line with the civilized nations of Europe . . .”\(^\text{16}\) In a later issue of *Iji Shinbun* the editors discussed the JRCS’s wartime activities and placed relief efforts within the purview of the community of modern, civilized states. “Relief work is the common morality of civilized nations and each civilized nation is joined together and charged with the establishment of an International Red Cross Society, which communicate with one another and during wartime these civilized nations dispatch medical officers to the front. This is the sole


\(^{15}\) “Hakuaisha kiji: Oshu sekijuyujisha genebafu koyaku no teimei wo ko no gi” (A Hakuaisha Report: Considering a Request to Officially Commit to the European Red Cross Society) *Iji shinbun* (The Journal of Medical Affairs), no. 149, 1885, 30.

hope of relief work.”¹⁷ For Japanese in the Meiji period the Red Cross offered entry into and direct association with the community of “civilized” nations.

Nurses Training:

Red Cross societies, established to care for sick and wounded during wartime, devoted a large measure of their resources to the recruitment and training of female nurses. The JRCS began nurses’ training at its headquarters in Tokyo on 1 April 1890 with a class of ten students.¹⁸ To be admitted into the JRCS’s nurses’ training program students had to pass an entrance examination, be between 20-30 years of age, be able to read and do arithmetic at basic levels, have two letters of guarantee from upstanding individuals, possess a strong and healthy body and have a personal history of high moral conduct and proper behavior.¹⁹ The program was three and a half years in duration and consisted of a year and a half of course work and two years of practical training.²⁰ The year and a half of course work was divided into three terms of a half a year each; in the first term students studied basic anatomy, basic physiology and basic disinfection measures. In the second term students focused on nursing and assisted in basic medical

¹⁷ “Sekijujisha Tokyo iin no honso” (Activities of the Tokyo Red Cross Committee) Ifi shinbun (The Journal of Medical Affairs), no. 436, November 15, 1894, 38.


¹⁹ Ibid, 10.

treatment and bandaging and in the final term the emphasis was on the study of emergency care and transporting the wounded. At this time the JRCS did not have any textbooks specific to Red Cross nursing, which would focus on trauma care, surgical assistance and infectious illness prevention protocols, the training program used the Army Medical Bureau’s textbook for medics, Adachi’s Lectures on Nursing, as well as some translated German nursing textbooks.\textsuperscript{21}

In 1893 the JRCS also began training nurses at its recently established branch offices in Hiroshima, Osaka, Hokkaido, Okayama and Kyoto. The training at branch offices was one year in length and consisted of six months of course work and six months of practical training in a local hospital. Red Cross nurses trained at the Tokyo headquarters were on call in case of a national emergency for a period of twenty years, while branch offices required their graduates to be on call for between ten to twenty years depending on the branch.\textsuperscript{22}

From its inception the Japanese Red Cross Society’s nurses training program challenged social perceptions regarding the role of women in medicine, primarily because at this time in Japan nursing was considered a marginal field practiced by women of questionable moral fiber. Aya Takahashi discusses this in detail in her work on nursing in Japan, noting the crux of the issue lay in the differences between traditional and modern nursing practices. Historically nursing had been carried out within the family, while modern nurses worked outside their homes at hospitals or in a private residence for pay

\textsuperscript{21} Kangofu yoseishi shiko, 10-11.

\textsuperscript{22} Ibid, 29-30.
and cared for the sick and injured, including men.\textsuperscript{23} An example of this social proclivity played out at Juntendo hospital, when in 1873 there was a public outcry after it was discovered the hospital, which also trained nurses, was constructing private rooms for patients.\textsuperscript{24} The prospect that young women would care for sick men in private rooms was seen as morally reprehensible.

The JRCS and Upper Class Society:

Despite the negative image of nursing held by Japanese society the Imperial family established close ties with the Japanese Red Cross Society. In May 1877 when the \textit{Hakuaiisha} was transformed into the JRCS the Emperor and the Empress established an annual donation of 5,000 yen to the new organization, in 1899 this gift was increased to 10,000 yen for a period of up to twenty years.\textsuperscript{25} The Imperial family’s largesse did not end with this significant outlay of funds. On 1 May 1891 the Empress opened the Red Cross hospital in Tokyo, which had been built on land donated from the imperial estate near Shibuya. The cost of the hospital was 100,000 yen paid for by the Imperial family.\textsuperscript{26} At the time the facility was the largest of its kind in Japan at 72,000 square feet and could comfortably accommodate one hundred patients.\textsuperscript{27}

\begin{thebibliography}{10}
\bibitem{Takahashi} Takahashi, 5.
\bibitem{KindaiNihon} \textit{Kindai Nihon kangofushi: I Nihon sekijujisha to kango}, 32.
\bibitem{Nihon} \textit{Nihon sekijujisha hattenshi}, 80.
\bibitem{Checkland} Checkland, 30.
\bibitem{NihonHattenshi} \textit{Nihon sekijujisha hattenshi}, 178.
\end{thebibliography}
Women in the Imperial family and upper class society supported the JRCS through the Ladies Voluntary Nursing Association (LVNA). On 19 May 1887 the LVNA was formed and on June 4 the organization began a drive to recruit members. Initially twenty upper class women answered the call. The LVNA was the collective brainchild of Ishiguro Tadanori, the Surgeon-General of the Army and Hashimoto Tsunatsune the Director of the JRCS hospital; both men sought a role for women in the Red Cross from upper class society and the Imperial family. The two were inspired by German volunteer nursing organizations like the Berlin Women’s Hospital Association and the Women’s Patriotic Society, which included noble women from German society.

The inclusion of upper class women in the field of nursing had a positive impact on the image of the Red Cross nurse. One of the first women to join the LVNA was Oyama Sutematsu the wife of the Minister of the Army Oyama Iwao. On the eve of the war with China (August 1894) LVNA membership received a boost when Prince Arisugawanomiya Taruhito officially instructed each princess in the Imperial family and all noble women to join the association and assist physicians in aiding the sick and

28 Ibid, 123.


30 Kameyama, 20.

Hundreds of royal and upper class women filled the ranks of the LVNA, which assisted in the transformation of the image of nursing in Japan from a questionable occupation to a noble pursuit for women.

JRCS Training for War:

The Japanese Red Cross Society planned to have its relief detachments sent to the front to care for and transport casualties from the battlefield to hospitals in the rear. In late October 1892 the Japanese army held live fire maneuvers in Tochigi prefecture outside the city of Utsunomiya involving 30,000 troops from the First and Second Divisions. The JRCS took part in the exercise and dispatched a relief detachment of 33 personnel that included six nurses. The Red Cross medical group was tasked with caring for and transporting “sick and wounded” from Utsunomiya, by train, to the army reserve hospital in Tokyo. Ishiguro observed the Red Cross efforts, which covered the three days of the maneuvers from October 24 through the 26 and concluded “In the event


34 Kameyama Michiko, Kindai Nihon kangoshi: II senso to kango (The History of Nursing in Japan: II, War and Nursing) (Tokyo: Domesu, 1984), 28. The Tochigi maneuvers was the second time the Red Cross had sent its personnel on a mission. The first use of Red Cross personnel in a relief capacity occurred during the Great Nobi Earthquake, October 28, 1891 in Gifu and Aichi Prefectures. The quake, a magnitude 8.4 tremor, leveled more than 21,000 structures, damaged an additional 80,000 buildings and killed more than 7,000 people. The JRCS sent its first class of nurses, who were then a year and a half into their training. For a full account see Omori Fumiko, “Waga kenbunshita kango no rekishi” (The History of Nursing I Have Observed) Kango (Nursing) (Tokyo: March 1995, vol. 47), 96-101.
that war breaks out we should rest easy that within the army’s line of communications the Red Cross relief units can be entrusted with a part of the medical relief work.”

In 1893 following the Tochigi exercises the JRCS modified its nursing curriculum and requirements for prospective students to meet the demands of battlefield nursing. The JRCS added lectures related to ranks and insignias in the army and navy, and accepted an invitation from the Army Medical Bureau to receive hands on training in the transportation of wounded by stretcher. In addition, that same year a height requirement was established for all incoming students. The bar was now set at 4’6”, which was considered the absolute minimum height to effectively carry out stretcher-bearer duties.

Despite the Army Medical Bureau and the JRCS’s plans to use nurses in the war zone the leadership of the army held a different view of the place of women in the care of its soldiers. The Japanese army was influenced by the limited use of nurses in the German military system, which saw their proper place far behind the front line. In fact, by the late nineteenth century the aid societies in Germany were no longer permitted to operate on the battlefield, instead they were relegated to training nurses to staff army hospitals. The disconnect between the leadership of the army, on one hand and Ishiguro Tadanori,

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36 Kameyama Michiko, Kindai Nihon kangoshi: II senso to kangoshi, 29.

37 Doyokai rekishibukai, 76.

38 Yoshida, 52.

39 Hutchinson, 93.
the head of army medicine and the Japanese Red Cross Society on the other hand, would surface in a meaningful way with the outbreak of war with China in 1894.

The Sino-Japanese War:

The war with China began in the summer of 1894 with the dispatch of Japanese troops to Korea to help quell a popular uprising on the peninsula. On 19 June 1894 the Army Medical Bureau, in line with the expected role of the JRCS in carrying out battlefield and war zone relief activities petitioned the army to dispatch Red Cross relief detachments to Korea.\(^40\) The army denied entry of Red Cross relief units, and nurses in particular, into the war zone citing a report on 14 August 1894 that Chinese troops had killed Japanese army stretcher-bearers.\(^41\) In the eyes of the army the battlefield and its attendant lines of communication were to be an exclusively male-sphere.

The leadership of the army was also concerned with the entry of nurses in army facilities during the conflict and only agreed to their use after assurances by the JRCS and the Army Medical Bureau that nurses’ sexuality would be controlled. In line with the Western model Ishiguro, the Director-General of Field Hygiene for the army during the war, pushed the Ministry of the Army and the General Staff to use Red Cross nurses in military reserve hospitals in Japan. The leadership of the army responded to Ishiguro’s request with a cultural argument saying, “regarding the use of Red Cross nurses during


this war, our country and Europe and the United States have different customs and practices and if by chance ill is spoken of the public morals of the women who are nursing the sick and wounded soldiers who have served with honor then all the distinguished service of the soldiers could be completely lost.” The Director-General of Field Hygiene responded, “of course you are right, however if what you said occurs it will only be because the nurses are poorly trained (implying they are well trained) . . ., so regarding their moral integrity medical officers will have to bear the responsibility of guaranteeing the proper conduct of the nurses.” Ishiguro’s promise to have Army Medical Bureau personnel monitor the nurses coupled with a limited test case of a single relief detachment convinced Oyama Iwao, the Minister of the Army to place the reputation of the army in the hands of Red Cross nurses. Embodied subjecthood was thus pivotal to the initial use of nurses in military hospitals.

Following the meeting Ishiguro immediately rode off to the JRCS headquarters and informed Director Kasahara Masuo that at last JRCS nurses would be sent to military hospitals. Ishiguro underscored that he alone bore responsibility for the conduct of the nurses and gave Kasahara strict instructions on selecting the twenty women who would be in the test case stressing: they should be individuals who will follow regulations, obey moral instructions, be skilled experts, older in age and not marked with great pulchritude. To lower the risk of a sexual scandal Ishiguro sought Red Cross nurses

42 Kangofu yoseishi ryoko, 18.
43 Ibid.
44 Ibid, 19.
who were unlikely to falter because they were sticklers regarding rules and would be sexually unattractive to the men in the hospital.

On 3 August 1894 the JRCS dispatched its first relief detachment of the war for service at the army reserve hospital in Hiroshima. The group included 30 members: a director, a chief physician, three physicians, a pharmacist, a pharmacist’s assistant, a nurse supervisor, twenty nurses and two clerks. Embodied subjecthood was not merely limited to the promise of the head of the Army Medical Bureau in guaranteeing the nurses conduct, but also took the form of didactic exhortations that spoke of dire consequences for any moral missteps. Before departing Tokyo the nurse supervisor, Takayama Moriko addressed the assembled nurses and warned them about becoming embroiled in a male-female scandal. Takayama cautioned,

Everyone I beseech you to consider that if you fall from grace due to disreputable conduct how this will damage the honor and glory of the empire and also how this will inevitably hamper the progress of the work of the Japanese Red Cross Society. If this, by any chance, happens once then what face will the Emperor and I have with regards to our dear fellow countrymen? I for one will not be able to continue living if this were to happen, and so I could only apologize with my own death. And you must also . . . be resolved to retain your womanly virtues by deciding to take your own lives.45

Takayama’s address invoked the honor of the state, the Emperor and the JRCS as a means of controlling female sexuality.

Takayama’s ominous admonition notwithstanding Ishiguro remained deeply concerned about the prospect of sexual relations between Red Cross nurses and patients, as well as male personnel in military hospitals. The admonishments that constituted embodied subjecthood would now be buttressed with surveillance. In August, after the

45 Kameyama, Kindai Nihon kangofushi: I, Nihon sekijujisha to kango, 46.
relief detachment arrived at Hiroshima Ishiguro asked Countess Kabayama, the wife of Admiral Kabayama and Viscountess Nire, the wife of Vice Admiral Nire, both members of the Ladies Voluntary Nurses’ Association (LVNA), to supervise the work of the Red Cross nurses in Hiroshima. The two LVNA matrons not only worked in the wards keeping a watchful eye on their charges, but they also moved into the dormitory set aside for the Red Cross nurses and monitored their activities outside the hospital as well.46

In February 1895 some seven months after the dispatch of the initial nursing relief detachment to Hiroshima Ishiguro penned a set of guidelines governing the use of nurses in military hospitals. A careful examination of Ishiguro’s list highlights his primary concern. Among the 15 points he deemed essential only two were related to nursing; nurses must be given the serious cases to care for and not all the nurses should be assigned tasks related to cleaning. Of the remaining points only one dealt with an issue other than control and surveillance and that was simply that nurses were to be given one day off a week. The remaining twelve points highlight the Army Medical Bureau’s embrace of embodied subjecthood, which was designed to close off all opportunities for nurses to engage in sexual behavior. The rules ranged in scope from supervisor’s duties related to surveillance to the importance of full disclosure in the event a wicked abuse (a sexual act) occurred between a patient and a nurse.47

46 Ibid, 47.

47 Meiji 27-28 neneki jinchu: chu II, Daihoneye yasen eisei chokanbu (Campaign Diary during the Sino-Japanese War: vol. II, The Department of the Director-General of Field Hygiene of the Imperial Headquarters.) (Tokyo: Rikugunsho, 1896), 918-919. The list included the following 15 points: 1) Initially use a small number of nurses and increase their numbers only gradually. 2) Appoint 1 supervisor for every 5-10 nurses. 3) Supervisors should have seniority and be taciturn, strict, courteous and impartial. 4)
The moral lectures and the control of nurses’ actions, behavior and dress, as well as the establishment of a system of surveillance carried out by supervisors and LVNA women were all part of the JRCS and the Japanese Army Medical Bureau’s imposition of embodied subjection. This emphasis on the control of female sexuality stands in contrast to the correspondingly marginal attempt to manage male sexuality. Ishiguro’s guidelines included a single regulation directed solely at men, which was point fourteen, “it is important to warn patients to be respectful and reserved in speech and actions toward nurses.”48 In August as Red Cross nurses and LVNA members Kabayama and Nire began to carry out relief duties in Hiroshima Ishiguro had the following specific instructions read to the patients there. “Since I believe it is proper to have the severely injured be nursed by the hand of a woman the government and the Red Cross have requested the use of female nurses, and because the Countess Kabayama and Viscountess Nire, as well as the wives and daughters of other generals and field officers are mixed in among the nurses I will consider any rudeness towards them as a personal insult to my family.”49 Since LVNA volunteers wore the same uniforms as JRCS trained nurses it was

Select nurses based on their personal conduct and behavior. 5) Nurses must wear their regular uniform and never wear attractive and gaudy attire. 6) When a sexual act occurs between a nurse and a patient the medical officer in charge must not hide the offense. 7) Nurses must be given the serious cases to care for. 8) Rules governing the nurses must be established between the army and the JRCS. 9) JRCS nurses are to work under the direction of medical officers. 10) The rules established in hospitals for nurses should extend to their dormitories in the evening. 11) Nurses and male hospital staff should not be permitted to mingle and mix in rooms in the hospital. 12) A separate nurses’ lounge should be established in the hospital. 13) All the nurses should never be used to clean the wards. 14) Patients should be warned to be respectful and reserved in their speech and actions vis a vis nurses. 15) Nurses should be given one day off a week.

48 Ibid, 919.
nearly impossible to distinguish between the two, thus presumably forcing patients to
mind their manners with their caregivers.\(^{50}\)

At the outset of the war with the Qing Empire the Japanese Red Cross Society
was entirely ill prepared to meet the needs of the Army Medical Bureau. By August 1894
only 19 Red Cross nurses had completed their training: fourteen students had finished the
three and a half year course at the JRCS headquarters in Tokyo, while five students had
graduated from the one-year training course offered at JRCS branch offices.\(^{51}\) In the first
month of the war the JRCS was only able to form four relief detachments, accomplished
by graduating its current students, as well as recruiting nurses from other hospitals into
ranks. The JRCS mustered a total of 85 nurses in the opening stage of the conflict.\(^{52}\)

During the Sino-Japanese War the JRCS carried out a program of accelerated
nurses’ training at its now expanded sixteen branch offices throughout the country. The
accelerated regimen was designed to give young women a modicum of training before
sending them off to military reserve hospitals, the branch offices set their own training
periods, which ranged from between two months to one year in duration.\(^{53}\) During the

\(^{49}\) Saito, 97-98.

\(^{50}\) *Kangofu yoseishi ryoko*, 9.

\(^{51}\) *Nihon sekijyujisha shiko*, 790-791.

\(^{52}\) Ibid, 756.

\(^{53}\) *Kangofu yoseishi ryoko*, 33. The branch offices were in Hyogo, Niigata, Gunma,
Aichi, Nagano, Miyage, Fukushima, Ishikawa, Shimane, Tokushima, Kagawa, Ehime,
Kochi, Fukuoka, Kumamoto and Yamaguchi.
war the accelerated training program allowed the JRCS to dispatch 669 nurses to military hospitals.\textsuperscript{54}

The problems with nurses training were dwarfed by the JRCS’s failure to train male attendants. In April 1889 a year before the JRCS began to train nurses the society halted the training of attendants (male nurses). The five men then undergoing training at the headquarters in Tokyo had their contracts voided and were let go.\textsuperscript{55} This was a consequence of the JRCS’s assumption that nurses would carry out relief duties in the war zone and on the battlefield. When the war began the JRCS had no attendants to dispatch to the continent to support the Army Medical Bureau’s relief activities. On August 20, 1894 the Army Medical Bureau announced that conditions in Korea had stabilized and it was now safe enough to dispatch JRCS male relief detachments to the continent. On August 28 Koike, the commander of the 5\textsuperscript{th} Division’s line of communications medical department requested a JRCS detachment that included 30 attendants.\textsuperscript{56} The Red Cross did not begin to respond to the army’s needs until November 1894 when the JRCS began a drive to recruit attendants, who were given two-months training before being dispatched to staff line of communications hospitals in Korea and China. By the end of

\textsuperscript{54} Kangoinseito kyoiku shiryo, 322.

\textsuperscript{55} Nihon sekijyujisha shiko, 701.

\textsuperscript{56} Meiji 27-28 neneki jinchu nisshi: I, Daihonei yasen eisei chokanbu, 248. Koike was writing from the Chinese city Longshan, and the urgency of his request is highlighted by the report he had received from commander Kato, at a regimental field hospital. Kato wrote that more than 400 soldiers were hospitalized with an enteric illness.
the year 275 JRCS attendants had been sent to the war zone. By the end of the war the JRCS had sent 475 attendants to the continent to support the war effort.

During the war the dispatch of Red Cross personnel came in the form of requests from the individual commanders of Divisional medical departments. These calls for aid were usually very specific about the make-up of the relief detachment. In this respect the JRCS was reduced to merely filling orders for personnel requests. Commander Koike’s petition for attendants was the second such appeal for aid, a week earlier on August 19 he had requested the Red Cross dispatch a relief party to the army reserve hospital at Hiroshima. By the end of 1894 the JRCS had responded to army appeals and sent 309 members to the work under the command of the Army Medical Bureau.

During the Sino-Japanese War the vast majority of JRCS nurses and attendants had very little experience, but despite their marginal skill level they made a significant contribution to the Army Medical Bureau. Only 19 nurses had the benefit of the full three and a half year training course, 86 nurses were JRCS nursing students or nurses from

57 Nihon sekijyujisha shiko, 797  
58 Kangoinseito kyoiku shiryo, 360.  
59 Meiji 27-28 neneki jinchu nisshi: I, Daihonei yasen eisei chokanbu, 192. For example, on January 6, 1895 the commander of the medical department of the 4th Division, Kono asked that the JRCS send a relief party of 18 (10 nurses) to the army reserve hospital in Osaka. On February 15 the commander of the medical department of the 3rd Division, Tashiro requested the dispatch of JRCS personnel to army reserve hospitals in Nagoya and Toyohashi. He wanted each party to be composed of two physicians and ten nurses. And on February 24 commander Fukushima, the head of the medical department of the 6th Division called on the Red Cross to send 21 nurses to the army reserve hospital at Kumamoto.  
60 Meiji 27-28 neneki jinchu nisshi, chu II: Daihonei yasen eisei chokanbu, 797-798. The personnel the JRCS dispatched to the Army Medical Bureau included 145 nurses and 103 attendants.
other hospitals, and so had some training and experience. All of the attendants and 564 nurses went through the crash program that barely introduced them to basic nursing techniques and these individuals were granted provisional status.\textsuperscript{61} Despite the rudimentary training JRCS personnel largely learned on the job and aided the Army Medical Bureau by freeing up medical officers, attendants and medics to work on the battlefield. In total, 1,567 JRCS personnel served in military hospitals in Japan, in army hospitals along the lines of supply in Korea and China and on hospital ships.\textsuperscript{62} By the end of the war, 804 Red Cross physicians, pharmacists and nurses staffed all eleven military reserve hospitals.\textsuperscript{63}

The Ladies Voluntary Nursing Association (LVNA), an auxiliary of the JRCS, not only served as overseers as mentioned earlier, but also supported the work of the Red Cross nurses in a number of ways. Most LVNA volunteers rolled bandages for use in hospitals, consoled patients and handed out refreshments. In the opening months of the war after the naval engagement in the Yellow Sea on 19 September 1894, Mrs. Shibayama, an LVNA member and the wife of the commander of the naval base at Sasebo, organized the wives of the officers on the base to meet daily at her home in the morning from 9 to 11 and in the afternoon from 1 to 4 to roll bandages for use in the base hospital. Shibayama’s group prepared several hundred bandages during the war. They also greeted newly arrived patients to the hospital and handed out handkerchiefs and

\textsuperscript{61} Kameyama, 57.

\textsuperscript{62} Doyokai rekishibukai, 80.

\textsuperscript{63} Nihon sekijyujisha hattenshi, 243. JRCS personnel staffed the following military reserve hospitals at: Sendai, Tokyo, Nagoya, Toyohash, Osaka, Hiroshima, Matsuyama, Marugame, Kumamoto, Kokura and Fukuoka.
From December 1894, at the request of the Army Medical Bureau LVNA volunteers gathered in Tokyo and rolled more than 15,000 small field bandages, which were distributed to the army reserve hospitals as needed.  

The Interwar Period and the Rise in Popularity of Nursing:

During the short decade between the Sino and Russo-Japanese Wars (1895-1904) the JRCS and its nurses enjoyed a dramatic rise in popularity. Membership in the society increased rapidly while thousands of young women sought entry into the JRCS’s nurses’ training programs. At the start of the war membership in the JRCS stood at 45,317 and early in the conflict membership jumped to 145,914 with 402,627 yen in donations, by the end of the war membership had peaked at 211,782 while donations had reached 569,187.31 yen. By 1903, a year before the outbreak of hostilities with Russia, the number of Japanese associated with the Japanese Red Cross Society more than quadrupled to 894,700. The growing popularity of the JRCS led to a corresponding rise in the number of women who sought a career as a Red Cross nurse. As stated earlier,

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65 *Nihon sekijujisha hattenshi*, 269.

66 *Nihon sekijujisha hattenshi*, 276. Dues were paid in one lump sum or annually. The lump sum payment was a once in a lifetime charge of 30 yen, or members could pay 3 yen annually for ten years. Membership dues are explained in *Nihon sekijujisha tokushi kangofu jinkai kaipo* (Proceedings from the Japanese Red Cross Society’s Ladies Voluntary Nursing Association) (Tokyo: Nihon sekijyujisha tokushi kango jinkai, 1906), 75.

67 *Nihon sekijujisha 50-nen shoshi*, 38.
from 1890 to 1893 the JRCS had only graduated 19 women from its nursing program, during the war through accelerated training and the granting of provisional nursing status the number of JRCS nurses rose to 669. This figure is dwarfed by the interwar surge in nursing students, from 1896 to 1904 2,153 women graduated from the JRCS’s nurses’ training programs.\textsuperscript{68} The enhanced reputation of the JRCS and its nurses was the result of a confluence of wartime patriotism, direct associations with elite society and the moral compass provided by embodied subjecthood.

A reason for the Japanese Red Cross Society’s burgeoning popularity was its close association with the nation’s war effort, which linked its humanitarian work to the surge in patriotic sentiment that occurred during the conflict with China. Ariga Nagao, a Doctor of Law and a member of the JRCS explained the relationship between humanitarian work and patriotism in Japan: “Humanity and patriotism are two very different concepts . . . In Japan, from the start the primary task of the Red Cross was national soldier’s relief work . . . in Japan what is called humanity is decidedly not so. My research shows that on the surface there is humanitarianism, but in reality it is a patriotic impulse related to soldier’s relief work. In Japan this patriotic relief work results in humanity.”\textsuperscript{69} Sato Norio also underscored the importance of patriotism to Red Cross work in his compilation of nursing lectures for students at the JRCS branch office at Okayama. “The role of the nurse is to safeguard the nation from illness. For a nurse, as a representative of the people in wartime, there is nothing more precious than caring for

\textsuperscript{68} Nihon sekijujisha shiko, 790-793. The majority of the graduates, 1,877 studied at branch offices of the JRCS, while the JRCS headquarters graduated 276 nurses in the interwar period.

\textsuperscript{69} Chuaisha Hensanbu, 51.
sick and wounded soldiers. It is of primary importance that when learning nursing it be coupled with sincere loyalty and patriotism.”\textsuperscript{70} The patriotic embrace of the work of the Red Cross nurse was further enhanced by their direct links to the military.

During the war the JRCS became an auxiliary of the Japanese military and Red Cross personnel fell under direct military command. To fully integrate Red Cross personnel into the military hierarchy all members of the volunteer organization, including women were granted military rank. Red Cross physicians and pharmacists became medical officers, while Red Cross nurses received the rank of the lowest male in the army, that of private.\textsuperscript{71} While this low rank might seem like a snub, it is important to stress that granting military rank legitimized the work of nurses in two ways: first, it fully incorporated these women into the military and intimately linked them to national service to the state. Second, by receiving the rank of private Red Cross women were now on par with the average foot soldier, which explains Iwasaki Yuki’s emphasis in her dying note that her service in the infectious illness ward in Kyoto was equal to that of the men at the front.

In addition to military rank Red Cross nurses also received recognition of their service to the state in the same manner as military men. Following the end of hostilities 605 nurses out of a total of 669 who served during the war were decorated with medals and citations for service to the state; 595 women were granted Orders of the Sacred


\textsuperscript{71} Ibid, 185.
Treasure, while ten women from the Imperial Family received the Order of the Precious Crown. Both awards were established in 1888, a year after the founding of the JRCS. The Order of the Sacred Treasure was reserved for any woman who engaged in meritorious service to the state, while the Order of the Precious Crown was limited to women in the Imperial family. These awards not only resembled the medals soldiers received for valor in combat, but also linked the work of Red Cross nurses to the nation in a tangible way.

The LVNA not only assisted Red Cross nurses in their work in military hospitals, but also raised the status of their JRCS sisters. The women in the LVNA were from three backgrounds: every princess in the Imperial family joined the organization, as well as nearly every woman of noble rank (countess, Viscountess and baroness) and most wives of high-rank officers in the army and navy. As Aya Takahashi posits the social status these women enjoyed played a role in the construction of an image of the virtuous Red Cross nurse. This was accomplished by placing LVNA women and JRCS nurses in an intimate dominant-subordinate relationship. As previously discussed LVNA women served in a surveillance capacity in military hospitals during the war. In addition, leaders in the LVNA participated in and observed the JRCS nurses’ graduation ceremonies. In May 1893 the first JRCS nurses’ graduation ceremony was held in Tokyo and was attended by the Chief Secretary of the LVNA her royal majesty Princess Akihito and Vice Secretary of the LVNA her royal highness Yoshihisa Shinohi Tomiko. Later in October 1900 during the JRCS graduation ceremony for the 15th class of nurses in Tokyo

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72 Dōyōkai rekishibukai, 80.

73 Takahashi, 85.
the LVNA women took a more direct role in the proceedings as the then Chief Secretary of the LVNA, Imperial Princess Yoshi handed the newly minted nurses their diplomas. The role of LVNA imperial princesses in graduation ceremonies was essential in legitimizing this significant rite of passage, as well as underscoring the subordinate role of the new nurses vis a vis LVNA women. The subordination of JRCS nurses to women in the LVNA was an essential element of embodied subjection, because it underscored the moral authority of upper-class women over the trained professionals in the Red Cross.

The Popularization of the Red Cross Nurse:

During the war and its aftermath JRCS nursing activities became popularized in song. In 1894 Kato Yoshikiyo, a clarinetist, happened upon a procession of Red Cross nurses marching in formation to board a train at Shinbashi station in Tokyo and was moved “by the vision of these young maidens heading off to the front, a bloody wild place filled with despair.” Kato composed The Woman’s March, a tribute to the work of JRCS nurses during the war. Kato’s song, which places the women on the battlefield, is an imagined view of the Red Cross nurse and her contribution to the war effort. The opening two verses set the scene with a gruesome depiction of the field of conflict strewn with the bodies of the fallen lying on a field of grass dyed crimson. In the final four verses Kato paints a vivid picture of what he perceived to be the role of JRCS nurses during the war.

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74 “Nihon sekijujisha” (The Japanese Red Cross Society) Iji shinbun (The Journal of Medical Affairs) no. 577, November 10, 1900, 789-790.

Before long the Red Cross banner is raised. A tent is brought out. Waiting in the tent are women filled with love and humanity.

Thin white arms extend and wash away the tide of flowing blood. Wrapping white bandages, the nurses’ sleeves are dyed in blood.

With a heart the color of the Red Cross, the nurses not only lovingly care for our soldiers, but also for the enemy with whom we cannot speak.

Oh, how brave! Bearing the name the mother of civilization they lovingly care for the wounded with a heart the color of the Red Cross.  

Despite being a less than genuine rendering of JRCS nurses’ relief activities, Kato’s musical tribute is important for its popular understanding of the elements that made the Red Cross nurse a symbol of modernity. The Red Cross nurse cared for the fallen of both sides “with love and humanity,” and as Kato also stressed, Red Cross nurses bore “the name the mother of civilization.” The popularity of Kato’s march highlights the image of the Red Cross nurse as positive female agent of modernity.

The work of Red Cross nurses in Japan was also popularized in a new literary genre called katei shosetsu, or women’s novels. The first true katei shosetsu was Kikuchi Yuho’s Ono ga tsumi (My Sin), serialized in the newspaper the Osaka mainichi in 1899 and 1900. Ono ga tsumi embodies all the elements that typify katei shosetsu, a female protagonist who overcomes a serious social problem and a plot that highlights the relationship between a husband and wife. Kikuchi was a staff writer for the Osaka

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76 Arai, 15-16.
Mainichi and wrote episodes on a daily basis, which he tried to connect to real life and he admitted were, in part, based on several letters he had received from a woman. During the tenure of Ono ga tsumi in the Osaka mainichi Kikuchi received letters from women readers who offered advice for or sought to connect to the female protagonist in the novel whom they thought was real. This offered Kikuchi the opportunity to understand his readers hopes and desires for the plot while it evolved and incorporate them into the novel, so in this sense Ono ga tsumi was a collaborative work between the author and the novel’s readership. It is precisely this synergy that opens a window into the social views of women regarding the field of nursing at the end of the century.

The plot in Ono ga tsumi revolves around a young woman, Tamaki, who in her youth gives birth to a son out of wedlock. Tamaki’s father spares his daughter the burden of raising the child by telling her the child died in birth, he then sends the infant away to be raised by another family. A few years later Tamaki marries a man of considerable standing in society, Takahiro, with whom she has a son. At her father’s urging Tamaki keeps her first pregnancy a secret from her husband. Late in the story, while on vacation at a seaside resort Tamaki’s son meets a boy a few years his senior and the two become fast friends. When Tamaki is introduced to her son’s new friend she instantly knows it his her first son. Tragedy strikes when both boys drown in a swimming accident and Tamaki is wracked with guilt, because she believes their deaths are punishment for her hidden past. She tells Takahiro everything and he insists the two live apart. In disgrace and to

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atone for her sins Tamaki decides to join the Red Cross as a nurse and serve in Taiwan.

Tamaki says,

I was surprised to read in the newspaper that in Taiwan in early autumn a very bad illness had broken out and become epidemic and that many military personnel serving there had died. However, since nurses are not allowed in the army hospital (during peace time) the Japanese Red Cross Society, this autumn built a new hospital in Taibei. In the newspaper it said currently this hospital was filled with patients and was troubled with a shortage of nurses . . . . I think I will volunteer as a nurse and go over there, and if by chance my efforts are able to save the lives of one or two people then maybe this public service can atone for my sins.78

While Tamaki served in Taiwan Takahiro left his marital troubles behind and embarked on worldly travels. After a few years Tamaki receives word that Takahiro has been stricken with typhoid fever in French Indochina, so she immediately boards the next steamer out of Taiwan along the South China Sea circuit headed in the direction of Saigon. In Hong Kong she transfers to a French steamer bound for Saigon. When Tamaki arrives at the Red Cross hospital in Saigon she is warmly welcomed by the head of the hospital, a French physician. In the novel Kikuchi stresses that as a Red Cross nurse Tamaki has become a virtuous female and a paragon of modernity. She is described as a rare beauty, an exceptionally skillful nurse, fluent in English and very kind. In Saigon Tamaki nurses Takahiro back to health and he recognizes that she has changed. The two reconcile and renew their relationship.79

Kikuchi’s Ono ga tsumi, published in the interwar period, demonstrates just how thoroughly Japanese society had come to embrace the Red Cross nurse as a virtuous

78 Kikuchi Yuho, Ono ga tsumi, gohen (My Sin, vol. 3) (Tokyo: Shunyudo, 1901), 202-203.

79 Ibid, 210-213.
profession for women. In this novel, a collaborative work between author and readership, a fallen woman is able to atone for youthful excesses only after becoming a Red Cross nurse and engaging in national service by caring for sick and dying military personnel in Taiwan. The popularity of the Red Cross and the Red Cross nurses alluded to in Ono ga tsumi led to an expansion in nurses’ training by the JRCS at this time.

Interwar Nurses Training:

Following the war the JRCS embarked on a program to expand its nurses’ training. This was initially done to complete the training of the nearly 600 provisional nurses that had been rushed through accelerated training. From 1896 to 1903 the number of JRCS branch offices increased from 16 to 46, correspondingly in 1899 when the number of branch offices jumped to 43 the number of students in nurses’ training in the JRCS exceeded 300 for the first time. From 1899 to 1904 the number of students graduating from branch training programs fluctuated from between 248 to 309, these figures do not include the 30-50 students who annually graduated from the JRCS headquarters in the interwar period.  

The Japanese Red Cross Society recognized that the majority of the women who served as JRCS nurses during the war had received a nominal level of training, so students who wished to remain Red Cross nurses had to complete their nurses’ training program. Their service during the war did exempt them from taking the entrance examination, as well as all physical and educational requirements. In 1896 in an effort to standardize the training at branch offices the following changes were established: the

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80 Nihon sekijujisha shiko, 791-793.
period of study was expanded to two years (one year of course work and one year of practical training), the JRCS’s *Kangogaku kyotei* (A Textbook on Nursing) became the required primer, the practical training of nurses was carried out at local hospitals, and prospective students had to be between the ages of 20-30 and have a minimum height of 4'6".  

The required textbook *Kangogaku kyotei* is devoted to the specialized care given by Red Cross nurses. The text includes nine parts that engage the following topics: Red Cross Training, Anatomy and Physiology, Nursing, Treatment Methods, Surgical Training, Bandaging Methods, Surgical Equipment, Emergency Rescue Procedures, Methods for Transporting Patients. The section on nursing is the most comprehensive part of the text and deals with a range of issues from the proper temperature for a patient’s room to procedures for dealing with the dead. The increased popularity of the Red Cross nurse as a career for young women coupled with the thorough training of JRCS nurses in the interwar decade would serve the Japanese Red Cross Society well in the conflict with Russia.

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81 *Kangofu yōseishi ryōkō*, 34-35. In February 1897 the minimum age requirement for a nursing student was lowered from 20 to 18, because there were too many women who were marrying before the age of 20, thus shrinking the available pool of women. In December 1903, the minimum age requirement was again lowered from 18 to 17.

82 *Nihon sekijujisha kangogaku kyotei* (The Japanese Red Cross Society Nursing Textbook) (Tokyo: Nihon sekijujisha, 1902), 86-118. Nurses were expected to keep patients from smoking, prepare their meals, maintain patient charts, regularly change bandages, daily take the patient’s temperature and pulse and sterilize the room with a carbolic acid solution. In addition, nurses were to monitor respiratory conditions, look for bed-sores in non-ambulatory patients and properly dispose of all bodily expellants including: stool, urine and vomit.
War with Russia (1904-05):

The JRCS’s expansion of its nurses’ training program at branch offices in the interwar period produced a cadre of roughly 2,100 trained nurses, and while this was a significant accomplishment the scope of the conflict with The Russian Empire was far greater than the war with China. When hostilities broke out in February 1904 the JRCS was able to immediately dispatch 76 relief detachments to military hospitals in Japan, hospital ships and line of communications hospitals in Korea and Manchuria.\textsuperscript{83} This initial deployment represents an enormous expansion of JRCS capabilities when compared with the four relief detachments the Red Cross was able to scrape together in the opening month of the Sino-Japanese War. Despite the impressive increase in trained personnel early in the conflict the JRCS once again found itself short of trained nurses. The Red Cross immediately graduated all nursing students at its headquarters and branch offices; this allowed the JRCS to form an additional 12 nurses’ relief parties. This extreme measure notwithstanding the military required even more nurses, so the JRCS once again instituted a program of accelerated nurses’ training. In all the JRCS dispatched 116 nurses’ relief units to the military, the accelerated program accounted for 28 detachments and the students from this program were given the status of provisional

\textsuperscript{83} Kangoinseito kyoiku shiryo, 338. During the Russo-Japanese War the JRCS operated two hospital ships, the Hakuai-maru and the Kozai-maru. In addition the army outfitted 20 transport vessels that were used as hospital ships. The JRCS dispatched 23 nursing detachments and 15 attendant detachments to work on the 22 hospital vessels. From March 1904 to March 1906 the ships made a total of 629 sorties to the continent. For a full discussion of the hospital vessels during the Russo-Japanese War see Nihon sekijyujiasha, Kangofu yoseishi ryoko, 51-52.
nurses. The crash training was carried out at military hospitals and the period of instruction was set at one year, with a mere two months of course work.  

Japan’s war with Russia was a considerably greater affair than its conflict with China a decade earlier. Accordingly, the Japanese Red Cross Society’s contribution to the war effort against Russia dwarfed its efforts during the Sino-Japanese War. An example of the increased needs of the military was evident during the Japanese drive to reduce the Russian fortifications around Port Arthur on the Liaoning peninsula. At the height of the siege (September 1904) more than 2,600 sick and wounded daily arrived at the army reserve hospital in Hiroshima; to accommodate the flood of patients the hospital’s capacity was increased to 12,000 with the establishment of provisional wards in schools and temples throughout the city. By March 1906 195,780 patients had been admitted to the reserve hospital at Hiroshima, this was nearly twenty times the sick and wounded cared for in all reserve hospitals throughout Japan during the entirety of the Sino-Japanese War.  

In the 1904-05 campaign the JRCS dispatched a total of 5,170 personnel to the Japanese army and navy, in the war against the Qing Empire the JRCS had sent 1,567 medical personnel to the military, or less than one-third the number deployed

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84 Kameyama, Kindai Nihon kangoshi: senso to kango, 62.

85 “Hiroshima yobibyoin gyōmu ippan: Sato gunisōkan ga rikugun daijin ni hōkoku shitaru” (A Summary of the Work at the Army Reserve Hospital at Hiroshima: A Report by Surgeon-General of the Army Sato to the Minister of the Army) Rikugun guni gakkai zasshi (The Journal of the Society of Army Medical Officers) no. 152 (May 1906) Tokyo: Rikugunsho, 630-637. During the Sino-Japanese War 9,438 Japanese sick and wounded were cared for in reserve hospitals in Japan. In addition, 1,484 Chinese POWs were also treated in hospitals in Japan. The total number of sick and wounded cared for in hospitals in Japan totaled 10,922, or less than 6% of the number of casualties cared for at the army reserve hospital in Hiroshima during the Russo-Japanese War. For a discussion of patients cared for in military hospitals during the Sino-Japanese War see Nihon sekijyujisha, Nihon sekijujisha hattenshi, 243.
against Russia. The figures are even more striking when the number of Red Cross nurses are taken into account. During the Sino-Japanese War the JRCS dispatched 669 nurses, while in the hostilities against the Russia the Red Cross mobilized a total of 2,689 nurses, or slightly more than four times that in the previous conflict.\(^8^6\) The JRCS’s ability to meet the needs of the Japanese military was a direct result of the expansion of nurses’ training in the interwar period.

During the fighting with Russia the Ladies Voluntary Nurses’ Association continued to support the work of the JRCS nurses. As in the Sino-Japanese War they did so by consoling patients, handing out refreshments and rolling bandages. At the army reserve hospital in Hiroshima strict guidelines governed the use of LVNA women; they were not permitted to carry out regular nursing duties, and were limited to consoling patients, mending the clothing of the sick and wounded and reading and writing letters for the men.\(^8^7\) LVNA women also manned refreshment centers at train stations to care for patients on hospital trains. The largest center was established at Shinbashi station in Tokyo where 122,465 patients passed through during the nearly 18 months of war. The LVNA women changed bandages, brought boiling water onto the trains so the patients could wash; they also distributed newspapers, biscuits, cigarettes and tea. In the summer

\(^8^6\) Kangoinseito kyōiku shiryō, 373-374. During the Russo-Japanese War 79 nurses’ relief detachments were dispatched the military reserve hospitals throughout Japan. The following is a list of the reserve hospitals and the number of detachments each received: Tokyo-12, Sendai-4, Nagoya-4, Osaka-8, Hiroshima-12, Kumamoto-4, Asahikawa-1, Hirosaki-3, Kanazawa-6, Himeji-6, Zentsuji-10, Kokura-5, Kure-2, Sasebo-2. See Saito Chohana, 184-185.

\(^8^7\) Meiji 37-38 nen seneki, Hiroshima yobibyoin gyōmu hōkoku (Report on Work at the Army Reserve Hospital during the Russo-Japanese War) (Tokyo: Rikugunsho, 1907), 83.
they handed out fans and in the winter the women filled the stoves on the trains with fresh embers.\textsuperscript{88} The LVNA also dedicated itself to filling the dressing needs of the military. They began rolling bandages on 17 February 1904 and continued unabated until the end of December 1905 and filled orders totaling 283,000 bandages.\textsuperscript{89}

In 1904 the need for trained nurses was so dire at some reserve hospitals that LVNA women were called on to fill the breach. It is generally understood that LVNA women did not function as nurses, however, when need be they could care for patients as regular nurses. This was because some LVNA women had been through the JRCS nurses’ training program. In the early period of nurses’ training prior to the Sino-Japanese War most classes of nurses at branch offices regularly included two or more LVNA members.\textsuperscript{90} In October 1904 Chino Sumio the Director of the army reserve hospital at

\textsuperscript{88} \textit{Nihon sekijujisha tokushi kangofu jinkai kaihō} (Proceedings from the Japanese Red Cross Society’s Ladies Voluntary Nurses’ Association) (Tokyo: Nihon sekijujisha tokushi kangofu jinkai, 1906), 26. Another large operation was at Okayama city where from May 1904 to March 1905 LVNA nurses cared for 109,996 patients.

\textsuperscript{89} Chuaisha Hensanbu, 265. In February 1904 the LVNA rolled 23,000 bandages that were distributed to the Red Cross, the army and the navy. In June 1904 the army requested 30,000 small-sterilized bandages with disinfectant. Later in June the army requested an additional 40,000 small-sterilized bandages, which the LVNA filled in 40 days. In August 1904 the army again requested 40,000 small-sterilized bandages, and in April and September the army made two requests that totaled 180,000 bandages; the LVNA women rolled 150,000 bandages. The small-sterilized bandages were made by dipping gauze in a mercuric bi-chloride solution, affixing the treated gauze to paper and folding into a triangle.

\textsuperscript{90} \textit{Kangofu yōsei shi ryōkō}, 29-30. For example, in February 1893 when the Hiroshima branch office of the JRCS began its nurses’ training program its first class had seven students, including two LVNA women. The third class at Hiroshima began in February 1894 with a cadre of 20 students, 5 of who were members of the LVNA. Likewise the first and second classes in the nurses’ training program at the Ehime branch office included two LVNA women each. And lastly, the first class of nurses at the Toyama branch office totaled 15 students, two of who were in the LVNA.
Sendai had little reservations about an expanded role for the members of the LVNA, “at the Sendai army reserve hospital LVNA personnel assisted the nurses in caring for patients, because there were too few hospital staff to attend to them all.” LVNA women prepared bandages, dressed wounds and even assisted in operations.\(^{91}\)

In the aftermath of the war with Russia there was a slate of ceremonies to honor the service of Red Cross relief personnel by intimately linking the society’s relief activities to the nation-state. At the end of November, as the war was winding down two functions were held in Tokyo to pay tribute to volunteer work during the conflict. A reception was held by the Minister of the Army Terauchi Masatake at Korakuen in Koishikawa and was attended by 200 individuals who represented volunteer medical personnel, private citizens, members of the JRCS, individuals from the imperial family and students and staff from national medical universities. Terauchi praised those at the gathering for their devotion to the nation.\(^{92}\) Around the same time Terauchi was extolling the virtues of volunteerism across town in Ueno Park a banquet was held to honor Red Cross personnel who served during the war. The Director of the JRCS, Matsukata commended the more than 4,000 JRCS members in attendance saying, “now peace has been restored with Russia and soon we may be told that relief work will come to an end.

\(^{91}\) *Nihon sekijujisha tokushi Kangofu jinkai kaihō*, 15-19. The army reserve hospital in Hiroshima did not use LVNA women as nurses, this was most likely because of two factors: there were only six LVNA women assigned to the hospital in Hiroshima, and more importantly, in November 1904 the hospital began to employ female workers to carry out menial tasks to free JRCS nurses to focus their efforts on the critical cases. See *Meiji 37-38 nen seneki, Hiroshima yobibyoin gyomu hokoku*, 85.

\(^{92}\) “Rikugun daijin no eiseibu hōjosha shōtai, zappō” (A Reception Held by the Minister of the Army for Those Who assisted the Army Medical Bureau, in Journal Reports) *Iji shinbun* (The Journal of Medical Affairs) no. 698 (November 25, 1905), 1775.
In the future this society’s primary responsibility will be the promotion of national power....”93 Public recognition of service to the state was key in linking the Japanese Red Cross society and its nurses to the war effort.

The year after the war with Russia fallen Red Cross personnel from the Sino and Russo-Japanese Wars were enshrined in Yasukuni shrine, the greatest honor that could be bestowed on an individual for service and sacrifice to the state. Yasukuni shrine was established to honor soldiers who perished during the War of Restoration (1867-68), a conflict that ushered in the Meiji period. Enshrinement in Yasukuni was a privilege normally reserved for fallen soldiers, the inclusion of members of the JRCS, including 22 nurses like Iwasaki Yuki, was the ultimate recognition of national service that also made the relief work of nurses analogous with the battlefield valor of soldiers.94

Conclusion:

In a mere sixteen years from the initial training of Red Cross nurses in Japan in 1890 to the enshrinement of Red Cross personnel in Yasukuni in 1906 the social status of JRCS nurses in Japan was transformed from what was perceived to be morally ambiguous work carried out by women with questionable reputations to virtuous patriotic service to the state done by trained, principled professionals. The key to this striking

93 “Sekijujisha sokuin irōkai, zappō” (A Banquet in Honor of the Staff of the Red Cross, in Journal Reports) Iji shinbun (The Journal of Medical Affairs) no. 698 (November 25, 1905), 1775.

94 Kangoshi kenkyūkai, 82. A total of 76 Red Cross personnel were enshrined in Yasukuni. All of the 22 nurses died from infectious illnesses.
makeover was the crucible of war and the manner in which the JRCS women served the state and how they were incorporated into the Army Medical Bureau.

From the very beginning the army was reluctant to allow JRCS women entry into military hospitals because female sexuality was deemed disruptive in this exclusively male-sphere. To convince the army to use nurses Ishiguro Tadanori, the Director of Field-Hygiene during the Sino-Japanese War guaranteed their conduct and established a set of guidelines designed to control their sexuality. This form of embodied subjecthood included restrictions in dress, age, attractiveness, and conduct and behavior of nurses inside and outside the hospitals. To insure the guidelines were strictly adhered to LVNA women were called upon to monitor the work and lives of the nurses. In addition, the JRCS went to great lengths to admonish and cajole their nurses into adhering to proper conduct, which centered on the subordination of their sexual desires to the needs of the state.

Once the nurses were permitted in reserve hospitals the army had to find a place for them within the structure of the military bureaucracy. The army decided on a minimalist approach and granted JRCS nurses the lowest rank possible, that of private. In terms of status and national service this impacted JRCS nurses in two ways: first, rank gave them a specific place within the military hierarchy and thus provided them a legitimate claim to service to the state. Second, the rank of private placed nurses on the same status level as the men who were fighting and dying at the front. The public recognition of relief efforts during the war and the conferring of awards, decorations and medals for national service further linked JRCS nurses to the nation state in the same manner as military men. And, the enshrinement of JRCS personnel, and nurses in
particular elevated the status of JRCS nurses to that of military men who had made the highest sacrifice for the nation.

The close association the JRCS enjoyed with national service and the military during wartime raised the popularity of JRCS nurses because of the outpouring of patriotic sentiment. The spike in popularity in JRCS nursing following the Sino-Japanese War and the popularization of Red Cross nurse in music and literature highlights the transformation of image that was occurring at this time.

Lastly, the dominant-subordinate relationship the JRCS nurses had with women in the imperial family and the Ladies Voluntary Nurses’ Association also served to increase the social status of Red Cross nurses. The confluence of embodied subjecthood, military rank, public recognition of national service and enhanced social status engendered the emergence of a new, popular medicalized female identity in the Meiji period, the Japanese Red Cross Society nurse.
Chapter 3: Blinded by Science and Bound by Tradition: The Japanese Army’s Failure to Prevent Beriberi during the Meiji Period

Introduction:

In the short story “One Soldier,” Tayama Katai describes the tortured trek of Kato Heisuke, an infantryman with beriberi, who is trying in vain to catch up to his unit during the Russo-Japanese War. Kato is in great pain as he traverses the Manchurian countryside “...the mild beriberi had become acute. He knew what that might mean... paralysis of the heart. He shuddered at the thought. Was there no way of escape at all? He wept aloud as he walked, his nerves on edge, his body shaking, his legs racked with cramps.” Kato’s condition gradually worsened and walking became all but unbearable. He stumbled into a roadside inn along the line of march and collapsed in an empty room. It is here that the disease entered its final stage. “The pain advanced on him like a tide. It raged with the ferocity of a great wind. He raised his legs and banged them on the hard wood boards. He rolled his body to this side and that. ‘The pain...!’ Not thinking or knowing what he said he cried aloud.” In his final hours Kato comforted himself by recalling his family, he pictured his mother and wife’s faces. He thought of his home in Fukue village. His cries had awakened a pair of fellow soldiers in a nearby room; they found him still alive lying on the floor, writhing and twitching in pain, with one side of his face dripping with vomit. There was nothing they could do they had seen this before
“The two watchers stood in silence. Their faces were white. From time to time they muttered words of sympathy. Kato knew now that he was going to die.... If only he could escape from this pain, this intolerable pain.” The pain finally ended some hours later when he passed away in the bitter cold of a Manchurian morning. Kato was but one of thousands of Japanese infantryman that perished from beriberi during the conflict with Russia.¹

Throughout the Meiji period (1868-1912) beriberi proved to be a particularly elusive problem for the Japanese army medical bureau. This chapter examines the inability of the Japanese army to prevent beriberi, a nutritional deficiency illness, in the Meiji period. The army’s failure stands in contrast to the Japanese navy’s successful eradication of this disease by 1885, achieved when the navy changed its staple from white rice to a rice and barley mixture. I posit that the underlying causes lay with the leadership of the army medical bureau, which was fixated on projecting a “modern” image while retaining elements of a traditional past. In the latter half of the nineteenth century Japan was undergoing comprehensive modernization reforms and the army medical leadership understood scientific medicine to be a significant marker of modernity essential to the construction of a modern identity. This meant army physicians and medical researchers doggedly sought to understand beriberi through laboratory research at the expense of traditional prophylactic measures, like changes in diet, which were viewed as unscientific. In addition, the leadership of the army medical bureau stressed the

cultural importance of a white rice staple because of its perceived association to a shared Japanese past. The interplay between modernity and tradition produced fatal results for thousands of Japanese soldiers in the late nineteenth and early twentieth centuries.

Background:

Beriberi is a nutritional deficiency illness caused by a diet scarce in vitamin B1, which physiologically leads to a breakdown of metabolic activity at the cellular level characterized by a painful polyneuritis in the body’s sensory nerves. Today it is generally accepted that 0.3 mg of thiamin (vitamin B1) per 1000 calories is sufficient to prevent beriberi. Since thiamin is present in all living tissues (plant as well as animal) it is only when food articles are refined that the vitamin B1 content becomes insufficient to support human life. In the case of the Japanese army the problem was a staple of processed white rice, which contained very little vitamin B1 at 0.2 mg per one thousand calories. This is because white rice has been stripped of its hull, germ and the part of its endosperm, which contain the highest concentrations of thiamin.

Beriberi was an horrific illness because its symptoms were painful and physically transformed the patient’s body and if left untreated the outcome was often fatal. The most common symptoms were a dulling of sensations in the legs in tandem with a creeping paralysis.

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2 Kenneth J. Carpenter, Beriberi, *White Rice, and Vitamin B: A Disease, a Cause, and a Cure* (Berkeley: University of California Press, 2000), 163. Current US recommended daily allowances of thiamin for men are 1.2 mg and for women 1.1 mg.


4 Carpenter, 120.
edema that spread from the legs to the lower abdomen, advancing to the upper torso and in some cases even reaching the face. As noted in Tayama’s story about the death of Kato Heisuke, physically the numbness and swelling led to impaired motor functions and were often accompanied by excruciating pain in the tendons and joints in the limbs, as well as in the chest and abdomen. In its acute stage the patient lost all desire to eat, suffered from intense bouts of nausea and vomiting, labored breathing, as well as severe heart palpitations and a drop in blood pressure due to an enlarged heart. In the end the patient often succumbed to heart failure.5

The earliest writings on beriberi were in China and Japan. During the Tang Dynasty (618-907) in Qianjin fang Sun Siguan wrote of tasseled scholars in the Yangzi area coming down with the disease despite living a virtuous life.6 The prevalence of beriberi throughout the Yangzi river basin led people in the Tang period to refer to it as the Jiangnan malaise.7 The association of beriberi with a particular region influenced Chinese medical practitioners’ understanding of the cause of beriberi, which they posited as fengdu (風毒), or poisoned wind that was thought to be prevalent along the marshy banks of the Yangzi River. By the Song Dynasty (960-1126) fengdu had given way to


7 Chen Bangxian, Zhongguo yixue shi (A History of Medicine in China) (Taipei: Taiwan shangwu yinshu guan, 1965), p. 398. The Jiangnan region is in the Yangzi river basin south of the Yangzi. Since the Tang period the staple in this region has been polished rice.
zhangdu (瘴毒), a pairing of characters indicating miasma, or a noxious vapor, as the cause of beriberi, in both cases environment was understood as the underlying factor leading to an occurrence of the illness.\(^8\) Chinese physicians prescribed a myriad of nutritional regimens to counter beriberi, these included consuming a multi-bean soup of soybeans, red beans and hyacinth beans twice daily, or eating 200 grams of peanuts four times daily in the early stages of the illness, as well as changing the patient’s diet to a gruel of dried quince, red beans, peanuts and rice.\(^9\) The earliest recorded outbreak of beriberi in Japan was in 806 during the reign of the Heizei emperor, however, it was not until the eighteenth century that the illness became widespread.\(^10\) In line with Chinese medical practices, Japanese physicians in the premodern period effectively treated beriberi by substituting rice for other foodstuffs, primarily red beans and barley.\(^11\)

The Navy’s Approach to Countering Beriberi:

\(^8\) Ibid, 398.

\(^9\) Li Shouguang, Shiliao shibu daguan (The Complete Work on Dietary Therapies and Nutritional Treatments) (Hong Kong: Chuban she, 1978), 100-101 passim.

\(^10\) Kakusaki Futoshi, “Honpō kodai kakke ryōhō” (The Treatment of Beriberi in Ancient Japan) Tokyo iji shinshi (The New Tokyo Journal of Medicine) August 1881,11-12. This was a result of the growing popularity of white rice among elites and wealthy merchants in the Tokugawa period (1603-1868). In Japanese beriberi is referred to as kakke (腳気), which comes from the Chinese name for the disease and is pronounced jiaoqi.

\(^11\) Okima Kongo, “Kakkeron” (On Beriberi) Rikugun guni gakkai zasshi (Journal of the Society of Army Medical Officers), no. 75, September 1896, 538.
In the first decade of the Meiji period the views held by physicians in the army and navy regarding beriberi mostly centered on environmental explanations, this was largely because European miasma theories found fertile ground in a society inundated with Chinese medical theory. In 1878 in the first issue of *Iji shinbun* (The Journal of Medical Affairs) Hashimoto Tsunatsune, a prominent medical officer, wrote about the cause of beriberi, which he explained as environmental in nature. “In 1871 in Osaka two regiments camped out for 48 hours in a swampy area and within a short time there was an outbreak of beriberi with 80 soldiers becoming ill and many of them dying.”

In the middle of the nineteenth century views on miasma began to depart from earlier notions by emphasizing the existence of an organic contaminate in the soil rather than merely the soil itself or vapors emanating from the soil. Rudolf Virchow, a professor of cellular pathology wrote, “recent research has shown that in epidemics there is no poison that persists endemically in the soil.... Human beings themselves, rather, temporarily contaminate the soil and thence the wells and the air with their excreta....” In the same year Hashimoto’s article was published Ishiguro Tadanori, the then Director of the Army Medical School, published *Kakkeron* (A Discourse on Beriberi), in which he echoed Virchow’s sentiment maintaining beriberi was caused by a “...poisonous element, a

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12 Hashimoto Tsunatsune, “Kakke shinsetsu” (A New Theory of Beriberi) *Iji shinbun* (The Journal of Medical Affairs), no. 1, May 1, 1878, 3. Hashimoto had recently returned from studies abroad in Germany from 1872-1876, where he focused on internal medicine and surgery at the universities of Berlin, Wurzburg and Vienna. Hashimoto served as the Surgeon-General of the Army from 1885 to 1890.

certain type of fungus (*pirutsu*), and in Tokyo and Osaka, as well as in other towns and districts that are overcrowded, there is a great deal of putrefaction from organic material in night soil which has seeped into and inundated the soil.”¹⁴ In 1878 British physician William Anderson, the instructor at the naval medical school, agreed with Japanese army medical officers that beriberi was caused by miasmic conditions.¹⁵

By the mid-1880s a clear split emerged between the army and navy’s understanding of the cause of beriberi, this was a direct result of medical education in Europe. Since the early 1870s the army and navy sent their most promising medical officers to the continent for advanced studies in medicine. By and large army physicians went to Germany, while their naval counterparts were sent to England. In Germany from the 1870s on the university medical laboratory began to be seen as the central component of a physician’s education.¹⁶ In England, on the other hand, medical education centered around smaller hospital schools that placed a premium on clinical education.¹⁷ The gulf

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¹⁴ Ishiguro Tadanori, *Kakkeron (A Discourse on Beriberi)* (Tokyo: Hatsumichi Shorin, 1878), 2. In the 1870s Ishiguro treated patients with beriberi using a hydrochloride-quinine mixture. His patients became lethargic and dizzy, but the disease progressed unabated. Ishiguro also gave his patients solutions of carbonated water, opium, belladonna, oxalic acid, nitric acid and prussic acid to suppress their nausea and vomiting to no effect. He found that he could only relieve their suffering with a block of ice.


between these two approaches to medical education only widened with the general 
acceptance of the germ theory in the 1880s, which promoted the notion that disease was 
the result of bacteriological infection. For beriberi research in Japan this meant army 
physicians and researchers funneled the majority of their efforts into laboratory research 
in search of the pathogenic agent they believed caused the illness, while naval 
researchers, less fettered by their educational background, were able to pursue a broader 
range of inquiries in grappling with beriberi.

In the early Meiji period beriberi was a serious problem for the Japanese navy that 
threatened the ability of the service to function at an even rudimentary level. From 1868 
to 1883 there were a total of 9,516 cases of beriberi in the navy for an average of 1,586 
cases per annum. During this period the average size of the navy was 4,887 strong, 
which meant that on average roughly 32 % of naval personnel contracted the disease 
annually. The crippling effect beriberi had on the navy is further underscored when one


18 Williams, pp. 18-19. French chemist and bacteriologist Louis Pasteur 
conducted groundbreaking research on cholera, anthrax and rabies viruses from 1880-
1884. In 1876 German bacteriologist Robert Koch identified bacillus anthraxis as the 
cause of anthrax, and in 1882 he isolated the tubercle bacillus. A year later Koch 
successfully identified the cholera vibrio.

19 The Japanese Navy’s Central Hygiene Board, Review of the Preventive 
Measures taken against Kak’ke in the Imperial Navy (Tokyo: Department of the Navy, 
1893), 8.
considers, that with the treatments of the time, severely stricken patients often took from between 15-20 weeks before they recovered and became fully ambulatory.\textsuperscript{20}

In 1880 Takagi Kanehiro, the director of the naval hospital in Tokyo, alarmed at the high rate of beriberi in the navy began to search for its cause. Takagi had spent five years (1875-1880) at St. Thomas Medical School in London, where he was deeply influenced by the English emphasis on epidemiology and public health. Upon his return to Japan Takagi immediately applied the epidemiological methods he learned in England to investigate the conditions that caused beriberi by focusing on the environment in which naval personnel lived.\textsuperscript{21} Takagi’s survey called for the examination of clothing, living space, climate and the diets of the officers, enlisted men and prisoners in the navy. Takagi found that there was a higher rate of beriberi among enlisted men and prisoners, which indicated a problem with diet since officers enjoyed a higher quality ration than their subordinates.\textsuperscript{22} Takagi immediately visited Japanese warships, naval barracks and

\textsuperscript{20} Umehara Gen, “Kakke ryōhō no setsu” (Theories on Treating Beriberi) \textit{Tokyo iji shinbun} (The New Tokyo Journal of Medicine) no. 70, December 27, 1879, 19. Umehara’s article discusses the contagious and environmental theories of causation related to beriberi. He also examines in great detail the preferred methods of treating beriberi using a regimen of anti-inflammatory and diuretics to treat swelling, and tonics and stimulants to address the loss of sensation.


\textsuperscript{22} Ibid, 66. Officers received a daily allotment of 40 sen per man per day for their diet, while enlisted men had a diet based on 18 sen per man per day and prisoners subsisted on a mere 9 sen per man per day (100 sen equal 1 yen). However, in truth there was little difference between an enlisted man’s diet and that of a prisoner, because 8 sen (out of the 18 sen for the diet) was sent home to support the enlisted man’s family.
naval schools to confirm the actual diet of the lowest ranks with his own eyes. What he found astounded him — piles of white rice and pickled radish — and left him with the impression that his initial deduction, that diet was to blame, was on the mark.  

By June of 1882 Takagi began his dietary studies with a chemical analysis of the Japanese navy’s diet, which he compared to the British naval ration, because the Royal Navy had no history of beriberi in its ranks. He found that the Japanese diet was deficient in protein and contained nearly twice the amount of carbohydrates given to British sailors. Based on his studies in England Takagi understood a proper diet to have a ratio of 1 part protein to 15 parts carbohydrates, the Japanese navy’s diet had a ratio of 1 to 28. According to Takagi’s theory of causation changing the Japanese naval diet to bread, meat and fresh vegetables, in line with the British ration, offered the best way to prevent beriberi. Takagi tested his theory at Takanawa Naval Hospital where he divided ten patients suffering from beriberi into two groups of five. One group was fed a Western style diet based on meat and bread and the other group was given the navy’s rice based ration. The health of the patients on the Western diet rapidly improved and all five

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24 Ibid, 67-68. Takagi thought that a diet based on excessive carbohydrates held a poisonous character that could be neutralized with the proper ratio of proteins. Anderson, whose thoughts on beriberi had evolved from miasma to nutrition, stressed the use of laxatives to discharge the excess carbohydrates in the intestines of beriberi patients.

25 Ibid, 67-68. In the nineteenth century nutrition was understood in terms of proteins, carbohydrates and minerals. The discovery and synthesis of vitamins did not occur until the first half of the twentieth century. The breakdown of a diet in terms of nitrogen and carbons corresponds to proteins and carbohydrates, because proteins are largely comprised of nitrogen, and likewise, a primary component of carbohydrates are carbon.
were soon released from the hospital. In contrast, those fed the navy’s standard fare continued to suffer from beriberi and languished in the hospital. One patient did not survive the experiment.26

Despite Takagi’s demonstration of the efficacy of the new diet an obstacle to dietary reform lay in cost. Adopting a Western style ration would require 33 sen per sailor per day, which would nearly double the current outlay for provisioning set at 18 sen per man per day. Takagi’s call to reform the diet went largely unheeded by the department of the navy until the Imo Incident underscored the debilitating impact beriberi had on the navy’s operational capabilities.

In 1882 the mutiny of Korean troops against modernization reforms was directed towards Japan and touched off an international incident that tested the capabilities of the fledgling Japanese navy. In July soldiers from traditional Korean army units, upset over unpaid wages, attacked and killed Lt. Horimoto Reizo, a Japanese officer training units for Korea’s modern army. The mutineers also attacked the Japanese legation in Seoul, forcing the minister and his staff to flee to the relative safety of nearby Inchon.27 The Japanese government responded by dispatching three warships: the Kongo, the Hiei and the Tsukuba, under the command of Rear Admiral Nire Kagenori to the peninsula where they stayed on station for 40 days. There they squared off against the modern Chinese


warships the *Dingyuan* and the *Zhengyuan* commanded by Admiral Chang Zhengru.\(^{28}\) The Japanese flotilla was fortunate that the stand off ended without incident, because the crews were so stricken with beriberi that “those three ships would have had no fighting value in the critical moment.”\(^{29}\) In addition, Japan’s largest warship the *Fuso* was on standby anchored off Shinagawa, but could not be sent to Korea because 180 men out of a crew of 309 were stricken with beriberi. The leadership of the navy likened the situation to “walking on thin ice.”\(^{30}\)

The inability of the navy to adequately respond during the Imo Incident provided Takagi the opportunity to push for funding for his dietary reforms. To prove his theory that a diet poor in proteins caused beriberi Takagi proposed sending a training vessel on a nine-month cruise supplied with the new diet. The previous training voyage by the *Ryujo*, which traveled from New Zealand to South America, then to Hawaii and back to Japan, ended in disaster with 169 of the 376 crewmen contracting beriberi, 25 of whom died.\(^{31}\) Takagi approached Kawamura Sumiyoshi, the Minister of the Navy, about funding the experiment, but Kawamura was unwilling to increase the navy’s budget. Takagi’s plan would require an additional expenditure of 50,000 yen an amount

\(^{28}\) Nagai, 101.

\(^{29}\) Takaki Kanehiro, “Three Lectures on the Preservation of Health Amongst the Personnel of the Japanese Navy and Army, Lecture I” (Delivered at St. Thomas’s Hospital, London, on May 7th, 9th and 11th by Baron Takaki) *Lancet*, May 19, 1906, 1,370.

\(^{30}\) Nagai, 101.

\(^{31}\) Matsuda, 69.
Kawamura was not prepared to approve. However, Kawamura did grant Takagi permission to act as a representative of the navy regarding the disbursement of special funds for his project from the Ministry of Finance. Takagi met with Matsukata Masayoshi, the Minister of Finance, and explained in detail the need for dietary reforms in the navy. Matsukata responded that he would have to consult with Imperial Court Councilor Ito Hirobumi before deciding on Takagi’s proposal. Takagi was confident Ito would support the dietary experiment, because he had kept Ito abreast of his work through regular reports detailing his experiments and research related to beriberi. Ito decided to have Takagi attend the next cabinet meeting with Kawamura and explain his plan before the government.

Takagi’s presentation was well received and on 1 February 1884 the diet of the navy was changed to a staple of bread with an increased ration of meat and vegetables. More importantly Takagi’s dietary reforms changed the provisioning of units in the navy from a simple monetary based system to one predicated on nutrition. Now instead of merely allotting a sum of money based on the size of the unit, quartermasters were to purchase foodstuffs in the quantity established by the medical bureau and the purchases were to be inspected by the unit’s physicians.

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32 Nagai, 112-113. This was a considerable outlay for a single experiment considering the navy’s budget was three million yen that year.

33 Ibid.

34 The Japanese Navy’s Central Hygiene Board, 12-13. The breakdown for the improved diet included the following: rice, bread, beef, salted pork, fowl, eggs, soy sauce, vegetables (potatoes, carrots, radishes, cabbages and onions), beans, wheat flour,
Takagi’s reforms were validated on 16 November 1884 when the training vessel the \textit{Tsukuba} returned to Shinagawa after retracing the nine-month voyage of the \textit{Ryujo}. The \textit{Tsukuba} was crewed by cadets from the naval school who were supplied with the new diet. During the 287-day voyage there were only 16 cases of beriberi, none of which proved fatal.\footnote{Ibid, 28. During the voyage of the Tsukuba the navy was also provisioned with the new diet and in the first six months there only 145 cases of beriberi. This was a significant improvement over the first six months of 1883 when there were 525 cases of beriberi throughout the navy.} On March 18 Captain Arishi sent a report from Auckland, New Zealand that the overall health of the crew was good and stressed there were only four minor cases of beriberi.\footnote{Ibid, 13.} Despite the low rate of beriberi the journey was not without its provisioning mishaps as the crew handled food items new to them. The ship doctor Aoki Chukitsu reported that the fresh meat purchased in Auckland had been left unprotected and exposed to flies and quickly putrefied. According to Dr. Aoki the crew had to make due with tinned meats, fruits and vegetables until they reached Chile.\footnote{Ibid, 23.}

Before the \textit{Tsukuba} returned to Japan Takagi embarked on the first of two dietary experiments using canines to test the nutritional value of protein in promoting good health. In the first experiment, which began in September 1884, six dogs were divided into two groups of three. The first group was fed a low protein diet of rice, vegetables, miso and soy sauce. All of the dogs in this group died within nine to eleven months. The tea, fats and oils (lard, butter, olive oil and sesame seed oil), sugar, milk, vinegar, spices, alcohol, salt and pickles.
The second group was fed a high protein diet consisting of rice, fresh beef, vegetables, miso, soy sauce and tofu. All of the dogs in this group survived the experiment in good health. In the second experiment, which began in September 1885, another six dogs were used. The first group of three was fed another low protein diet of rice and sweet potatoes, and all of the dogs in this group perished within 13 months. The second group was fed a moderate protein diet of barley, soybeans and sweet potatoes and all of the dogs in this experiment exhibited good health throughout the experiment. Takagi concluded, “the results certainly prove that the variety of food consumed and its combination have a direct influence upon the health of animal life.” These experiments must have also convinced Takagi that a proper diet could consist of either animal or vegetable protein. The quantity of the protein in a diet, not its origin was important.

A year after dietary reforms were enacted Takagi was prepared to once again revise the naval ration. In 1884, the year the new diet went into effect, the number of beriberi cases in the navy dropped by more than half from a previous average of 1,586 to 718. Despite the improvement Takagi was convinced that the problem lay not with the nutritional value of the new diet, but rather with the culinary proclivities of the men.

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39 Ibid, 1,453-1,454. Takagi cautiously hedged his findings noting the results found in the canines in this experiment may differ from those found in humans.

40 The Japanese Navy’s Central Hygiene Board, p. 8. Statistically this reduction was far greater than half, because in 1884 the navy had 5,638 personnel, which means there was roughly one case of beriberi for every eight sailors, while from 1868-1883 there was an average of one case of beriberi for every three sailors.
Soon after the new diet was issued a rumor spread among the rank and file that they were only to eat the soft center of the bread, the sailors tossed the hard exterior overboard.\textsuperscript{41} During meal times large numbers of sea gulls could be seen floating around the naval vessels gobbling up the bread tossed out by the men.\textsuperscript{42} Takagi also found that many of the new recruits lacked a palate for meat. In March 1885 he replaced the bread and biscuit ration with a staple of equal parts rice and barley. He decided to use this mixture for two reasons: first the sailors were used to eating the rice-barley mixture from childhood, and second, barley contained a high amount of nitrogen which he felt would offset the carbons in the rice and keep the diet within the requisite one part nitrogen to fifteen parts carbon. After this latest dietary tweak beriberi ceased to be a problem for the Japanese navy, because, unbeknown to Takagi barley also contains high levels of vitamin B1 essential in preventing the onset of beriberi.\textsuperscript{43}

Beriberi Prevention in the Army up to 1894:

From the formation of the Japanese army in 1870 up to 1884 the rate of contraction of beriberi mirrored that in the navy. Outbreaks of beriberi in the army were recorded as early as 1870 in the Osaka army school dormitory. In the summer of 1871 the disease raged violently through the nascent service and in 1872 recruits in the Tokyo garrison were stricken in great numbers. In the seven years following the Satsuma

\begin{quote}
\textsuperscript{41} Nagai, 108.
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\begin{quote}
\textsuperscript{42} Matsuda, 76.
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\begin{quote}
\textsuperscript{43} Carpenter, 120. After being processed barley contains 0.6 mg of thiamin per 1,000 calories compared to rice which has a mere 0.2 mg per 1,000 calories.
\end{quote}
Rebellion in 1877 the disease became extremely prevalent and persistent. In 1883 and 1884 there were an average of 301 cases of beriberi per 1,000 men in the army. According to Ishiguro, “[I]n the army the severity of beriberi fluctuated from year to year, but among all diseases it was the most prevalent and correspondingly produced the most deaths... since it is so widespread in the army the urgent matter at hand for military physicians is to research, prevent and treat this illness.”

The leadership of the Army Medical Bureau addressed the issue of beriberi by promoting laboratory research designed to find the microscopic agent responsible for the illness, while strenuously defending the traditional rice diet. The embrace of scientific medicine served two functions: first, as a primary component of a modern army, it advanced Japan’s modernization reforms, and second, it undermined any official changes to the army’s diet not based on modern medical research. This was because at its core scientific medicine is based on authority derived from “the rational, systematic, dispassionate, objective basis on which its knowledge has been built up and warranted true and effective.... Scientific medicine is not open to alternative views, or to input from


46 Rikugun guni gakkō gojunen shi (A Fifty Year History of the Army Medical School), appendix, 2.
anyone not medically or scientifically qualified.” The leadership of the Army Medical Bureau used scientific medicine as a rationale for rejecting the barley-rice mixture used as a staple in the navy, because it was linked to Chinese medicine and thus considered unscientific and irrational.

The embrace of scientific medicine meant that studies related to beriberi would be limited to what Michel Foucault referred to as the clinical “gaze,” which addressed the gradual dominance of scientific methodology in the field of medicine that began in the nineteenth century and shifted the physician’s gaze from the patient, as a whole, to a focus on pathological signs. With the rise of laboratory medicine in Japan in the 1880s army and university researchers spent the bulk of their time peering through microscopes viewing tissue and blood samples instead of dealing with individual patients. This microbial gaze, a defining feature of scientific medicine, typified the approach of Japanese civilian and army researchers who sought a to prove beriberi was caused by a pathogenic agent.

In 1885 scientific medicine seemed to offer a convincing challenge to Takagi’s dietary reforms. In April Ogata Masanori, a professor of hygiene at Tokyo University who also held an appointment at the Home Ministry’s Department of Hygiene announced

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his discovery of the pathogenic agent responsible for beriberi. Ogata had only recently returned from a four-year stint in Germany where he studied physiology, hygiene and bacteriology. In a pair of dazzling lectures delivered at Tokyo University in April Ogata wowed the crowd of more than a thousand spectators with a visually appealing presentation that included microscopes displaying the newly discovered pathogen placed in front of blackboard drawings depicting the discovery, as well as the display of laboratory animals with beriberi symptoms. In his presentation, held in the Science Department’s lecture hall, Ogata, dressed in formal attire, bowed deeply to the guests and began to explain his findings. He started by claiming to have found the microscopic organism responsible for beriberi in the organs and blood of beriberi patients. Ogata carefully recounted his methodology. He began by growing the organism in a pure gelatin culture and injecting it into mice, rabbits and monkeys, who rapidly exhibited symptoms consistent with beriberi. Next Ogata performed necropsies on the carcasses and found that the changes to their internal organs were similar to those in the organs of beriberi patients. Ogata then told his audience, “I identified the same bacteria in the animal’s organs I had discovered in the blood of beriberi patients and I cultured this bacteria. The results were the same as those I had garnered from culturing the bacteria found in the

49 Oberlander, 194.

50 Ibid.

51 Matsuda, 95. The first lecture, held on April 14, was attended by such notable figures as Kato Hiroyuki, the President of Tokyo University, Nagayo Senzai, the Director of the Department of Hygiene, Ishiguro Tadanori, Ozawa Kenji, Hasegawa Yasushi, Takagi Kanehiro and Hashimoto Tsunatsune to name but a few.
patients. This is the reason I identify this bacteria as the pathogenic agent for beriberi.”

Ogata termed the newly discovered organism the “beriberi bacillus.” At the end of his presentation Ogata stressed that there were differences between his and Takagi’s theories.\(^5^3\)

Ogata’s findings were a direct attack on Takagi’s nutritional theory, but it was not the first salvo leveled at the naval medical officer. In January of 1885, some four months earlier, at the regular meeting of the Private Hygiene Society, Takagi presented his theory of disease causation for beriberi, in which he recounted the results of the training cruise by the *Tsukuba*.\(^5^4\) In February Ishiguro, now the Assistant Deputy of the Army Medical Headquarters, published a rebuttal to Takagi’s lecture titled “A Discussion on Beriberi,” that questioned the validity of Takagi’s theory implying that a diet high in nitrogen did not prevent beriberi. Ishiguro pointed out following the Restoration in 1868 there was a rise in the consumption of meat among the populace, but there was also a rise in outbreaks of beriberi. Ishiguro stressed that at the time meat consumption progressed at a greater pace in Tokyo than in the countryside, but instances of beriberi were far greater in Tokyo than in the countryside.\(^5^5\)

\(^{52}\) Ogata Masanori, “Kakke byodoku hakken (The Discovery of the Beriberi Bacillus) *Iji shinbun* (The Journal of Medical Affairs) no. 154, April 15, 1885, 22.

\(^{53}\) Matsuda, p. 95.


\(^{55}\) Ibid. Ishiguro also cited historical examples to support his critique of Takagi’s nutritional theory. He questioned if, in fact, poor diet is the cause of beriberi then why, during the Satsuma Rebellion, during the siege of the Kumamoto garrison was there no
In April during the question and answer portion of Ogata’s presentation Takagi fired back against his critics. In the crowded lecture hall Takagi stood atop his chair and launched into a passionate defense of his theory of nutritional deficiency. He responded that Ogata’s findings had little practical application, because they would require all physicians to have microscopes to correctly diagnose the disease, and furthermore, Ogata’s discovery did not offer any improvement to the treatment and prevention of beriberi. Ishiguro addressed the audience at the end of the question and answer session and praised Ogata for his discovery and precise research methods, which he claimed, had hitherto been unknown by researchers in East Asia.

Ishiguro’s allusion to “precise research methods” refers to German bacteriologist Robert Koch’s method of proving disease causation, which was the cornerstone of scientific medical research. The Koch method was based on four steps: identifying and extracting the microscopic organism from tissue, successfully culturing the microbe in a sterile median, injecting the cultured organism into a host animal to reproduce the disease, and identifying and extracting the organism from the tissue of the laboratory animal.

Lastly, he argued since barley is a despised foodstuff and rice is highly valued it is extremely difficult to change to a minor grain like barley as a staple.

56 Ibid, 40.

57 Oberlander, 195.

58 A year prior to Ogata’s “discovery” medical officer Watanabe Kanae announced his discovery of a bacteria he felt caused beriberi. Watanabe found the organism in the blood of beriberi patients and dubbed it “micrococcus beriberi.” Watanabe described it as a bacteria about one third the size of a red blood cell and
Ogata’s “discovery” emboldened other advocates of the bacteriological theory of causation to snipe at Takagi. The most vociferous attack came from Ozawa Kenji, a professor of physiology at Tokyo University. In the summer of 1885 in an essay Ozawa argued that the barley and rice mixture could not prevent beriberi. He began his attack by stating that he was angry with Takagi for misleading society and the world with his nutritional deficiency theory.\[^{59}\] Ozawa based his findings on physiological data and tried to show that a rice diet was nutritionally superior to the mixed staple.\[^{60}\]

In May of 1885 the Army Medical Bureau officially stated their position regarding beriberi and diet in a meeting with the leadership of naval medicine. The conference took place in Tokyo in Chikuji on May 8, less than a month after Ogata’s announcement of the discovery of the “beriberi bacillus” and was attended by Takagi Kanehiro, the head of naval medicine and Surgeon Major-General Ishiguro and their respective subordinates. Throughout the meeting the army continually dismissed the

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\[^{59}\] Sakauchi, 41.

\[^{60}\] Oberlander, 189. One year after his presentation Ozawa met Takagi and privately apologized for rash attitude. Ozawa claimed that after giving the lecture he contracted beriberi from a protégé of his and was only able to recover from the illness after converting to a diet of barley and rice. For a full discussion of Ozawa’s contrition see Nagai, 118.
navy’s dietary findings and stressed that since beriberi was bacteriological in origin it could not be prevented by mere dietary changes.\textsuperscript{61}

In Defense of Rice:

The army aggressively defended its diet in two studies conducted by Mori Rintaro, a rising star in the Army Medical Bureau. The first study was carried out in 1885 while Mori was in Leipzig, Germany engaged in advanced studies in medicine. In his essay titled \textit{Nihon heishokuron taii} (A Summary of the Argument for the Japanese Army’s Diet) Mori responded to Takagi’s nutritional deficiency theory by explaining why the army should not adopt reforms in line with a Western diet. Mori rejected a bread and meat centered diet for the army based on the availability of foodstuffs, cultural continuity and difficulty in preparation. According to Mori there were too few cattle to adequately provision a Japanese army of 500,000 men. In addition, up to one third of the nation’s wheat supply would be required to meet the army’s demands in bread.\textsuperscript{62} Mori also cautioned against adopting a diet that is foreign to the people, because “[W]hen there is a difference between the military diet and that eaten by the people of the nation it is as different as heaven and earth, and inevitably the soldiers suffer when fed this on

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\textsuperscript{61} Nagai, 116.
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campaign or on maneuvers. Mori did not explicitly state why the soldiers would suffer, but presumably here he was referring to the soldiers who would reject a diet based on bread and large portions of meat. Lastly, Mori cited the problem of preparing bread in the field by claiming it was easier to transport and prepare rice than bread, because rice can be prepared anywhere, while bread would require each unit to transport kilns to bake the bread.

In 1890 Mori conducted a nutritional study that provided the scientific basis for the army’s rice diet. Mori had been ordered to carry out the study by Surgeon-General Ishiguro, who was adamantly opposed to altering the army’s diet. Mori’s experiment compared the caloric values of the army’s rice diet, the rice and barley staple used in the navy and a Western style ration. Mori made use of two groups of six soldiers as test subjects, who were fed the different diets. The rice diet experiment was carried out from August 12 through August 19, the mixed staple survey from October 15 through October 22 and the Western ration from December 13 through December 20. During the week long testing periods the soldiers’ caloric intake was calculated and their fecal discharges were analyzed. In the latter task Chemist First Class Oi Gendo and Chemist Third Class Iijima Nobukichi assisted Mori. Mori concluded that the army’s rice diet was the most beneficial for soldiers because it enjoyed the highest caloric value at an average daily intake of 2,579.97 calories. The other two rations provided more than 350 fewer calories.

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64 Ibid, p. 18.
per man per day. Furthermore, Mori questioned the nutritional value of a diet high in nitrogen, because during the trials “we found that the body expels a large volume of the nitrogenous substances consumed…. It is remarkable that the soldiers’ health is not damaged… a reason for this may be that in addition to the ration soldiers, even privates, often buy food at the canteen, which may be why they do not suffer.”

The leadership of army medicine did not limit its defense of a rice-based diet to scientific principles, it also called upon dietary traditions that, in part, defined what it meant to be Japanese. Ishiguro Tadanori, who held the posts of Director of the Army Medical School, Director of Army Hygiene, Surgeon-General of the Army and the Director of the Japanese Red Cross Society, was arguably one of the most influential medical officers in the Meiji period and stressed Japanese cultural traditions when defending the army’s rice staple. Writing in response to calls among army medical officers to provision units with the barley-rice mixture Ishiguro maintained, “[I]n the first place rice has been a daily staple of the Japanese people for several thousand years, if there is a poison in rice then why do so few Japanese contract beriberi?”

Susan Hanley’s work on material culture in the Edo period shows that for the vast majority of Japanese rice was not a staple, most commoners subsisted on a variety of grains

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66 Ibid, 25.

67 Rikugun guni gakko gojyunen shi, Appendix, 5.
including: barley, buckwheat, beans and millet, which explains why so few Japanese, outside the army, suffered from beriberi.\(^{68}\)

In the Army Medical Bureau the fiction of rice as staple was upheld as fact. In *A Fifty Year History of the Army Medical School* the importance of rice to the Japanese diet was expressed as an historical constant and underscored with the authority of the Imperial House,

> There is clear evidence the Japanese people, since ancient times, have cultivated and eaten rice already from the prehistoric era and were a people then that moved from place to place in search of rice...Virtuous and honorable successive emperors of the Imperial Household decreed from ancient times to the medieval period the eating of brown rice and after the Heian period the practice of polishing rice was adopted.\(^{69}\)

Ishiguro also culled the premodern period when setting the army’s diet, which he based on an ancient military text that stated during the Warring States period Japanese soldiers received a daily allotment of six cups of rice.\(^{70}\) It is clear by stressing the centrality of rice Ishiguro is identifying an elite warrior diet as “Japanese.” In *Rice as Self*, Emiko Ohnuki-Tierney discusses the attraction of an elite diet in the construction of an identity, which is generally held in high esteem based on the power and prestige

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\(^{69}\) *Rikugun guni gakkō gojunen shi*, 249-250.

\(^{70}\) Ibid, 13. The text actual stated soldiers were fed 1-1.5 sho of cooked rice daily, which is 1.8 to 2.7 liters of cooked rice. Ishiguro calculated that six cups of rice were roughly equivalent to 1.5 sho of cooked rice.
associated with the food item. The appropriation of rice as a dominant metaphor synonymous with a traditional Japanese identity is evident in the Army Medical Bureau’s unwavering adherence to rice as its staple.

Horiuchi and the Unofficial Staple:

From the mid-1880s on, while the leadership of the Army Medical Bureau used science and tradition to prop up its dubious claims of the salubrious nature of its official diet, unit level medical officers began to stray from the use of a pure rice staple. In 1884 Horiuchi Toshikuni, the commanding medical officer of the 4th Division and the Director of the Army Reserve Hospital in Osaka, began provisioning his unit with the mixed staple of barley and rice. Horiuchi did not initially embrace Takagi’s dietary reforms per se, in fact, he was originally hostile to the notion of using diet to treat beriberi. In May 1884, while visiting a beriberi treatment station in Hyogo prefecture, Horiuchi spoke with Shigeji Masaoto, medical officer third class, attached to an artillery battery in the Division’s 4th Regiment, who was caring for 70 beriberi patients from the 4th Division. Horiuchi asked how Shigeji and the two other physicians at the station cared for the patients. Shigeji replied that aside from alleviating symptoms he administered no other

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72 Shigeji Masaoto, “Kakke yobo toshite guntai ni mugimeshi wo kyushitari kigen ni tsuite,” (The Beginning of the Mixed Barley and Rice Staple as a Preventive for Beriberi in the Army) Rikugun guni gakkai zasshi (The Journal of the Society for Army Medical Officers) no. 122, August 1901, 611. Since the army considered beriberi to be a contagious/infectious illness it established beriberi treatment facilities in rural areas where army personnel afflicted with the disease were sent.
medicinals. Shigeji then took the opportunity to impart some personal wisdom, he told Horiuchi that while stationed at the Kumamoto garrison some years ago he contracted beriberi, and since then he had eaten barley and rice daily and not suffered a reoccurrence of the illness. According to Shigeji, “Horiuchi listened to my personal experiment and laughed derisively saying mugimeshi (rice and barley) is Toda’s (Toda Choan, a prominent practitioner of Chinese medicine in the late Edo and early Meiji periods) method of treating beriberi.... We are now a part of the civilized world and we do not use such treatments (ima ya kaimei no yo no naka ni konna ryōhō wo saiyō suru mono ha nai).” Horiuchi ended his harangue by telling those within earshot that Shigeji was a disciple of Toda Choan’s (Toda no deshi). This last quip was a serious affront designed to undermine Shigeji’s personal findings by associating him with Chinese medicine, a system of thought perceived to be unscientific and irrational by many members of the Army Medical Bureau.

Soon after chastising Shigeji, Horiuchi’s negative view of the mixed staple began to soften when he heard inmates in nearby Hyōgo prefectural prison were no longer sick with beriberi after being fed a staple of barley and rice. Horiuchi had already conducted hygiene reforms of the division’s camp and barracks, but these failed to stem the

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73 Ibid. Toda Choan (1819-1889) had been a court physician for the Tokugawa, as well as the Emperor towards the end of the Edo period. It was well known that he treated patients with beriberi by substituting rice with red beans. See Oberlander, 184 for a detailed discussion of Toda Choan.

74 Ibid.
epidemic.\textsuperscript{75} Desperate to counter the illness sweeping through his unit Horiuchi dispatched Shigeji to Hyōgo prefectural prison to investigate. Shigeji began by surveying the inmates diet, as well as their living and working conditions. He found there was no outbreak of beriberi among the 889 prisoners (96 women and 793 men) after the diet had been changed to a staple of four parts barley to six parts rice.\textsuperscript{76} Upon receiving Shigeji’s report Horiuchi expanded the scope of his investigation by sending medical officers to nearby prisons in Kyoto, Shiga, Mie, Wakayama and Okayama. Based on the reports from his medical officers he found that wherever the mixed staple was issued the rate of beriberi among inmates dropped significantly or disappeared altogether.\textsuperscript{77}

Armed with convincing empirical evidence Horiuchi sought to change the 4th Division’s staple from rice to a mixture of barley and rice. He formally petitioned the commander of the 4th Division to test the mixed ration on the 8th Infantry Regiment. After receiving clearance from the Ministry of the Army in the autumn of 1885 the regiment’s rice ration was changed to a mixture of four parts barley to six parts rice.\textsuperscript{78} Within less than a month Horiuchi saw a rapid drop in beriberi in the unit. The success of

\textsuperscript{75} Sakauchi Tadashi, 38.

\textsuperscript{76} Shigeji, 612-613. Although Shigeji does not say as such it seems the reason prisons in Japan began to switch to the barley and rice staple had to do with expense and not the improved health of the inmates. Barley was considerably cheaper than processed rice and the mixed ration was seen as an expedient way of cutting costs. See Rikugun guni gakko gojyūnen shi (A Fifty Year History of the Army Medical School), Appendix, p. 4. Here Ishiguro alludes to cost as the initial rational for the change in prison diets in the spring of 1884.

\textsuperscript{77} Sakauchi, 38.

\textsuperscript{78} Shigeji, 613-614.
the mixed staple in preventing beriberi in the 8th Regiment led to the gradual adoption of barley and rice throughout the 4th Division by 1886.\textsuperscript{79} In turn the reduction of beriberi in the 4th Division opened the door for other unit level medical officers to adopt rice and barley as an unofficial staple to prevent beriberi. Within the year three other units, the Guards, the First and the Fifth Divisions began issuing the mixed staple to some of their units. By 1889 most soldiers in the army’s seven divisions were eating barley and rice daily.\textsuperscript{80} From 1887 on the army enjoyed a dramatic reduction in cases of beriberi. In 1885 26.3\% of army personnel contracted beriberi, in 1886 that figure dropped to 14.3\%, however, a year later the rate of contraction was reduced to a mere 3.5\%. After 1887, in times of peace, the percentage of army personnel afflicted with beriberi never rose above 2\%, in fact, from 1891 to 1893 the rate of contraction stayed well below 1\%.\textsuperscript{81}

\textsuperscript{79} “Genkyokuch\(o\) no kakke ni kan suru kunji,” (Instructions Related to Beriberi from the Current Director of the Army Medical Bureau) \textit{Rikugun guni gakkai zasshi} (The Journal of the Society for Army Medical Officers), no. 162, a supplement, June 1908, 5.

\textsuperscript{80} “Genkyokuch\(o\) no kakke ni kan suru kunji,” 5. The change in the army to the barley and rice staple was done on an ad hoc basis at the whim of individual unit commanders, thus the change in diet was uneven and did not adhere to any specific timetable. Furthermore, not all units within a division always embraced the new staple. For example, while the 4th Division is credited with initially adopting barley and rice as its staple its units stationed in Yura continued to issue their troopers a pure rice staple. In addition, some divisions switched staples within a year or two, while other units, like the 5th Division took up to six years (from 1885-1991) before the entire unit was eating the same staple.

\textsuperscript{81} Ibid, 2-3. The rate of contraction is expressed in terms of soldiers per 1,000 who came down with beriberi. The statistics from 1879 to 1894 are as follows: 1878-370.4, 1879-255.07, 1880-171.35, 1881-160.85, 1882-194.75, 1883-240.75, 1884-263.83, 1885-143.48, 1886-35.19, 1887-48.76, 1888-37.0, 1889-15.41, 1890-10.06, 1891-5.21, 1892-1.21 and 1893-2.07.
In October 1888 Horiuchi was called to a meeting of the General Staff in Tokyo to present information detailing the effectiveness of the barley-rice staple in preventing beriberi. Ishiguro, who was then the Director of the Army Medical School, and Ozawa Kenji also attended the meeting. By all accounts Ishiguro and Ozawa were unimpressed with Horiuchi’s presentation, because it was not firmly grounded in scientific principles. Ozawa lectured Horiuchi pointing out that the use of the mixed staple had no basis in modern science.\textsuperscript{82} While we have no record of Ishiguro’s direct response to Horiuchi, we do know of his disdain for the practice of supplying the mixed ration.

Army physicians are blindly following their unit commanders and advocating \textit{mugimeshi} (barley-rice) as a preventive for beriberi... If, as expected, there is a microscopic element in rice that is poisonous then it must be analyzed and we must conduct reliable physiological experiments on white rice. If we fail to do this, then the world will not recognize our claim, especially if our approach is not based on fact, but merely based on the popular experiences of the common people....\textsuperscript{83}

For Ishiguro and Ozawa the use of scientific methodology was more important than results, because they were fundamentally concerned with projecting a modern scientific image. This position had little validity for medical officers, like Horiuchi, who were tasked with preventing illness among the troops and so openly adopted the mixed staple regardless of its perceived relationship to Chinese medicine and “the popular experiences of the common people.” Horiuchi was disappointed with the Army Medical Bureau’s resistance to beriberi and in dismay wrote, “even though the success of the experiment (the use of barley and rice) is clear, it is said the scientific principles are not

\textsuperscript{82} Matsuda, 105-106.

\textsuperscript{83} Rikugun guni gakkō gojunen shi, Appendix, 5.
clear, so it should not be used. But we do not know why water extinguishes fire, so is it the case that water should not be used when a fire breaks out? Despite Ishiguro and Ozawa’s misgivings about the mixed staple unit level medical officers continued to issue it at meal times throughout most of the army simply because it worked.

As a bureaucratic organization the Army Medical Bureau seemed to be at odds with itself. Guje Sevon posits organizations as social constructions that function as individual actors, or super persons, defined by collective action. While this definition may adequately explain a fundamental nature of corporate structures in general, it fails to accurately address the diversity of thought in the Army Medical Bureau regarding diet. In fact, the disconnect between the bureau’s official dietary policy and the actual dietary practices enacted by unit level medical officers reflected the very different concerns of those within the hierarchy of the Army Medical Bureau. Within the context of the discourse on diet the leadership of the army medical service emphasized the cultural, nutritional and scientific merits of the “official” pure rice diet, while, in practice, at the lowest level of the bureau’s organizational structure most medical officers issued their charges an unofficial diet centered around the mixed staple. This was because the leadership of the Army Medical Bureau was primarily concerned with projecting a modern scientific image, while lower level medical officers were singularly focused on preventing illness. The widespread use of an unofficial diet that was used service wide,

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84 Matsuda, 106.

but never codified served the interests of those in both strata of the army medical bureaucracy; it prevented beriberi and because of its unofficial nature, did not undermine the myth of a pure rice diet.

Responses to Beriberi in the Sino and Russo-Japanese Wars:

During the war with China (1894-1895) unofficial ration of barley and rice gave way to the official rice staple and the results were devastating. In their victory over the Qing the Japanese mobilized 178,292 soldiers, roughly one in six of who contracted beriberi. In fact, beriberi was the single greatest drain on manpower the army faced, the 30,126 casualties to beriberi roughly equaled the total number of cases of dysentery, malaria and cholera combined and was four nearly times greater than the 7,774 battlefield wounded the army suffered during the campaign. The epidemic would have been worse had it not been for individual unit commanders who, during the conflict, took the initiative and issued barley and rice to their units to stem the advance of the outbreaks.

Following the war the leadership of the Army Medical Bureau responded to the beriberi epidemic by reasserting the importance of the rice staple. In May of 1896, in response to units changing to the rice and barley mixture, Ishiguro, now the Surgeon-General of the Army as well as the Director General of Hygiene, used science and tradition to again argue against the overt use of the mixed staple. In April in an article originally published in *Jiji shinbun* Ishiguro defiantly rejected changing the army’s diet because the current rice ration was based on scientific principles, while the barley and

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rice staple was not. He stressed that until he received research results regarding the mixed staple he would insist on continuing the use of “...none other than the glorious foods our people have used these past few thousand years....”

In May 1896 Ishiguro invoked the mantle of science when he warned the head of the medical department of the Taiwan garrison not to issue a general order to change to barley and rice. Ishiguro cautioned that such a diet was not based on sound research, in contrast “...the traditional military diet of the empire, which is practically applied... is based on several years of testing and experimentation at the Army Medical School where it has been determined there is nothing better than a staple of white rice.” Ishiguro then softened his position by noting the medical department could temporarily switch to a different staple if rice was hard to come by. The Surgeon-General stressed, however, that under no circumstances “are you permitted to change the staple to a minor grain under a general order in the case where there is no obstacle to supplying white rice.” Ishiguro was clear on this point, which he repeated numerous times throughout the article, because to change the diet under a general order would elevate its status from an unofficial dietary modification to an official one. For the Army Medical Bureau the unofficial diet was

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88 Ishiguro Tadanori, “Ishiguro eisei chokan no kunji,” (Instructions from Ishiguro the Director General of Hygiene) Rikugun guni gakkai zasshi (The Journal of the Society for Army Medical Officers), no. 72, February 1896, 238.

89 Ibid, 238-239.
permitted as long as it did not overtly challenge the cultural and scientific dominance of the pure rice staple.

Ishiguro ended his public reprimand by urging the commander of the Taiwan garrison to conduct a scientific study of the barley and rice mixture. He called for a comparative test using two units of similar size, one fed a rice diet and the other issued the mixed staple. Ishiguro stressed this study would fill the void left by “...our esteemed colleagues (who) have failed because they have yet to make public to the world their findings (for the effectiveness of this diet) based on comparative statistical data and sound scholarship.”90 The Surgeon-General ended by cautioning those involved in the experiment to be careful when compiling their statistics and to “show the world evidence of the real causative factor.”91 It is obvious that by “real causative factor” Ishiguro is invoking the authority of the microbial gaze and referring to the pathogenic agent he believed to be the cause of beriberi. It is not clear if the medical department of the Taiwan garrison ever conducted a study of the mixed staple.

The beriberi epidemic during the conflict with the Qing empire came as a shock to many medical officers, most of whom had become accustomed to contraction rates for beriberi below 1% in their units. Following the war Shimose Kentarō, a unit level medical officer during the campaign, became convinced that white rice was the cause of beriberi, because he found when Japanese soldiers ate unpolished Chinese rice they did

90 Ibid, 239.
91 Ibid, 239
not come down with the disease. Shimose also stressed that Chinese and Koreans were not normally afflicted with beriberi, but they did contract the disease when sent to military prisons in Japan where they were fed a white rice-based diet. Shimose noted that in November of 1894 there were two Chinese and Korean prisoners of war with beriberi, and eight months later, in July of 1895, the number had grown to 102 beriberi patients.

It is unclear whether Shimose’s idea of rice as the causative factor for beriberi was popular with his peers. It was one thing for a medical officer to issue rice and barley to prevent beriberi, and an entirely different matter to posit that rice, in and of itself, was the cause of the disease. It is important to note that Shimose’s article did not appear in Rikugun guni gakkai zasshi (The Journal of the Society for Army Medical Officers), a periodical published by the Ministry of the Army. It is doubtful that the leadership of the Army Medical Bureau would have permitted an article so openly critical of its diet to be

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92 Shimose Kentarō, “Junen mae no seneki ni okeru waga guntai no kakkke ni tsuite,” (Beriberi in the Japanese Army during the Campaign Ten Years Earlier) Igaku chuo zasshi (The Central Journal of Medicine), no. 3, 1905, 1,017. Shimose stressed when the troops were fed a mixture of polished Japanese rice and unpolished Chinese rice they did not contract beriberi.

93 It is instructive to distinguish between army run facilities for prisoners of war and prefectural prisons. Internees in prisoner of war camps were fed a staple of rice, in line with the Army Medical Bureau’s official diet for the army. While in most of the prefectural prisons, as long as barley was readily available and inexpensive, the mixed staple remained the standard fare.

94 Ibid. Shimose does not provide many details, like how many total prisoners were in camps in Japan. Nor does he give a statistical breakdown based on nationality.
published in its official organ. The significance of Shimose’s observations is that they underscore the depth of hetero-diet as expressed by the diversity of thought in the discourse on beriberi.

The Army Medical Bureau’s official position regarding the beriberi epidemics during the war on the continent was that they stemmed from poor hygiene in the Japanese army. This was in keeping with the view informed by the Army Medical Bureau’s embrace of the microbial gaze that beriberi was etiologically a contagious illness of bacteriological origin. Okima Kongo, a medical officer in a unit stationed on the Liaodong peninsula wrote, “after occupying territory... the Japanese army’s hygiene work was imperfect, and this situation remained unchanged in the weeks that followed. It seems the lack of proper hygiene work led to many of our troops being afflicted with beriberi.”

According to Okima the heart of the problem lay with poor sanitary conditions, specifically a lack of proper drainage facilities in the streets. Okima, convinced beriberi was bacteriological in origin, explained the spread of the disease in his unit as though it were caused by a contagion. “On June 16 a soldier in the Second Company came down with beriberi. Soon after the disease spread and daily as many as three to four soldiers were taken ill.... In the end the number of soldiers hospitalized

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95 There are very few articles in *Rikugun gakkai zasshi* questioning the value of rice as a staple. Shigeji Masaoto’s article on the spread of *mugimeshi* (barley and rice) in the army in the 1880s and 1890s is one and after the Russo-Japanese War Morinami Shigeru wrote that beriberi possibly came from poorly stored rice.

96 Okima, 543-544.
reached sixty.”\(^9^7\) While the progress and spread of beriberi through a unit was based on the dietary and metabolic variances of individual soldiers, its motile patterns mirrored those of other contagious illness.

In 1902 Mori, now the Director of the Army Medical School, offered an explanation for the drop in beriberi in the period before the Sino-Japanese War. In an article published in *Iji shinbun* (The Journal of Medical Affairs) Mori argued the reduction of beriberi in the army from 1886 to 1893 was a result of improved hygiene and not the widespread adoption of barley and rice by unit commanders. He based this supposition on a report by Dutch physician J.H.F. Kohlbruegge, who wrote that hygiene reforms in the Dutch Indies in the mid-1880s led to a sharp reduction in beriberi in the colony. Mori compared the drop in beriberi in the Dutch Indies with that in Japan, “before 1885 natives in the Dutch Indies and Japanese both suffered high rates of beriberi. In 1886 both groups entered a temporary period marked by a reduction in outbreaks of the disease.... By 1887 the disease began to wane.”\(^9^8\) Mori reasoned since the reduction in outbreaks was similar in the Dutch colony to Japan then so too was the underlying cause of the drop in beriberi epidemics. He concluded, “many scholars in Japan say because Japanese eat barley there has been a reduction in beriberi in Japan. But when we look at the sequence of events we see that, logically speaking, there is an error in the cause and effect (with this position), and the basis for this line of reasoning is very

\(^9^7\) Ibid, 545.

\(^9^8\) Mori Rintarō, “Kakke gensho ha hatashite mugi wo motte kome wo kaetaru in suru ya?” (Can Beriberi be Reduced by Changing from Rice to Barley?) *Iji shinbun* (The Journal of Medical Affairs), no. 597, September 10, 1902, 1,336-1,337.
flimsy indeed.\textsuperscript{99} Mori’s assertion reflects his German training and the importance of the microbial gaze to scientific medicine. His persistent view of beriberi as a contagious illness, coupled with his failure to recognize the role the barley-rice staple played in preventing the illness would have dire consequences for hundreds of thousands of Japanese soldiers in the coming conflict with Imperial Russia.

Beriberi during the Russo-Japanese War:

In the war with Russia (1904-1905) the Army Medical Bureau again provisioned units with the “official” pure rice staple, and the army saw a return of beriberi epidemics to its ranks. The army mobilized 650,000 men in the conflict and suffered a staggering 203,933 cases of beriberi.\textsuperscript{100} In this conflict beriberi was once again the most prevalent illness accounting for nearly three times as many cases of small pox, measles, typhoid fever, dysentery and malaria combined. The Army Medical Bureau was extremely slow in responding to the burgeoning epidemic and did not order the rice and barley mixture to be issued until the spring of 1905.\textsuperscript{101} Mizogami Sadao, a medical officer in the 12th Division wrote that on 27 March 1905 his unit was ordered to begin providing a staple of

\textsuperscript{99} Ibid, 1,337.

\textsuperscript{100} \textit{Rikugun guni gakko gojyunen shi}, 54-55.

\textsuperscript{101} The army’s decision to supply its units with rice and barley had unforeseen consequences on the home front. After the army began requisitioning barley for its troops the price of the grain rose sharply and in Aichi prefectural prison the inmates diet was switched to a pure rice staple. In a very short time prisoners began to develop symptoms consistent with beriberi. For a full discussion of this episode see, Kawabara Hiroshi, “Beishoku kanarazu shimo kakke no genin tarazu,” (It Is Unclear Rice is the Cause of Beriberi) \textit{Igaku chuo zasshi} (The Central Journal of Medicine), no. 3, 1905, 279.
four parts rice to two parts barley. This was after his battalion of 700 men had already suffered 136 cases of beriberi. Likewise, a month later Kato Kennosuke, a medical officer in the Seventh Division wrote in his diary, “beginning on April 30 the army was supplied with a ration of mugimeshi (the rice and barley mixture), which resulted in the rapid reduction of beriberi cases.”

The widespread outbreaks of beriberi and their subsequent rapid decline after the use of the mixed staple should have led to a crisis of confidence in the army regarding its approach to beriberi. However, for the Army Medical Bureau it was business as usual, instead of changing course and immediately adopting barley and rice as an “official” staple, high level medical officers persisted in viewing beriberi as a bacteriological disease.

In 1906 Tsuzuki Jinnosuke, a prominent army medical officer, published his findings in Saikingaku zasshi (The Journal of Bacteriology) related to his research on beriberi. Tsuzuki claimed to have discovered a new bacteria that was two round segments in shape, which he believed caused beriberi. Tsuzuki examined the fecal matter, urine, nasal mucous, blood and phlegm of beriberi patients in search of the elusive microbe and observed the twin circular organism present only in the urine of beriberi patients, not

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healthy individuals. He called his discovery “beribericoccus.” Tsuzuki, like Ogata before him, was able to culture his microbe and inject it into test animals, which then exhibited symptoms consistent with beriberi. Furthermore, Tsuzuki maintained he had developed a simple bacteriological test for beriberi using a “beriberi diagnosis solution” he created. Tsuzuki noted that the blood serum of beriberi patients would congeal when introduced into the solution, while the blood of healthy individuals and those with other illnesses did not. A problem with Tsuzuki’s test is he does not explain why the blood serum congealed when “beribericoccus” was only present in the patients’ urine, not their blood.

While Tsuzuki’s research was situated squarely within the “analytical box” constructed by scientific medicine, in light of the experiences during the war with Russia not all army researchers were content to dabble in the center, some began to ask questions that pushed their research near the edge. In 1905 Kokubo Keisaku, Medical Officer First Class, had been stationed at the large army reserve hospital in Hiroshima where he conducted beriberi related research. Kokubo was a Doctor of Medicine specializing in internal diseases, pathology and hygiene, who was educated at Gottingen University in Germany from 1902-1904. Kokubo tried to understand why a diet high in protein (barley and meat) prevented beriberi. He began by isolating what he believed was the causative agent, a round bacteria he generically referred to as the “beriberi bacillus.” Kokubo then tested for the agent, which he found everywhere: in the blood, urine, fecal matter and skin.

of healthy individuals, in the skin, excrement and bodily fluids of beriberi patients, and in the air, water and ground in and around the hospital ward. Kokubo postulated that the “beriberi bacillus” produces a prodigious amount of acid activated by high concentrations of carbohydrates. Kokubo explained, “the acid was beriberi’s natural poisonous element that caused the breakdown of living cells.” He felt that good nutrition, defined as a diet low in carbohydrates, was essential to prevent the onset of the illness.

Kokubo’s research is significant because it represents a nudge in thought in the upper levels of the Army Medical Bureau towards Takagi’s nutritional deficiency theory of causation. Kokubo was not a unit level medical officer like Shimose, he was a member of the elite of the Army Medical Bureau and a recently minted Ph.D. in medicine. Despite Kokubo’s lofty bona fides it is important to stress that his findings were not published in Rikugun guni gakkai zasshi. It is apparent the Army Medical Bureau was not yet ready to publish studies questioning the value of its “official” staple.

In 1908 Rikugun guni gakkai zasshi finally published its first article that drew causal links between rice and beriberi. The piece written by Morinami Shigeru, the commanding officer of the medical department of the Sixth Division, was based on a study conducted a year earlier questioning the role of poorly stored rice in the onset of beriberi. Morinami argued there was a poisonous substance that entered poorly stored rice, which causes the disease. He compared new and old rice; the latter was rice that had been returned from the front unused. Morinami focused on this rice, because it was the standard fare for soldiers on campaign. When he personally examined the old grain he

noted, “when washing the rice in water the following could be readily seen with the
naked eye: starch, bug droppings, bits of broken grains and a variety of insects.”
He then compared the rate of contraction of beriberi in his unit with the other divisions in the
army and found the Sixth Division enjoyed the fewest number of cases of the disease and
the lowest ratio at 1.61 per one thousand soldiers. Morinami attributed this to the
Division’s practice of washing the rice thoroughly ten times to cleanse it of detritus and
insisting its rice vendors polish the grains five times to remove all of the cracked and
infected husks.

In 1907 the Army Medical Bureau, in response to criticism for its failure to
prevent beriberi in the war with Russia, established an Emergency Beriberi Investigative
Committee tasked with coordinating research and studies related to the illness. Mori
Rintaro, the then head of the Army Medical Bureau was appointed director of the
committee. Soon after this the Emperor sent the army medical bureau a terse caution that
read more like a directive, “the army’s beriberi problem can be effectively prevented if
the army provides a staple of mugimeshi (barley and rice). The investigative committee
was established because it is essential to investigate and research the cause of the

106 Morinami Shigeru, “Kakke to seimai chosa hōkoku-Meiji 40 nen ichi gatsu
ninju nichī,” (A Report Investigating Processed Rice and Beriberi-January 20, 1907)
Rikugun guni gakkai zasshi (The journal of the Society of Army Medical Officers) no.
168, February 1908, p. 203.

107 Ibid, p. 204. The ratio of cases per one thousand soldiers in the army’s twelve
divisions are as follows: 6th Division- 1.63, 9th Division- 1.91, 7th Division- 2.91, 8th
Division- 3.41, 2nd Division- 3.62, 11th Division- 3.70, 5th Division- 4.65, Imperial
Guard Division- 5.51, 4th Division- 5.80, 3rd Division- 8.51, 1st Division- 9.1 and 12th
Division- 19.45.
In June of 1907 in instructions given to the assembly of army medical unit commanders Mori stated his opinion that even though he believed beriberi was caused by an outside pathogen, either a poison or a contagion (*chūdoku ka densen*), it was necessary to provide barley and rice as a staple to prevent further outbreaks of the disease. Mori’s statement made the mixed staple the official ration of the army and put an end to more than twenty years of the Army Medical Bureau’s fiction of an official white rice diet.

**Conclusion:**

In summation, twenty-three years after the navy adopted the mixed ration as a staple the Army Medical Bureau finally followed suit. It took nearly 240,000 casualties in two wars and an admonishment from the Meiji Emperor to convince the leadership of army medicine to change its official ration. This delay was a direct result of the army’s embrace of scientific medicine, which focused efforts to understand beriberi through laboratory research. This orientation required army medical researchers to turn to the laboratory in search of a microbial pathogenic agent that caused beriberi. As demonstrated by Ogata Masanori’s 1885 discovery of the “beriberi bacillus,” scientific medicine derived its authority from its rational methodology that required a specific set of proofs to confirm a microbe as the causative factor for an illness. Failure to adhere to these criteria exposed one to ridicule and criticism for ignoring scientific principles.

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108 Matsuda, p. 111.

109 “Genkyokucho no kakke ni kan suru kunji,” p. 5-6.
which were stressed by the leadership of the Army Medical Bureau, because scientific medicine was seen as an integral component of Japan’s modernization reforms. The overriding concern with projecting a modern scientific image undermined the official use of the mixed staple, because it was viewed as a legacy of traditional Chinese medicine.

In light of the navy’s successful eradication of beriberi in 1885 by adopting barley and rice as a staple, the Army Medical Bureau aggressively defended its pure rice diet calling on scientific studies and an imagined past. Mori Rintaro’s experiments provided a scientific rationale for the retention of rice as a staple. Mori concluded rice was superior because it enjoyed a high caloric value, while a protein-centered diet was impractical and possibly harmful to one’s health. In conjunction with Mori’s dietary studies, Ishiguro Tadanori, while stressing the importance of scientific principles, often invoked a tradition of rice consumption he associated with Japan’s past. Ishiguro’s embrace of a traditional rice diet did not conform to the experiences of the vast majority of Japanese, who subsisted on a variety of grains. However, by loosely defining an upper class diet as part of a shared Japanese past Ishiguro was invoking the power and prestige of an elite culture to defend a food item he considered traditional. By 1890 the Army Medical Bureau had constructed a daunting defense of rice based on the rationalism of scientific medicine and the authority of an elite diet.

The Army Medical Bureau’s intractable attitude regarding modifications to the army’s “official” rice diet led to dietary changes as unit level medical officers began to provide soldiers under their care with a daily ration of rice and barley. This hetero-diet occurred because of the different concerns of those at the highest and lowest levels of the
Army Medical Bureau. Bureaucrats and researchers at the top of the organization were primarily focused on fostering a modern scientific image and so saw little value in nutritional therapies associated with Chinese medicine, while unit level medical officers, who were singularly focused on preventing illness and alleviating suffering, issued the mixed staple. By 1890 the army’s unofficial diet mirrored that in the navy and consequently the army saw a significant reduction in beriberi among its personnel.

In the war with China (1894-1895) the widespread outbreaks of beriberi were a concern for the leadership of army medicine, who had to explain why soldiers contracted beriberi when fed the “official” pure rice diet. The generally accepted rationale was that the reoccurrence of the disease was a product of the army’s lack of attention to hygiene during the war. In addition, Mori attributed the prewar drop in beriberi in the army to improved hygiene that began in the 1880s. Mori based this on Dutch physician J.H.F. Kohlbruegge’s study of the drop in beriberi in the Dutch Indies from the mid-1880s. The Army Medical Bureau provided a scientific basis to explain the spread of the disease during the war and its reduction prior to the conflict, thus obviating the need to change the “official” rice ration. Not every medical officer in the army accepted the bureau’s spurious reasoning, Shimose, a unit level physician; felt Japanese processed rice was the cause of beriberi. He based this on personal observations while stationed on the Liaodong peninsula. Shimose’s article was not published in the Army Medical Bureau’s official publication Rikugun guni gakkai zasshi, which I posit shows the organization’s unwillingness to have its “official” diet openly challenged.
If the outbreak of beriberi during the Sino-Japanese War was a cause for concern then the epidemics that ravaged army units in the campaign against Russia must have been a shock. In the research and studies following this conflict we see the beginnings of a shift away from purely scientific principles to an acceptance that diet may indeed play a role in the onset of beriberi. Tsuzuki Jinnosuke’s work on the urine of beriberi patients follows traditional lines of laboratory research. In the immediate postwar period Kokubo Keisaku, a researcher stationed at the Hiroshima Reserve Hospital, postulated that rice may be the trigger for beriberi, because he believed physiologically the “beriberi bacillus” required a high level of carbohydrates to produce a poisonous acid that damages the host’s tissue at the cellular level. Kokubo’s work is important because it shows a willingness on the part of high-level medical officers to buck the bureau by questioning the role of rice in the occurrence of beriberi. Despite Kokubo’s high standing in the army his study was not published in the Army Medical Bureau’s journal.

Finally in 1907, at the urging of the Emperor, the Army Medical Bureau officially adopted the rice and barley mixture as a staple and ended the hetero-diet that had existed since the mid-1880s. Following this shift in diet *Rikugun guni gakkai zasshi* published its first article implicating rice as a causative factor for beriberi. Morinami Shigeru, the commander of the Sixth Division’s medical department, conducted the study in the previous year. This is significant, because it shows the Army Medical Bureau was only willing to publish Morinami’s findings after it had officially forsaken its pure rice diet.

The Army Medical Bureau’s unwillingness to abandon its rice staple stemmed from a scientific epistemology that offered entry into the world of “civilized” nations, and
an imagined past that prized rice as a traditional food item. Underlying the bureau’s
decision to insist on rice as its “official” staple was a concern with defining what it meant
to be Japanese in the modern period. At the core of this endeavor was a process of change
marked by negotiation between the new and the traditional. The implied subjectivity of
scientific medicine, based on rational proofs, offered easy entry into the modern world
for any nation that could display mastery of its methodology, while the cultural authority
of rice as a traditional staple tied Japanese elites in the Army Medical Bureau to a shared
past. Both were essential elements in the construction of a modern Japanese identity, and
both left little room for the adoption of the rice and barley mixture as a preventive for
beriberi.
Chapter 4: Disease and Disinfection: Imagining Asia as a Diseased Space

Introduction:

On 6 January 1895 in Lushun, the southernmost city on the Liaodong peninsula, a wounded Sergeant Kiyohara Fukumatsu from the Fourth Infantry regiment boarded the *Tateyama maru*, a transport vessel bound for Japan. While on board he drank from the ships supply of unboiled fresh water. Within hours of quenching his thirst the sergeant began to suffer from severe abdominal cramping. Kiyohara was unaware he carried a deadly microbe in his bowels that had already begun to propagate. The comma shaped bacterium, called a vibrio, because of its vibrating like movement, had insinuated itself in Kiyohara’s intestinal tract as soon as the fresh water entered his gastrointestinal tract and was already producing a toxin that caused the mucosa lining Kiyohara’s intestines to secrete a clear isotonic fluid. Within two days the sergeant exhibited symptoms consistent with cholera, he suffered from severe vomiting and diarrhea as his body sought to expel the clear fluid filling his gastrointestinal tract. Kiyohara died the following day, on January 9th of acute dehydration at the army reserve hospital in Kokura, Japan. The next day Shiga Koyata, the medical attendant who cared for the sick sergeant developed similar symptoms. Shiga did not vomit, but was wracked with explosive diarrhea and died in his home on
11 January.\textsuperscript{1} Prior to Japan’s adaptation of scientific medicine cholera was commonly referred to as \textit{mikka korori}, or “sudden death in three days” for the characteristically rapid and definitive impact it had on the human body.\textsuperscript{2} The devastating nature of cholera, as well as other contagious illnesses shaped the way Japanese medical officers and physicians came to view Asia.

Taiwan, Korea and China were consistently presented as places rife with contagious illnesses in the pages of Japanese medical journals and government reports related to medical issues. Japanese physicians and medical officers used the new field of bacteriology, a central feature of nineteenth century scientific medicine, as a means of identifying, classifying and categorizing illnesses in Asia. These reports, which focused on specific disease pathology and etiology, treated continental illnesses as a danger to Japan and Japanese living in Korea and China. In this chapter I argue that the writings of Japanese medical practitioners about contagious and infectious diseases in Asia, on the whole, created an imagined epidemiological space that was both exotic and dangerous. Here I use “imagine” as understood by Benedict Anderson in \textit{Imagined Communities} where individuals feel bound to other members in a given community even though they have never met. For Anderson the connections that tie these individuals together are the

\begin{itemize}
\item \textsuperscript{2} \textit{Report of the Director of the Central Sanitary Bureau, to H.E. The Minister of the Home Department on Choleraic Diseases in Japan, during the 10\textsuperscript{th} Year of Meiji, 1877} (Tokyo: Central Sanitary Bureau, 1877), 4. Hereafter referred to as \textit{Report of the Director of the Central Sanitary Bureau} (1877).
\end{itemize}
product of cultural and social continuities that create a shared sameness; in short these bonds are imagined and exist in the minds of the members of a society.\textsuperscript{3} For the majority of Japanese physicians who read about diseases in Asia this disease-ridden landscape was imagined in the sense that it was experienced solely through the pages of the journals they perused, for them it existed as a mental image.

As an object of inquiry the transformation of Asia into a dangerous epidemiological space defined as different from Japan is a form of “imaginative geography” that Edward Said argues is essential to the Orientalist discourse. For Said the familiar geographical space is designated “ours,” while the unfamiliar is “theirs;” this binary distinction is a way of drawing clear differences between what is known and considered “civilized,” and what is unknown and thought to be “barbaric.” In “imaginative geography,” which is a form of negative identity construction, it is not necessary for the “barbarian” to recognize or even be aware of this discriminatory process.\textsuperscript{4} The point with “imaginative geography” is simply that it reveals much about those drawing the distinctions.

The view of a diseased Asia emerged in Japanese medical writings within the context of Japanese imperialism on the continent in the latter half of the nineteenth century. Michael Worboys maintains that the emergence of colonial medicine at this time was due to the confluence of colonization and scientific medicine, which sought to understand disease as the product of a single pathogenic agent. As a specialization


colonial medicine grew out of the need to protect colonists from dangerous microbes.\textsuperscript{5} This is a key feature of Orientalism, which views the Orient as a problem or a puzzle to be solved. As a part of Japan’s imperial mission Japanese medical officers and physicians scrutinized Asia and identified it as a dangerous space that required their specialized attention.

This chapter examines how shifting disease categories related to changes in the understanding of the etiology of cholera and the Japanese practice of associating illnesses in Asia, whose origin remained unknown, with specific geographic locations combined to create an image of Asia as a uniquely diseased space. Furthermore, the Japanese government’s consistent failure to halt the spread of cholera from Asia into Japan in the nineteenth century underscored the notion that Asia posed an epidemiological threat to Japan.

Cholera up to the mid-1880s:

Among all the contagious illnesses identified in the late nineteenth century cholera played a unique role in shaping early Japanese views of Asia. Physicians in Japan considered this enteric illness a deadly external threat Japan needed to be wary of because cholera, which originating in India and spread to China, was highly contagious, presented with severe symptoms and had a high rate of morbidity. In medical writings in Japan in the nineteenth century cholera was consistently identified as a non-Japanese Asian

illness, even after it became endemic in Japan. Japanese medical practitioners did this through the creative use of a variety of cholera related disease categories.

In the waning decades of the Tokugawa period cholera traveled along maritime lines of communication and struck Japan twice. The illness had been endemic in India in the Ganges River delta region for thousands of years and in 1817 it spread beyond the sub-continent for the first time. In 1819 it reached Southeast Asia and a year later entered China. That same year cholera raged through Java as well. The annual Dutch trade mission that arrived in Nagasaki via Dutch trading posts in Java brought cholera to Japan in 1822 and the disease quickly spread to Kyūshū and throughout the Kansai region. In 1858 cholera again visited Japan this time brought to Nagasaki by the US warship the Mississippi, which had come directly from China. This time the disease spread throughout most of Japan and did not subside until 1860. In August of 1858 cholera reached Edo where several thousand people died daily from the illness. In both these epidemics the death toll was estimated in the hundreds of thousands.

The next significant outbreak of cholera in Japan occurred in September 1877. The first inkling the Japanese had that the illness was evident in China came in a report from the Japanese consul at Xiamen (Amoy) to the Japanese foreign minister; it read,


7 Report of the Director of the Central Sanitary Bureau (1877), 1-2. In the Kansai area cholera swept through Hyogo, Kyoto, Osaka, Mie, Nara, Shiga and Wakayama.

8 Kabe, 2.

“cholera appeared here, the cases are very malignant. Innumerable deaths have occurred in less than twelve hours from the time of the first attack.”\textsuperscript{10} In July the Central Sanitary Bureau received a follow up telegram from the Japanese consul in Shanghai that confirmed the spread of cholera in China. “Cholera is raging at Amoy and a malignant diarrhea of somewhat similar character is also prevalent at Shanghai, especially among the natives, many of whom have been carried off by the disease.”\textsuperscript{11}

The Japanese attempted to take steps to prevent the spread of the illness from China to Japan. The Central Sanitary Bureau, through the Ministry of Foreign Affairs, instructed Japanese consuls in Xiamen, Hong Kong (Xianggang) and Shanghai to establish an inspection regimen for vessels bound for Japanese ports. The inspections were to consist of a medical examination of the passengers and crew, if there were no infected individuals then the ship was to be given a certificate of health. The Central Sanitary Bureau also issued orders for the establishment of isolation hospitals and medical inspections in Kanagawa, Hyōgo and Nagasaki prefectures, which had ports open to Western shipping. However, before these measures could be implemented the Japanese Ministry of Foreign Affairs received a telegram from the British governor of Hong Kong stressing the Japanese precautions were unnecessary and ill-advised. This prompted the Central Sanitary Bureau to cancel its plans to prevent cholera from entering Japan.\textsuperscript{12}

\textsuperscript{10} Report of the Central Sanitary Bureau (1877), 5. The consul wrote that it was believed the disease had entered Amoy through British ships coming from Singapore.

\textsuperscript{11} Ibid, 9.

\textsuperscript{12} Ibid, 8-9.
In early September cholera appeared in the British settlement in Yokohama and in the open port of Nagasaki. The first two cases were reported on 5 September and included a woman and girl who worked in a tea factory for a foreign firm in Yokohama. On the following day Nagayo Sensai, the director of the Central Sanitary Bureau spoke with a German naval officer who said there was a case of cholera aboard a British naval vessel in port at Yokohama. Nagayo investigated the claim and discovered the sailor had died from cholera and been buried in Oura cemetery in Yokohama. Within days of the burial cholera broke out in the foreign settlement. The Central Sanitary Bureau also received a medical report in early September from Nagasaki describing the death of a Japanese boatman who contracted cholera while unloading cargo from foreign naval and merchant vessels.\(^{13}\)

By mid-September the disease began to spread beyond its two points of entry. Erwin Baelz, a German physician who taught at the newly established University of Tokyo Faculty of Medicine, wrote in his diary that cholera had reached Tokyo, but he seemed skeptical that it was very widespread, “You can hardly speak of it as being ‘epidemic’ when, in a population of millions, there are perhaps ten new cases daily.”\(^{14}\) Baelz’s misgivings notwithstanding by the end of September a cholera epidemic was in full swing with outbreaks in army garrisons in the Kansai region and Kyushu, as well as

\(^{13}\) Ibid, 11-13.

\(^{14}\) Erwin Baelz, *Awakening Japan: The Diary of a German Doctor: Erwin Baelz*, ed. Toku Baelz (New York: Viking Press, 1932), 33. In April 1877 *Tokyo Igakkō* (Tokyo Medical School) was affiliated with the *Tokyo-Kaisei school* and renamed The University of Tokyo. At that time the medical school was renamed the University of Tokyo Faculty of Medicine.
throughout most of the Kantō in prefectures near the Tokyo-Yokohama area. Baelz noted that by October the crisis had become critical enough for the government to requisition his medical students to supplement the ranks of the Army Medical Department. In the outbreak more than 13,000 Japanese contracted cholera and nearly 8,000 died, the mortality rate was 58%.

Following the 1877 outbreak cholera gradually became endemic in Japan. In 1879 two years later cholera once again became epidemic in Japan, but this time there was no evidence it was the result of an outside infection. Throughout 1878 cholera existed in Japan at a very low-level and never reached epidemic proportions, the Central Sanitary Bureau report of 1880 described it as “apparent cholera.” The epidemic of 1879 began in March in Ehime prefecture on the island of Shikoku and spread rapidly throughout most of the country by June. In this outbreak there were 162,637 confirmed cases.

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16 Baelz, 34.
17 Report of the Director of the Central Sanitary Bureau (1877), 31. In the nineteenth century a mortality rate greater than fifty percent was not uncommon with cholera.
18 Report of the Director of the Central Sanitary Bureau to His Excellency, The Minister of the Home Department, upon Cholera in Japan, in the 12th Year of Meiji, 1879 (Tokyo: The Home Department, 1880), 1. Hereafter referred to as Report of the Director of the Central Sanitary Bureau (1880). In 1878 there were 902 cholera patients in Japan, and of these only 275 died. The reports use of “apparent cholera” was used for the illness when it was endemic, or used to refer to other enteric illnesses; it stood in contrast to “True cholera” and “Asiatic cholera.” For a detailed discussion of patients and deaths from cholera in the 1880s see Yamamoto Shunichi, Nihon korerashi (The History of Cholera in Japan) (Tokyo: Tokyo University Press, 1982), 27.
cases and 105,786 deaths from the disease. By 1886 it was clear cholera had become endemic in Japan. In Osaka in 1885 the disease never died out, it circulated continuously in the city well into April of 1886 when it became a full blown epidemic with the coming of warm weather. According to a Home Ministry report:

As to the cause of its outbreak and propagation, accurate evidence is wanting; it is an undeniable fact, however, that it sprang and was propagated from widely spread germs of the disease which had laid dormant in Osaka the preceding year, there being no trace of a fresh introduction…. One or two cases kept occurring continually over into the next year….20

By August cholera reached all but Kagoshima and Miyazaki prefectures, as well as the northern part of Hokkaido. In terms of its lethality the outbreak of 1886 mirrored that of 1879 with 155,574 cases nationwide and 110,086 deaths.21

In the 1870s and 1880s Japanese medical writings argued for clear delineations between a Japanese cholera-like illness and a more virulent Asian affliction. This stemmed from a combination of a lack of knowledge of the basic etiology of cholera and the desire to present Japan as fundamentally different from Asia. Reports from the Central Sanitary Bureau and the Home Ministry made calculated use of a variety of disease classifications scientific medicine relied on to describe cholera and enteric illnesses in general up to the late 1880s. The terms distinguished between mild


21 Ibid.
manifestations of the illness and more deadly, widespread outbreaks that became epidemic and killed in the thousands.

In the Central Sanitary Bureau’s report of 1877 Nagayo Sensai offered a detailed explanation of the specific cholera related disease taxonomy used by his organization. He began by asserting that “Asiatic cholera,” a term used in the West, was not endemic to Japan and only occurred when it entered Japan from India or China. He stressed there was an endemic form of cholera known in Japan as Kwaku-ran (kakuran) that tended to be weak and did not become epidemic. Nagayo placed his Asiatic cholera-kakuran binary within the context of Western medical writings that referred to two types of the illness, cholera morbus and cholera nostras.\footnote{Report of the Director of the Central Sanitary Bureau (1877), II-IV. Under the modified Hepburn system of romanization Kwaku-ran should be kakuran.} At this time Western physicians also used the pairings malignant cholera and simple cholera, as well as true cholera and apparent cholera to refer to this distinction between an epidemic form of cholera and other cholera-like enteric illnesses. The confusion, in part, stemmed from the reliance on symptoms to determine the classification of the illness. As described in the portrayal of Kiyohara and Shiga’s deaths in the introduction cholera commonly presents with severe abdominal cramping, vomiting and a watery diarrhea, these symptoms are also shared by a variety of other gastrointestinal ailments.

This division between the dangerous Asian cholera and its less lethal counterpart was again evident in the Central Sanitary Bureau’s report on the outbreak of cholera in 1880. The bureau’s document noted in 1878 the cholera in Japan was a very mild type. “In some prefectures the disease occurred only in isolated cases, in others it was
considered to be only ‘apparent cholera,’ and it could hardly be said to have been infectious.…”\textsuperscript{23} In 1879 the apparent cholera became epidemic with an overall mortality rate of 65\%. The report however, presented the outbreak that year as two separate contagions: true and apparent cholera. In a table that listed contraction and mortality rates the “true” form of the disease had 94,883 cases with 67,693 deaths, while there were 67,337 individuals afflicted with the “apparent” type of the illness, of whom 37,934 died.\textsuperscript{24} The report did not explain what specific criteria were used to distinguish between the two choleras.

Cholera after Koch’s Discovery:

By the mid-1880s this dual categorization of cholera disappeared in the pages of government medical reports in Japan, because of advances in bacteriology that pinpointed the origin of the illness. In 1883 German physician and researcher Robert Koch isolated a comma shaped bacterium, cultured the microbe and demonstrated it was the pathogenic agent for cholera by injecting it into laboratory animals who then developed symptoms consistent with the disease.\textsuperscript{25} Koch’s discovery that specific microbial pathogens caused specific diseases changed the gaze of researchers from the symptoms of the body to the more discerning and definitive microscopic examination. This microbial gaze provided

\textsuperscript{23} Report of the Director of the Central Sanitary Bureau (1880), 1.

\textsuperscript{24} Ibid, 9.

medical practitioners with a way to clearly identify cases of cholera, thus obliterating the
distinctions that had been constructed in the Asiatic cholera-*kakuran* paradigm.

The importance of Koch’s discovery is evident in the Home Ministry’s reports of
1886 and 1887 related to cholera in Japan. In the pages of these studies there was no
mention of other types of cholera. The 1886 report described the work of Kitasato
Shibasaburo, a medical officer of the Home Ministry who investigated the 1885 outbreak
of cholera in Nagasaki by confirming the existence of Koch’s comma bacillus.26 The
1887 report explained in detail why Osaka suffered year round from cholera in the
previous year, arguing the city’s waterways and sewage system provided the pathogen
with a clear path of transmission.

“"The situation of Osaka is such that it undoubtedly favors the
propagation of an epidemic; for the water of the Yodo River being conducted
through the city by canals in various directions...receives the contents of the
drains of the city, while at the same time it supplies the city with drinking
water.""27

While bacteriology offered Japanese medical practitioners new tools to more
precisely identify cholera the view persisted that cholera was primarily an external
illness. The introduction in the 1886 report by the Home Ministry challenged the position
held by many in the West that cholera was endemic throughout much of the Far East. The

26 *A Brief Review of the Operations of the Home Department in Connection with
the Cholera Epidemic of the 18th Year of Meiji, 1885* (Tokyo: the Home Department,
1886), 4. Hereafter referred to as *A Brief review of the Operations of the Home
Department* (1886). Kitasato was Japan’s most influential bacteriologists. Following his
work for the Home Department Kitasato studied under Koch at the University of Berlin
from 1885 to 1891. Among his numerous accomplishments he is best known for his
isolation and identification of the bacterium responsible for the bubonic plague, which he
studied in 1894 during an outbreak in Hong Kong.

denial was strongly worded and called the statement “...an assumption for which, we believe, there is no foundation in fact.”

Here the report, which never specifically mentioned China, was essentially concerned with demonstrating that cholera existed as a persistent threat on Japan’s periphery. “Each new outbreak of cholera in Japan, but renders it more clearly evident that here, as in western countries, the disease is always imported and traceable to but one and the same origin, in the burning plains of India.”

What makes the Japanese position all the more intriguing is that it was written in the same year the disease was endemic in Osaka and had already been persistent in Japan for a number of years beginning in the late 1870s. The report is significant because it highlighted the Home Ministry’s central concern, that Japan be seen in the same light, in terms of cholera, as Europe and the United States.

Soon after the acceptance of the bacteriological understanding of disease Japanese medical officers and physicians were again creatively using disease categories in conjunction with cholera that drew distinctions between themselves and other Asians. The new classification employed the general catch-all disease catarrh, which referred to a wide array of ailments sharing the common symptoms of irritated and inflamed mucous membranes marked by edema and the increased flow of mucus, fluids and any manner of discharges. Catarrh really described a panel of symptoms whose origins remained unclear and so served as a flexible disease category to describe the unknown. This practice was clear in Arima Tarō’s article in Rikugun guni gakkai zasshi (The Journal of the Society of

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29 Ibid.
Army Medical Officers) describing a contagious illness that worked its way through the 8th Infantry Regiment stationed in Osaka in 1892. Arima called the malady a type of catarrhal jaundice and suggested it may have resulted from tainted food and water, or poor quality air.\(^{30}\)

During the Sino-Japanese War (1894-1895) the army medical bureau developed a strict standard for classifying cholera in Japanese soldiers. In the army’s official medical history of the campaign soldiers exhibiting cholera-like symptoms were not recorded as having contracted cholera unless the pathogenic agent had been identified in a bacteriological examination, otherwise they were classified as having contracted a type of intestinal catarrh. Soldiers with light diarrhea and mild vomiting were said to have intestinal or gastrointestinal catarrh, and those with severe symptoms were diagnosed with acute gastrointestinal catarrh.\(^{31}\) During the war it was extremely difficult and time consuming to test every case under a microscope, so many cholera cases were classified as some form of intestinal catarrh. The policy of only recording confirmed cases of cholera led to an underreporting of the illness in the army. The Army Medical Department addressed this issue in its report, “among the various contagious diseases dysentery and malaria were the most prevalent followed by what is called acute

\(^{30}\) Arima Tarō, “Katōjisei ōdan no ryūkō ni tsuite” (An Epidemic of a Type of Catarrhal Jaundice), *Rikugun guni gakkai zasshi* (The Journal of the Society of Army Medical Officers), no. 55, October (1892), 46-49.

gastrointestinal catarrh, even though it had only become epidemic late in the war. In truth it cannot be doubted that those afflicted with cholera must be far greater in number than is currently recorded.” During the war dysentery, malaria and acute gastrointestinal catarrh accounted for more than 10,000 patients each, while the number of patients stricken with cholera numbered slightly more than 8,000.

The army did not apply the same rigid standards regarding the classification of cholera among Chinese civilians. Following the Sino-Japanese War medical officer third class Nagae Tosaburō filed a report about an outbreak of cholera that occurred in the last year of the war in Dalian. Nagae interviewed local people living in the Dalian area and found the Chinese referred to the disease as 傷寒病 (shanghanbing), which appeared annually in the summer and autumn months and was identified by symptoms that included frequent vomiting and diarrhea and a sudden loss of strength, followed by a collapse into extreme lethargy. Nagae recorded that those stricken often died in one to seven days. The villages around Dalian suffered from a particularly virile cholera epidemic that wiped out entire families. In a flare for the dramatic the medical officer wrote, “the dead were temporarily piled in heaps here and there and were ultimately buried in nearby graves. Now scattered throughout the vicinity of Dalian there are a number of cemeteries, which are the remnants of last year’s epidemic.” Nagae identified the illness as cholera based on the description of symptoms gleaned from


33 Rikugun guni gakko goju nenshi (A Fifty Year History of the Army Medical School) (Tokyo: Rikugun guni gakko, 1937), 36.

34 Meiji 27-28 neneki rikugun eisei jiseki, 5.
interviews with the local Chinese who survived the outbreak. He did not classify the disease as a form of acute gastrointestinal catarrh, which would have been the case had the victims been Japanese soldiers.

This double standard was consistently applied to cholera in China following Koch’s discovery of the cholera vibrio and the Japanese military’s adoption of intestinal catarrh as a category for unconfirmed cases of cholera. In the summer of 1888 *Iji shinbun* (The Journal of Medical Affairs) gave considerable space to an outbreak of cholera in China. The initial reporting of the epidemic was in the “Foreign Reports” section of the journal and was based on an account filed from the Japanese consul at Zhifu in Shandong province. The article described the outbreak in Zhifu as severe with thirty to forty people daily coming down with cholera. It implied the epidemic was linked to the occurrence of cholera a month earlier in Hong Kong, where a handful of Chinese were stricken and “five Indian and Chinese policemen, as well as foreigners have died from what appears to be cholera.” The language in the consul’s report implied the cholera epidemics in Zhifu and Hong Kong were based on observations and had not been confirmed by laboratory tests. This is supported by the language in the article that explained the policemen (including some Chinese) and foreigners in Hong Kong contracted “what appears to be cholera.” The report was less cautious in its treatment of Chinese civilians who it definitively identified as having contracted cholera.

By August the epidemic in China was widespread and articles in *Iji shinbun* focused on the impact of the disease on European colonies. On 5 September the journal

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35 “Gaihō: Chōsen, Shina” (Foreign Reports: Korea, China), *Iji shinbun* (The Journal of Medical Affairs), no. 271, July 15 (1888), 26
noted the disease, which arrived from Hong Kong in June on board a ship was rampant in the poor neighborhoods of Zhifu where “the disease festers in the filthy streets, which are filled with excrement from people and swine.” This entry highlighted the suffering of the foreign community in Zhifu where four women and a German sailor died from cholera. The article implied the foreign residents of Zhifu were victims of cholera that was epidemic among poor, filthy Chinese. In a similar vein a report from the Japanese consul in Hong Kong described the impact of cholera in Macau on the Portuguese colonial security forces. According to the article in mid-August Chinese civilians and Portuguese soldiers and policemen began contracting cholera. By late August 123 Chinese had the illness and of this number 31 had perished. The point of the article was the impact of the epidemic on the Portuguese colonial forces, which suffered 135 cases of cholera and 32 deaths by early September. The report provided a detailed breakdown of the Portuguese cholera patients listing them by occupation (soldier or policeman) and race (European and African). By focusing on cholera as a problem for European imperialists, Chinese were presented as a part of the epidemiological landscape of the continent that facilitated outbreaks of cholera.

The changing definitions and classifications of cholera found in Japanese medical writings highlight the Japanese desire to position themselves as different from other Asians. Initially the Japanese applied the constructed categories of “kakuran” and “Asiatic cholera” that distinguished between “our cholera” and “their cholera.” This

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followed the Western practice of delineating between cholera epidemics that were understood as Asian in origin and other enteric illnesses that exhibited symptoms similar to cholera, but were far less deadly. The Japanese use of the West’s form of cholera taxonomy placed Japan in the ranks of Western nations that suffered from Asiatic cholera. Advances in medicine in the late nineteenth century, that allowed medical practitioners to positively identity cholera by the presence of the cholera vibrio in fluid, blood, vomit and fecal samples from patients, brought an end to the dual categorization of this disease.

The new tools associated with bacteriology allowed the Japanese to construct a new way to present themselves as dissimilar from their Asian neighbors in terms of cholera. The Japanese practice of classifying an illness as cholera only after it had been confirmed in laboratory tests resulted in the under reporting of cases of cholera among Japanese. The cases that appeared to be cholera based on the observation of symptoms were called intestinal catarrh, gastrointestinal catarrh and acute gastrointestinal catarrh. The problem of under reporting was compounded by the selective use of this standard with Japanese; which meant Chinese were usually identified as having cholera through first and second hand accounts based on the observation of symptoms and not through bacteriological testing. While Japanese cases of cholera were under reported, Chinese cases were largely over reported. Both forms of classifying of cholera drew distinctions between Japanese and other Asians and contributed to the Japanese view that Asia was a place rife with a form of cholera that was both deadly and different.
Geographically Specific Asian Illnesses:

Nineteenth century imperialism was hands on work predicated on direct and often violent interaction in lands and with people who were viewed as an other. Japan’s imperialist mission in Taiwan, Korea and China opened nearby Asia to the discerning gaze of Japanese medical practitioners, who identified an array of illnesses they directly associated with Asia. The practice of naming a disease after a specific geographic place was a medical convention that largely fell out of use after Koch’s demonstration that a given disease was the result of a specific microbial pathogen. In Japan prior to the advent of scientific medicine the nutritional deficiency illness beriberi was associated with large urban areas where it was more prevalent. In the Tokugawa period in eastern Japan beriberi was commonly referred to as Edo wazurai, the Edo malaise, while in the Kyoto-Osaka region it was called Osaka hare, the Osaka swelling. For the Japanese the practice of associating a specific illness in Asia with a particular geographic place was another way Japanese medical officers and physicians used disease categories to construct an Asia that was both different and dangerous.

Soon after the Sino-Japanese War Japanese medical officers began to write about the diseases they encountered in Taiwan. One of the earliest articles in Rikugun guni gakkai zasshi about Taiwan was written by physicians Sakamoto Takeshi and Kiuchi Sanchū and discussed malaria in Taiwan. Sakamoto and Kiuchi called the illness “Taiwan fever,” which they noted was the name the Chinese on the island used to refer to


39 The Treaty of Shimonoseki, which brought an end to the conflict ceded control of Taiwan to Japan.
the disease. They explained that the fever was the result of unfavorable soil conditions. “The poor drainage of water and sewage leads to putrefaction and decomposition of organic waste in the soil…it is known that malaria occurs in regions with damp soil containing organic matter.”40 The medical officers pointed out the symptoms associated with “Taiwan fever” were similar to malaria and they were able to effectively treat the disease with quinine, a prophylactic for malaria. Despite these similarities throughout the article the two medical officers refrained from calling the illness malaria and instead referred to it as “Taiwan Fever,” or simply honbyō (this illness). The purposeful ambiguity in their writing left open the possibility that the illness in Taiwan could be understood as a unique fever.

In the late winter and spring of 1886 Iji shinbun published two articles about an illness in Korea it called the “Korean fever” that seemed to defy diagnosis. Both articles were authorless and in the section of the journal titled Chōsen tsūshin (Communications from Korea), which was reserved for first hand accounts of medical matters in Korea by physicians. The first article was published in March and stated the disease began in January at the port of Inchon, where it quickly became epidemic and spread throughout the peninsula. Japanese living in Korea came down with the fever in large numbers. The article stressed that while there were other locally understood fevers like the “Taiwan fever” and the “Hong Kong fever” this illness on the peninsula was fundamentally different:

40 Sakamoto Takeshi and Kiuchi Sanchū, “Taiwan ni okeru mararia ni tsuite” (Malaria in Taiwan), Rikugun guni gakkai zasshi (The Journal of the Society of Army Medical Officers), no. 74 (1896), 389.
In each locale the customs, land and climate are different, so all countries have these sicknesses, but Korea is a unique case, only in Korea is there this so-called endemic type of illness that is a fever. Moreover, the symptoms associated with this illness are of a type that are unique and have never been seen in Japan, so we call it ‘Korean fever.’\textsuperscript{41}

The piece ended with a note of caution about the writer’s certainty regarding the illness.

“I cannot set aside the doubts I have about this illness, because it seems similar to the recurrent fever regularly written about in Occidental medical texts…”\textsuperscript{42} The practice of naming diseases after geographic places in Asia was not an arbitrary act, but reflected the inability of scientific medicine to understand every malaise in the Far East.

In April \textit{Iji shinbun} ran another article about the “Korean fever,” that indicated how thoroughly a mystery the illness remained to Japanese physicians. The article described the fever as very powerful and fierce, but seldom lethal in its initial stage, however, if it transformed into an acute form resembling typhoid fever then it was considerably more deadly. The writer cast a wide net in describing the symptoms associated with the fever maintaining it was similar to tracheal catarrh, laryngeal catarrh, abdominal catarrh and if the patient developed jaundice symptoms then it resembled bile duct catarrh.\textsuperscript{43} The regimen for treating the illness was explained as a two-fold approach that involved the patient’s diet and living conditions, as well as treating symptoms.

Patient care revolved around simple improvements to diet coupled with the proper


\textsuperscript{42} Ibid.

\textsuperscript{43} “Chōsen tūshin: Chōsennetsu \textit{febres corean} kiji” (Communications from Korea: An Article on the Korean Fever, \textit{Febres Corean}, \textit{Iji shinbun} (The Journal of Medical Affairs), no. 187, March 15 (1886), 22.
ventilation of the patient’s living space. Treating the high fever, however, proved a more daunting proposition. The writer called for the application of ice compresses when the fever was high in conjunction with “the resolute administration of large quantities of quinine.” The article stressed that tests involving hydrochloric quinine were not entirely successful.

During and after the Russo-Japanese War (1905-1905) the Japanese Army Medical Department encountered a number of mysterious illnesses attributed to Manchuria, the northeastern part of China where most of the fighting took place between the Japanese and Russian armies. Medical officers employed the latest bacteriological techniques to investigate and identify these mystifying diseases that ranged from what were understood as unique forms of dysentery, fever and meningitis. The first report appeared in Rikugun guni gakkai zasshi in January 1905 and referred to an illness called “Manchurian dysentery.” Medical officer Okada Kunitarō observed that as soon as Japanese soldiers entered Manchuria from Korea they were afflicted with a bloody diarrhea characteristic of dysentery with fecal matter, blood and mucus. What seemed abnormal to Okada was the smell of the mucus, which he stressed was similar to that of semen. Initially he thought the illness resembled a type of large intestinal catarrh. In an army hospital in Andong province (currently Liaoning province) Okada carried out bacteriological examinations (saikingakuteki kensa) of the discharges of nine patients; he

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44 Ibid, 23.

45 Okada Kunitarō, “Iwayuru Manshū sekiri no shinsō” (The Truth behind What is Called Manchuria Dysentery), Rikugun guni gakkai zasshi (The Journal of the Society of Army Medical Officers), no. 141, January (1905), 12-13. The patients Okada examined had been diagnosed with a range of enteric illnesses including: dysentery, acute intestinal catarrh, large intestinal catarrh and a combination of dysentery and beriberi.
was testing for both amoebic and Shigella dysentery. He found neither pathogen for
dysentery in the patients’ vomit and fecal matter and so concluded, “…this regional
affliction is not an epidemic form of dysentery, nor is it amoebic dysentery.” Okada had
proven what “Manchurian dysentery” was not and left it as an unspecified “regional
affliction.”

In the summer of 1905 as the Japanese army fought its way through southern
Manchuria troopers began to contract an epidemic fever that swept through the region.
Soldiers called the illness by various names based upon where their unit was when
patients began to present with a severe fever. It was usually referred to as “Manchurian
fever,” “Liaodong fever” or simply influenza (ryūkōsei kanbō). In army hospitals
medical officers listed the patients with the fever as having any of the following illnesses:
gastric fever, gastrointestinal fever, influenza, bronchial catarrh, pneumonia and
paratyphoid fever. In January 1906 medical officers Saitō Yūsuke and Horiuchi Tsugio
published their study of the illness, which they termed “a clinically unknown fever in
Manchuria.” Like Okada before them they conducted a bacteriological examination that
involved microscopic studies of the bodily fluids and discharges of patients. The two
medical officers focused their tests on the paratyphoid bacterium and used the Widal
Reaction, a blood serum agglutination reaction test for typhoid fever. They discovered

46 Ibid, 17.

47 Saitō Yūsuke and Horiuchi Tsugio, “Manshū ni okeru rinshōjō fumei nenseibyō
no chōsa hōkoku” (A Report of an Investigation of a Clinically Unknown Fever in
Manchuria), Rikugun guni gakkai zasshi (The Journal of the Society of Army Medical
Officers), no. 149, January (1906), 1.

48 Ibid, 16-18.
that many of those with the fever had a case of typhoid fever. Their study, however, was far from conclusive, because they also found patients whose samples contained “unusual bacteria.”

During the Battle of Mukden (Fengtian-February and March 1905) Chinese suffering from a severe contagious illness began to visit the Japanese 4th Field Hospital of the First Division. Japanese soldiers also began to develop the disease in large numbers throughout the Mukden and Tieling area. Medical officer Maruta Tadashi was ordered to investigate the cause of the illness and through bacteriological testing confirmed the pathogenic agent for cerebrospinal meningitis in the body of a soldier who died from the disease. Armed with this information Maruta carried out a survey of a local hamlet stricken with the illness. The epidemic began in Sunjiawopeng on 20 February and by 1 May, when Maruta arrived 56 villagers had contracted meningitis and fifteen of those had already died.\(^{49}\) Maruta compared his study with reports from medical officers outside the Mukden-Tieling area that indicated there were outbreaks of a similarly unknown disease. These reports, which referred to the illness as “unknown,” seem to imply they were compiled based on the mere observation of symptoms by the medical officers. Nonetheless, Maruta concluded cerebrospinal meningitis was widespread throughout Manchuria and so the Japanese army would have to take the appropriate precautions while encamped and on the march. He also maintained medical officers should warn the “natives” about the dreadful nature of the illness and instruct them on the proper

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“methods of prevention and disinfection”. Maruta’s successful identification of the “unknown” illness meant there was one less strange affliction associated with the Asian continent.

The Japanese penchant in medical journals for describing unknown and mysterious ailments in Taiwan, Korea and China as Asian specific illnesses that were linked by name to either Taiwan, Korea or Manchuria stemmed from an inability of scientific medicine to conclusively identity the causative agent of every disease. In the cases presented in this section only Maruta was able to definitively identify his geographical illness. This failure of modern medicine left Japanese medical practitioners with two options: revert back to the pre-modern system of disease taxonomy that linked an illness to a specific geographic location, or rely on a symptomatological understanding of the illness and classify it based on those clinical observations. It is apparent, that as a group, Japanese physicians dealt with these illnesses in both ways, so while clinically the fever Saitō and Horiuchi investigated was classified as any number of illnesses based on its symptoms, it was also called the “Manchurian fever.”

The consistent use of geographically specific names for unknown illnesses in Asia defined the continent as a unique epidemiological space that was dangerous, as well as exotic. In the Meiji period medical journals in Japan no longer named diseases after Japanese cities or regions. This practice fell out of favor with the establishment of scientific medicine in the 1870s. Accordingly, there was no Kyoto fever, Kansai dysentery or an unknown Tokyo illness; these monikers were reserved for Asian diseases. For the readers of Japanese medical journals the use of a pre-modern, “uncivilized” form

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50 Ibid, 184.
of disease classification reserved for dangerous illnesses associated with Asia created a powerful new medical category that signaled there were clear differences between a “civilized” Japan employing modern medicine and a “barbaric” Asia teeming with its own mysterious afflictions.

Quarantine:

In Japan the development of a quarantine system was a decades long process that began as a response to cholera. In the late Tokugawa and early Meiji periods cholera entered Japan through western shipping that connected Japanese ports to the world. From the 1870s to the end of the Sino-Japanese War Japanese physicians consistently attempted to establish a quarantine system to protect Japan from outside pathogens through the isolation and disinfection of contaminated vessels and individuals. On the whole these early efforts to prevent the spread of contagious illnesses into Japan were largely unsuccessful, because they were only partially implemented, established after an outbreak or they placed too great on emphasis on disinfection at the expense of isolation. The bias in favor of disinfection was the product of two dominant trends in Japanese medicine during this period: the prominence of bacteriology and the microbial gaze, as well as the view that Asia was a uniquely diseased space.

The first outbreak of cholera in Japan’s modern period occurred in 1877 and, as previously discussed, the Central Sanitary Bureau of the Japanese Home Ministry attempted to establish quarantine measures to detain and isolate foreign vessels coming from China. However, the British insistence that quarantine protocols were unnecessary put an end to any hope the Japanese had of halting the spread of cholera to Japan. The
epidemic reached Japan in September through the ports of Nagasaki and Yokohama and Japanese authorities dealt with the outbreak internally. In late September with the end of Satsuma Rebellion the army began transporting soldiers from Kyushu to Honshu through Nagasaki and almost immediately there was an outbreak of cholera in the ranks. Ishiguro Tadanori, the then head of the provisional army hospital at Osaka, set in place quarantine rules for the units returning from Kyushu and established an isolation hospital in Osaka. The army determined the measures were ineffective and halted Ishiguro’s efforts.\textsuperscript{51} In October the Central Sanitary Bureau issued instructions calling for the inspection of Japanese shipping (mail steamers and merchant vessels) entering and leaving Japanese ports. In addition, the bureau informed the local authorities at the ports of Kaitakushi, Osaka, Kanagawa, Hyōgo, Nagasaki and Niigata they were to detain and disinfect the passengers and crew of vessels suspected of having cases of cholera.\textsuperscript{52}

During the outbreak the Home Ministry issued fairly detailed instructions about how to deal with everything from the corpses of those who died from cholera to household items that may have been stained with the excreta and vomit of those stricken with the disease. The Ministry’s directives began by explaining how to properly dispose of the bodily fluids and discharges of patients. The vomit and urine were to be placed in a deep hole and sprinkled with a carbolic acid powder, while fecal matter was to be placed in a hole filled with powdered carbolic acid and then burned in oil, this process was to be repeated until the contents of the hole had become ash. Then both holes were to be

\textsuperscript{51} Kabe, 3.

\textsuperscript{52} Report of the Director of the Central Sanitary Bureau, (1877), 32-33.
covered with dirt, and weeds were to be planted on the spot. People were instructed to soak clothing and bedding in a carbolic acid solution overnight and then boil the items for up to four minutes before washing them. Furniture and other household articles the cholera patient may have touched were to be thoroughly wiped-down in a carbolic acid solution. Items that could not be cleaned in this manner were to be burned. Likewise, the Home Ministry advised that the corpses of those who perished from the disease should be wrapped in a cotton cloth soaked in carbolic acid and placed in a coffin filled with powdered carbolic acid. Survivors were instructed to periodically pour a carbolic acid solution over the body until it was cremated.

The Home Department also urged local governments to halt the spread of cholera by appointing individuals as special sanitary commissioners to carry out disinfection measures in their communities. The commissioners were usually local people who had little understanding of scientific medicine and sanitation, nonetheless, what they lacked in knowledge they more than made up for in their enthusiastic approach to their duties. As instructed they carefully oversaw the disinfection of the rooms of cholera patients and any articles and items the sick came in contact with, but some also “applied disinfection even to all the neighborhood houses, streets and water courses. Mirrors and lamps were sometimes burnt, while articles made of copper were roasted.” At elementary schools the sanitary commissioners instructed teachers to sprinkle dry carbolic acid on the

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53 Yamamoto, 476.

54 Ibid, 477.

55 Report of the Director of the Central Sanitary Bureau (1877), 35.
children and powder their sleeves with quicklime.\textsuperscript{56} The Home Ministry, which described these measures as “amusing episodes” noted, this stemmed from the general lack of knowledge regarding sanitary matters.\textsuperscript{57}

Despite the aggressive efforts by local authorities and the Home Ministry cholera spread rapidly throughout Japan. This was primarily because the Japanese government was unwilling to demand that the Western powers follow the Home Ministry’s quarantine regulations. Since cholera entered the archipelago through Western shipping this meant there was no way of keeping cholera out of Japan. In addition, the quarantine regulations for Japanese vessels were not issued until after the epidemic reached nearly every region in Japan. Despite the failure of the Home Ministry to prevent cholera in 1877 the quarantine efforts were important, because they demonstrated the Japanese willingness to follow and embrace the principles of scientific medicine on a broad scale. The 1877 Home Ministry report on cholera explained that the highly contagious nature of the disease made cholera difficult to control, “but by means of quarantine regulations both on land and sea, and the process of disinfection has recently become the most important of all measures for the prevention of cholera. Its benefits are proved by experience in foreign countries.”\textsuperscript{58} Even in failure the Japanese vigorous use of Western quarantine protocols, that relied heavily on disinfection, aligned the Japanese with the West and identified them as a nation that embraced the principles of modern medicine, even if those principles were not widely understood.

\textsuperscript{56} Ibid.

\textsuperscript{57} Ibid, 37.

\textsuperscript{58} Ibid, 44.
During the epidemic of 1879, which began as a continuation of the outbreak a year earlier the Home Ministry focused its efforts on domestic prevention and quarantine measures. The epidemic began in Osaka in the spring and by summer had reached most of Japan. In June cholera appeared in Tokyo and the city’s police were given the responsibility of carrying out disinfection procedures and insuring infected individuals were sent to isolation hospitals.\(^{59}\) In July the government attempted to slow the advance of the epidemic by inspecting the travelers and ships coming from areas where cholera was raging. Ships entering Tokyo Bay were inspected and sick individuals were sent to an isolation hospital and the vessel was sent to a disinfection station at Yokosuka to be sterilized. In addition, all passengers and crews on vessels originating in areas of Japan with cholera were to wait seven days aboard ship and were allowed entry into Tokyo only if there were no cases of the illness among them. In mid-July the Home Ministry issued another notice that travelers from cholera stricken areas bound for Mie, Aichi, Gifu and Ishikawa prefectures were to wait five days before being granted entry.\(^{60}\) Lastly, the Home Ministry required homes with someone who developed cholera to have a sign posted over the doorway that read, “there is cholera here,” and be quarantined for ten days. In addition the sick were sent to isolation hospitals and the homes were to be thoroughly disinfected.\(^{61}\) The rapidity and scope of the epidemic in 1879, which was Japan’s most violent cholera outbreak, gave the government scant room for error. While the regulations seem comprehensive many were established only after cholera appeared

\(^{59}\) Yamamoto, 52.

\(^{60}\) Ibid, 47-48.

\(^{61}\) Ibid, 57.
in a given area, this meant the Home Ministry was largely reacting to the spread of the illness and so unable to prevent its spread.

In the 1880s following the epidemics of 1877 and 1879 the Japanese army and navy issued detailed regulations for the prevention of contagious illnesses. In 1886 the navy published a detailed list of rules related to the treatment of naval personnel who contract cholera. The regulations, which mirrored those of the Home Ministry, called for the isolation of the cholera patient, the disinfection of the ship, the proper disposal of the patient’s vomit and diarrhea, and the disinfection of any items the patient used.\(^6^2\) In 1889 the army published its rules for the prevention of contagious illnesses, which focused on how to effectively liaison with local officials during the crisis, as well as instructions for the prevention of contagious illnesses that were similar to those of the navy and the Home Ministry.\(^6^3\) Neither the army nor the navy emphasized the isolation of those who had come in contact with an infected individual. Instead they focused on isolating the patient and disinfecting and sterilizing articles. This oversight would have dire consequences for the Japanese military in its war with China.

Attempts at Cholera Prevention during the Sino-Japanese War:

In January and February of 1895 during the conflict on the continent Japanese troops began to develop symptoms consistent with cholera. The first report of an epidemic enteric illness came from medical officer Nakamura, the commander of the

\(^{62}\) Ibid, 528-532.

\(^{63}\) Ibid, 523-526. The army’s regulations stressed the need for commanders of units to notify local authorities about the outbreak and establish a committee to address the emergency.
reserve hospital at Kokura, who cabled Mori Rintarō, the commander of the medical
bureau of the line of communications for the Second Army. Nakamura warned that
wounded aboard transports from the Liaodong peninsula to army hospitals in Japan were
sick with severe vomiting and diarrhea.⁶⁴ In early February six soldiers on board the
Seihō maru out of Dalian developed severe cases of diarrhea, four of them died within a
day. Later two more additional patients aboard the Seihō maru came down with severe
diarrhea.⁶⁵ On February 25 medical officer Tateyama, attached to the Second Army’s
supply bureau at Liushutun in the area of Jinzhou, recorded that a construction worker in
the town and another laborer developed symptoms resembling cholera.⁶⁶

The illness spread to every region the Japanese army occupied. In March,
following the outbreak on the Liaodong peninsula, Mori cabled the Army Medical
Department of further outbreaks in the Dalian area. In the morning of 3 March two
soldiers from the 5th Reserve Infantry Regiment arriving at Dalian aboard the Seihō maru
were stricken with severe vomiting and diarrhea. Later, in the evening part of the same
regiment, traveling from Weihaiwei in Shandong province entered the port of Dalian
aboard the Tōei maru with soldiers sick from similar symptoms. By the time the transport
vessel made landfall one soldier had already perished. Based on reports by medical
officers in the field Mori attributed the vomiting and diarrhea to food poisoning from
Chinese buns eaten by the troops. The army issued a warning instructing soldiers to
refrain from purchasing and eating Chinese food items. However, not all medical officers

⁶⁴ Meiji 27-28 neneki jinchū, 823.
⁶⁵ Ibid, 1,018.
⁶⁶ Ibid, 1,024.
were convinced the outbreak was the result of local food items, Maeda, the commander of the line of communications hospital at Lushun, placed the remaining thirty-two soldiers from the *Tōei maru* in isolation for observation.\(^{67}\) Maeda’s decision, which did not strictly adhere to army protocol, was the first attempt to contain the spread of cholera since it earliest cases in January.

By 8 March it became apparent the epidemic was in full swing. Commander Tōki, the director of the medical bureau of the Second Division telegrammed Mori and frantically described a full-blown outbreak of cholera in his unit in Jinzhou. According to Tōki more than 200 troopers were ill with vomiting and diarrhea, which they contracted while being transported to the Liaodong peninsula. With Tōki’s cable in hand Mori was now convinced the problem was not Chinese baked goods, but rather the water on board Japanese transport vessels, he immediately called for an investigation of the outbreak and simultaneously issued instructions to all transport vessels to supply troops with boiled water not freshwater.\(^{68}\)

Mori’s instructions were not strictly adhered to and cholera spread quickly through the ranks as units were transported by ship and continued to contract cholera. At the end of March the Japanese army carried out a brief campaign on the Penghu Islands (Pescadores) near Taiwan. The operation was a brief affair requiring only two days to occupy the island chain. On 28 March a telegram from the Penghu Islands described a severe outbreak of cholera among the troops that began during the trip from Japan to the islands. The in question unit was transported to the war zone on the *Kagoshima maru* out

\(^{67}\) Ibid, 1,097.

\(^{68}\) Ibid, 1,115-1,116.
of Sasebo, where members of the crew had developed a vomiting and diarrheal illness before the voyage. In addition, soldiers transported aboard the Kinshu maru bound for the Penghu Islands also developed cholera-like symptoms. According to the cable forty-nine soldiers contracted the illness and thirty-two of them were dead.69

The severity of the outbreak in the army set off alarm bells in Tokyo. The Home Ministry made clear it was ill-prepared to deal with a quarantine project on the scale the return of the army from the continent would require, so the Army Medical Department took on the responsibility of quarantining and disinfecting its men. In April the army established quarantine stations at Moji in Fukuoka prefecture, Nitadori in Hiroshima prefecture, Tenposan in Osaka and Otaru in Hokkaido, but the stations were not operational until early summer, because it took a few months to construct the facilities and the purchase the equipment.70 The Army Medical Bureau’s reports were not clear on the exact origin of the outbreak, because cholera had been endemic to both China and Japan since the 1870s, so the contaminated water on board the Japanese transport vessels could have originated in either country. Nonetheless the army assumed the outbreak was continental in origin and proceeded with a plan predicated on the need to protect Japan by eradicating deadly Chinese pathogens.

The quarantine work also offered the Japanese Army Medical Bureau an opportunity to present itself as a modern organization in line with Western standards. On 13 May Ishiguro, the Director-General of Field Hygiene during the war, issued instructions related to the army’s quarantine efforts, he began by stressing the Herculean

69 Yamamoto, 98.

70 Ibid, 97.
nature of the task, which he presented as a necessity, because “…disinfecting an entire triumphant army upon its return is the hope of any civilized nation.” Then he admonished the soldiers working in the quarantine stations to be diligent and thorough in their disinfection procedures, because failure would “sully the good name of the Japanese army.”

For Ishiguro and the army the key to disease prevention stemmed from a central feature of scientific medicine—the killing of deadly microbes. This represented the microbial gaze that grew out of bacteriology’s successful discovery that specific microbial pathogens caused specific diseases.

An excerpt from the diary of Hamamoto Risaburō, an infantryman in the Japanese army during the conflict, gives a glimpse of the work of the Japanese army quarantine stations. Hamamoto’s unit boarded a transport at Dalian on 15 July 1895 and arrived at the quarantine station at Moji the following morning. During the one-day voyage a private in Hamamoto’s company fainted and was diagnosed with cholera by the unit’s medical officer. The soldier died that evening before the transport reached Moji.

Hamamoto gave a detailed description of the five-step disinfection process his unit underwent. The men were directed to walk down a long corridor with a large rectangular wooden box, about sixty feet in length, filled with a carbolic acid solution in the center of the hallway. After walking through the disinfectant they stripped down placing their uniforms, shoes and caps in a basket and filled out a name card to identify their items.

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71 Ibid, 588-589.

The men then entered the bathing area that was complete with a large saltwater and a large freshwater bath. After bathing the men entered a refreshment area where they received a haircut, read newspapers and were provided with tea, cakes and fresh fruit. Once their personal items had been disinfected they were directed to a receiving room where they dressed and re-boarded their ship, which had also been cleaned and disinfected. The entire process took the better part of a morning. In the summer of 1895 more than 230,000 Japanese military personnel aboard 687 transport vessels experienced the disinfection process Hamamoto described in his diary.

The quarantine work of the Japanese army was extensive, but flawed and doomed to failure for a number of reasons. First, the quarantine system was put in place too late to seriously impact the spread of cholera. The epidemic began in early January and was in full-force by the time the quarantine stations were operational in June. Second, the use of the quarantine system assumed the epidemic began in China and not Japan. The evidence of the initial outbreaks in early 1895 explained that cholera swept through the ranks of the army because of contaminated water on board Japanese transport vessels, which indicates a Japanese cause for the epidemic. Finally, it is clear from Hamamoto’s account the quarantine stations were established, primarily as disinfection and sterilization centers, with quarantining imperfectly carried out. The stations had the policy of only quarantining those soldiers, crewmen and personnel who exhibited symptoms consistent with an infectious illness, and did not isolate everyone who came in contact with sick individuals. Hamamoto and his unit were not isolated after undergoing the disinfection

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73 Ibid, 193-194.

74 Kabe, 4.
and cleansing process, because they had not developed full-blown cholera even though they had contact with a member of their unit who died from cholera during the passage to Japan. In 1895 a particularly virulent form of cholera became epidemic in Japan claiming 40,154 lives out of a total of 55,144 confirmed patients.\(^7\)

Conclusion:

In Japanese medical writings in the Meiji period the use of disease categories related to cholera and the practice of linking mysterious illnesses in Asia to specific geographic locations contributed to the view that Asia was a unique and dangerous epidemiological space. This was reflected in early Japanese efforts to establish a quarantine system, which was predicated on the view that Japan needed to be protected from cholera, an illness associated with Asia. Furthermore, the consistent failure of Japanese quarantine work only reinforced the view that the Asian continent was rife with illnesses.

Cholera, initially an external illness, was conceptualized as Asian in origin and not Japanese. The Japanese categorization of cholera as “Asiatic cholera” and a less aggressive Japanese form of the illness called \textit{kakuran} was a Japanese adaptation of a Western medical convention that drew distinctions between cholera from Asia and domestic enteric illnesses. After Koch’s discovery of the cholera vibrio these geographical constructions of the illness were replaced with a bacteriological understanding of cholera. However, by the Sino-Japanese War the Japanese army had developed a rigid standard of classifying cholera based solely on laboratory testing. Cases

\(^7\) Yamamoto, 96.
in the army that presented as cholera, but had not been confirmed through bacteriological testing were classified as a form of intestinal catarrh. The army did not use the category of intestinal catarrh with Chinese, who were reported as having cholera if they developed symptoms that mirrored the illness. This resulted in an under reporting of cholera in the ranks of the army and an over reporting of cholera among Chinese civilians, which reinforced the Japanese view that cholera was primarily an Asian illness.

The Japanese penchant for linking mysterious illnesses in Asia to geographic locations seemed inconsistent for a medical community that saw itself as modern. The emerging importance of the field of bacteriology to scientific medicine ushered in a rational understanding of disease causation. Despite this Japanese medical writings consistently reverted to the pre-modern medical practice of naming diseases in Asia after a city, region or country. This was important in constructing a shared image of Asia as a diseased space distinct from Japan. The application of this outmoded classificatory system—no longer used to refer to diseases in Japan—implied Asia was “backward,” distinguishing it from a modern “civilized” Japan. This practice also gave the impression that Asia was a uniquely exotic and dangerous place.

Japan’s efforts to establish a comprehensive quarantine system were directly linked to the specter of cholera from the Asian continent. The Home Ministry and the Army Medical Bureau consistently failed to prevent the spread of cholera into Japan, because their work was incomplete, poorly implemented or a reaction to an epidemic and too late to halt its spread. Initially in 1877 the Home Ministry limited its quarantine measures to Japanese shipping, because the British advised against a broader application to include foreign vessels. In the 1879 outbreak the Home Ministry reacted too late to an
epidemic that had domestic origins. At the end of the Sino-Japanese War the Army Medical Bureau did not establish quarantine stations until six months after the first cases of cholera were reported in the army. In addition, the Japanese emphasized the importance of disinfection and sterilization and did not consistently isolate those who may have been exposed to the illness. The failure of the Home Ministry and the Army Medical Bureau to prevent the spread of cholera in Japan reinforced the idea that Asia was a diseased space.
Chapter 5: Food, Hygiene, Medicine and the Body: The Conceptualization of an Asian Oriental Other

Introduction:

From the end of February to the beginning of March of 1896, in the aftermath of the Sino-Japanese War medical officer Onda Shigenobu, stationed at the Saigō Army Base Hospital in Taibei carried out a survey and chemical study of the urine of three Taiwanese male employees of the hospital hired to do a variety of menial jobs. Onda collected the urine of the three men daily and analyzed the amount collected per urination, the urine’s color and temperature, as well as the frequency of urination per participant. The physician’s inquiry also included a survey and chemical analysis of the food these men consumed, he stressed that this was a scientific study.¹ Onda’s survey offered no conclusions, beyond the mere collection of data. What this study does show is that Japanese medical officers and physicians viewed Asians (Chinese in China, Taiwan and Manchuria and Koreans) as objects to be studied. Though not explicitly stated as a rationale for the study, Onda’s use of science to gather

¹ Onda Shigenobu, “Taiwan dojin kennyō oyobi shoku seiseki,” (The Results of a Survey of Food and Urine of Taiwanese Natives) Rikugun guni gakkai zasshi (The Journal of the Society of Army Medical Officers), no 75, May 1896, 526-531. The study was requested by the head of the hospital and was carried out for one week from February 27 to March 5, 1896.
information about the bodies of three Taiwanese males points to the larger issue of the Japanese desire to define themselves in contrast to their nearby Asian neighbors.

The Japanese construction of a modern identity in the late nineteenth and early twentieth centuries was a complex process that involved dual axis of reference: a modern Europe and an “uncivilized Asia.” The Japanese program of reforms in the Meiji period (1868-1912) left the Japanese in the ambiguous position of being modern, but not European and being Asian and not “uncivilized.” I argue that during this period as the only modern Asians the Japanese were concerned with highlighting the differences between themselves and Chinese and Koreans. This fixation is clearly evident in the pages of medical journals and official government medical reports published in the late Meiji period. Japanese physicians and medical officers consistently used the new technology of Western scientific medicine as a tool to draw distinctions between their Japanese-ness, which they understood to be, in part, defined as modern, and the perceived “uncivilized” nature of Chinese and Koreans. I posit that Japanese medical practitioners used scientific medicine to study the food, local medical practices, sanitation, hygiene and the bodies of Japan’s neighbors, and in so doing Orientalized Asians as an “uncivilized” other that stood in contrast to the modern self the Japanese sought to project.

The proposition that the Japanese engaged in Orientalism seems to test the limits of Edward Said’s formulation of this term, which he elaborated as an oppositional binary within the framework of “two unequal halves, the Orient and the Occident.”\(^2\) Said limits his discussion of Orientalism to the American, French and British discovery,

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reconstruction, description and manipulation of the Arabs and Islam, and does not include a discussion of Japan and China, which he relegates to the “Far Orient.”

For Said Orientalism is “fundamentally a political doctrine willed over the Orient because the Orient was weaker than the West...” Accepting that at its core Orientalism is largely a function of disparate power relations, I am simply expanding the scope of Said’s work to the Far East and offering that geography is less essential to the Orientalist discourse than is the role of power in defining the other.

The construction of a modern Japanese identity during this period was, in part, dependent on conceptualizing other Asians as barbaric. This was evident in two ways in medical studies, surveys and reports from observers: Asians were explicitly compared to Japanese, or Japanese physicians merely collected information about Chinese and Koreans, with the comparison often being implicit. Whether explicit or implicit Japanese practitioners of scientific medicine sought to distinguish Japanese from Chinese and Koreans.

George Devereaux writes that a core element in the construction of a group identity is the recognition of outsiders and the understanding they possess recognizably different traits. This use of comparisons is key in constructing classifications, which are designed to make meaning. Claude Levi-Strauss views this pairing of opposites essential to classificatory systems, which he argues... “belong to the levels of language, they are

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3 Ibid, 16-17.

4 Ibid, 204.

codes which, however well or badly made, aim always to make sense.”

In their writings Japanese physicians communicated the coded signs and symbols they encountered on the continent that informed them of the differences between themselves and Chinese and Koreans. These differences were often expressed in the negative terms “uncivilized” and “barbaric.”

Suzanne Parry’s work on tropical medicine in the early twentieth century describes a similar process in Northern Australia as Australians of European decent colonized aboriginal lands. Parry asserts that the formation of an Australian colonial identity was dependent on shaping indigenous people as a “diseased other” and an obstacle to colonial development.

In both the Japanese and Australian cases the other served the purpose of reinforcing the imperialist’s identity. For the Japanese an important aspect of this process was also the assertion that tangible physical differences existed between themselves and other Asians. In the nineteenth century race was constructed through the observation of clearly identifiable physical features associated with the following broad general categories: white, black and Asian (Oriental, yellow). For the Australians physical differences between themselves and the indigenous population were understood, but for

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7 Suzanne Parry, “Tropical Medicine and Colonial Identity in Northern Australia,” in *Medicine and Colonial Identity*, edited by Mary P. Sutphen and Bridie Andrews (London: Routledge, 2003), 103-121. Parry explains the threat diseased indigenous peoples posed to white settlements centered on the need for the colonies to be economically viable through agricultural development. This required a healthy settler population, which was seen as at risk from an indigenous population rife with infectious illnesses.
the Japanese those differences in appearance between themselves and Chinese and Koreans were not readily apparent. So Japanese physicians went to great lengths in their studies to highlight seemingly minute and insignificant physical differences.

Food, Tobacco and Opium:

Japanese writings often described Chinese food and smoke as different, filthy, dangerous and inferior. When not casting a discriminating eye at Chinese consumables medical practitioners had a tendency to carry out meticulous surveys of daily food items and record exhaustive lists, sometimes complete with modes of preparation, basic chemical analyses and prices. Whether the writings were critical or simply detailed they represent one way in which Japanese medical practitioners Orientalized Asians, because the study of Chinese consumption habits made local people objects of inquiry.

Japanese army medical officers stationed in Taiwan following the Sino-Japanese War carried out two of the earliest studies that reflect this dual approach of critique and detailed recording in examining Chinese foodstuffs. Medical officer Yamada and Pharmacist Third Class Kusanagi carried out an exhaustive study that analyzed more than forty different food items, including: rice, leafy vegetables, tubers, legumes, meat, fish, shellfish and prepared foods. Each of the items was broken down into its basic nutritional elements, understood at the time as protein, fats, non-nitrogenous elements, carbon and water. Yamada and Kusanagi’s study produced eight tables of raw data related to the nutritional value of the food eaten by the people in Taiwan, but did not offer any

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8 Onda Shigenobu, “Taiwansan shokuhin bunseki no seiseki” (The Results of an Analysis of Foodstuffs Produced in Taiwan), Rikugun guni gakkai zasshi (The Journal of the Society of Army Medical Officers) no. 75, May 1896, 525-526.
comment or critique of the Chinese diet on the island. In another survey Murata Atsunobu conducted a study of daily food items that offered his personal insight. Murata began by noting the local diet was different because, “they consume a lot of fat, and cook with pork fat and oils.” Murata then went on to write that most households ate pork, lamb and beef, as well as chicken and duck eggs. While Murata did not explicitly state that the Chinese diet was rich in protein it is doubtful that his Japanese readership, which consisted largely of medical practitioners, would not draw the conclusion themselves about the inherent differences between the high protein Chinese diet and their relatively low protein Japanese diet.

In another survey conducted after the Sino-Japanese War medical officers Mori Koichirō and Takahashi Chikara discussed prepared food items they saw while in the Northern Shandong coastal city of Weihaiwei that included staples like noodles and steamed buns, as well as sweets and confections like cakes, biscuits and processed sugars. Their study presented a detailed list of these items noting their shape, weight in grams, basic ingredients and cost. Mori and Takahashi also often referred to the Chinese prepared foods in relation to Japanese food items, but only as a way of providing their audience with a mental image of what the two had encountered. An example of this approach is their treatment of mantou, or the Chinese steamed bun made from processed wheat flour. Mori and Takahashi wrote, “these appear similar to Japanese buns, but they

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9 Murata Atsunobu, “Tainanfu no eisei gaikyo oyobi fuzoku ippan” (An Outline of the Customs and Hygiene Conditions in Tainan), Rikugun guni gakkai zasshi (The Journal of the Society of Army Medical Officers), no. 75, May 1896, 557. The article also describes in detail the variety of locally grown vegetables people ate daily, these included: leafy greens like hakusai (cabbage), tubers like daikon (radish), bamboo and legumes.
do not have the sweet red bean paste inside. They are round in shape and come in three sizes: large buns are roughly 185 grams in weight and sell for about eight rin, medium sized buns weigh about 90 grams and cost six rin, while small buns tend to weigh 70 grams and sell for three rin.\(^{10}\) Mori and Takahashi also wrote of a dizzying array of baked and deep fried goods they found in Weihaiwei. They described *youbing*, a deep fried dough cake, a baked dough cake, *baozi* (steamed stuffed buns), *Zhuanzi*, which is a rolled flat round wafer with meat inside and baked sesame seed flat cakes to name but a few.\(^{11}\) The article, which implicitly presents Chinese food items as varied and exotic, is more akin to a shoppers guide to local delectables than a scientific study done by physicians.

Another example of inferred differences between Chinese food practices and those of the Japanese were discussions in Japanese medical publications of food preservation in Manchuria and fish farming in Taiwan. An article about winter hygiene in China published in the Japanese army’s medical journal questioned thirteen local individuals about food and hygiene in the Shahe region of Southern Manchuria. The article noted that with the approach of cold weather vegetables like daikon, hakusai and potatoes were stored in a hole in the ground and covered with soil for preservation during the winter. According to the article, “the hole is dug at the beginning of winter in the

\(^{10}\) Mori Koichirō and Takahashi Chikara, at Weihaiwei, “Shinkoku shokubutsu kensa ippan” (A Survey of Food in the Qing Empire), *Rikugun guni gakkai zasshi* (The Journal of the Society of Army Medical Officers), no. 76, June 1896. 642-643. One thousand rin equal one yen.

\(^{11}\) Ibid, 642-649.
middle of November, the hole is 5-6 feet in depth.”  

12 Another article in the same journal briefly discussed the farming of carp and eel in man made ponds in the Southern Taiwanese city of Tainan, and stressed that the fish were fed a steady diet of human and swine feces.  

13 While not explicitly calling the practice of burying food in soil and feeding fish for human consumption human and animal feces filthy, readers of Rikugun guni gakkai zasshi, who were medical personnel in the Japanese army, would doubtless have identified these practices as unhygienic.

Assumed Dangers:

Not all of the Japanese reports and observations from the continent offered implicit criticisms and judgments of Chinese food production, food items and diet; others were more expressive. In the summer of 1896 there was an outbreak of food poisoning at a Japanese military hospital in Andong province in Southern Manchuria. Medical officer Asano Komatarō suspected the cause was the agedashi tofu (deep fried tofu) the hospital had served the day before. Asano carried out a survey of the oil used to fry the tofu because it was locally produced and appeared to be “particularly fatty.”  

14 The medical

12 “Shinkoku Shahe chihō jinmin no tōki eisei” (The Winter Hygiene of the People in the Shahe Region of the Qing Empire), Rikugun guni gakkai zasshi (The Journal of the Society of Army Medical Officers), no. 141, January 1905, 156. The article also noted that most local people seldom consumed meat, usually enjoying pork or beef only during annual festivals held in August, September and December, while wealthier families tended to eat meat twice a month. Note, this stands in contrast to the high protein Chinese diet Murata discussed in his article on the Chinese diet in Taiwan.

13 Murata, 557.

14 Asano Komatarō, “Shinayu kensa seiseki hōkoku” (A Report on the Results of a Survey of Chinese Oil), Rikugun guni gakkai zasshi (The Journal of the Society of
officer questioned local Chinese about the oil they used and found that the people in Andong cooked with a soybean oil made from three types of soybeans. The Chinese also said they had never before heard of anyone coming down with food poisoning from soybean oil, which they regarded as edible and safe. While Asano was unable to uncover anything amiss with the type of oil the Chinese used he was concerned with the way the oil was stored. He recorded that the oil was placed in containers and firmly sealed, but despite this precaution rats were often found in and around the containers lapping up oil. Even though Asano never found the cause of the food poisoning his article does highlight his concerns with the cleanliness of Chinese food practices.

By the Russo-Japanese War the questionable hygiene Japanese associated with Chinese food items had become more broadly understood and internalized by those operating on the continent. On 30 September 1904, trooper Sawa Tomohiko serving in Company six of the 48th Reserve Infantry Regiment of the Sixth Division wrote a letter home describing what he saw on the streets of a Manchurian town his regiment had just seized from Russian forces. Sawa recorded that the Chinese sold a variety of foods on the street, as well as boiled water. He concluded, “I can only assume most of these foods and others are unfit for consumption.”

15 Ibid, 1,088.

foodstuffs underscores just how thoroughly Japanese had come to perceive continental food as a dangerous other to be avoided.

Japanese observers of Chinese society also found fault with Chinese tobacco and use of opium. Medical officer Murata wrote that in Taiwan Chinese of all ages, both male and female smoked tobacco that has a strong stench to it. For Murata the problem with the Chinese tobacco in Tainan was its quality in relation to Japanese leaf. “When Japanese smoke this tobacco we get a strong headache, which is because this tobacco is poorly produced and so it is inferior to Japanese grown tobacco.”17 Murata went on to comment about the Chinese habit of smoking opium. According to the medical officer opium use was extensive throughout Taiwan with as many as 80 to 90% of the adult population enjoying it as a leisure activity. He was also concerned that many Chinese smoked opium when they contracted an illness to ease their suffering and in lieu of seeking effective medical care. For Murata opium was largely problematic because of its effect on the users body, “those who smoke opium suffer from thinning and wasting physiques, a loss of energy and vitality, as well as poor digestion and anemia.”18 Murata’s discussion of Chinese tobacco and opium present a picture of Chinese, at the very least, using inferior and possibly dangerous tobacco to the far more serious observation that their excessive opium use was physically debilitating.

17 Murata, 560.

18 Ibid, 561. Murata explained that the many of the wealthy, as well as the poor on Taiwan used opium daily. The wealthy used it at home, while the poor visited opium dens. The custom was to smoke opium to relax after the evening meal. The cost to maintain the habit ran from between 45 sen (.45 yen) to one yen a day.
Japanese presentations in medical journals of Chinese consumption habits, including food, tobacco and opium contributed to the notion that Asians were others. Embedded in many of the studies related to food was an indirect criticism that Chinese food items and practices were different from those of Japanese. These included the observations that Chinese cooked in fatty oils, stored their winter vegetables in holes in the ground, fed their farmed fish and eels human and animal feces, and that Chinese enjoyed a relatively high protein diet and produced a rich variety of baked and deep-fried goods. Japanese also openly viewed Chinese food, tobacco and opium as dangers to be avoided. The definitive criticisms ranged from the perils of poorly stored Chinese oil, the assumption that street food in southern Manchuria was unfit for human consumption, the hazards of smoking inferior Taiwanese tobacco and the dangers associated with opium smoking. Whether the expressions of these distinctions were direct or indirect they all served to create an image of an exotic, filthy, dangerous and diseased other.

Local Medicine:

Japanese descriptions of local medical practice in Taiwan, China and Korea created an image of an “uncivilized” form of treatment that was either transactional in nature based on fees for physicians, or exotic and mysterious and not grounded in modern scientific principles. When Japanese medical officers did discuss medicine with local practitioners on the continent the goal was usually to garner information about local conditions related to infectious illnesses, there was simply little if any interest in how local practitioners treated their patients, which implied that in terms of clinical practice
there was nothing of importance the Japanese could learn from their continental counterparts.

During the Sino-Japanese War medical officers in the Japanese army were concerned with mapping the epidemiological lay of the land they occupied. As the conflict raged so did disease; the Japanese army suffered heavily from both dysentery and cholera and often questioned Chinese medical men about the presence of enteric illnesses in their locales. Physician First Class Watanabe Atsuyuki’s interview of Chinese doctor Li Zhongfan is typical of the interactions between Chinese and Japanese medical practitioners. Li responded to Watanabe’s query regarding gastrointestinal illnesses in terms of traditional Chinese medicine:

When the temperature is hot and cold food and drink that are rich in flavor are consumed then people develop irregular bowel movements. With this illness patients suffer from unrelenting urgent and heavy bowel movements that are excruciatingly painful. Moreover, and not only but also, if the temperature outside is suddenly hot or cold the patient will develop diarrhea. In this case there are those who defecate less than ten times daily and those who do so as much as 40-50 times daily.¹⁹

Li’s description of the root of enteric illnesses was a typical explanation of disease causation from the perspective of traditional Chinese medicine, which tended to view disease as a result of a combination of fluctuations between hot and cold temperatures and a lack of restraint in life, including food and drink. Li ended his answer by stressing

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¹⁹ *Meiji 27-28 neneki rikugun eisei jiseki, dai 2 hen: sekiri, dai 3 shō: sentō chiiki dojinkan* (A Record of Military Medicine during the Campaign of 1894-1895, Book Two: Dysentery, Chapter Three: Among the Natives in the War Zone) (Tokyo: The Ministry of the Army’s Bureau of Medicine, 1896), 176
the differences between acute and more chronic cases of the illness, and explaining that the overall mortality rate of the illness was quite high, which he pegged at 35%.20

Zhang Pengling, another Chinese doctor, gave medical officer Watanabe an answer similar to Li’s for the cause of enteric illnesses. In addition, he also maintained there were three discernable types of dysenteries in the region: one marked by bloody stool, one that presented with a clear discharge as the primary symptom and the last type was recognized by a combination of bloody stool and clear diarrhea. Zhang also noted the mortality rate for the afflictions was more than 30%.21

In Taiwan during the war the Japanese Army Medical Bureau consulted local physician Chen Mianzhai about enteric illnesses. The army was fearful of suffering from the same dreadful gastrointestinal disorders that afflicted hundreds of soldiers during the invasion of Taiwan in 1874. Doctor Chen practiced medicine in Lugangjie and had studied with an English physician for a period of time. According to Chen dysentery is endemic to Taiwan and the origin of the disease is poor drinking water. He also informed his Japanese counterparts that a vomiting and diarrheal illness occurred annually from May to July, and that this year (1894 or 1895) unfortunately “there was a severe epidemic of contagious cholera…and each day in each household a number of people perished.”22

In these three examples Japanese medical officers were concerned with learning about enteric illnesses, the symptoms associated with each disease, when the afflictions were prevalent and if possible the lethality of the illnesses. Doctors Li, Zheng and Chen

20 Ibid.

21 Ibid.

22 Ibid, 179.
are treated as informed observers and, while their theories of disease causation and disease pathology are faithfully recorded it is telling that the Japanese Army Medical Bureau seemed disinterested in their treatment of patients.

In *Iji shinbun* (The Journal of Medical Affairs), the premiere Japanese medical journal of the late nineteenth and early twentieth centuries, it was not uncommon to have local Asian medical practices presented as fantastical and exotic. Most of these articles were in a section of the journal reserved for overseas medicine called “Foreign Reports” (*Gaihō*) that were filled with the observations of overseas Japanese physicians, diplomats, colonists and businessmen. Many of these reports were authorless and focused on Japan’s Asian neighbors. One such article discussed the outbreak of a deadly epidemic illness in Taiwan that had killed hundreds of people. The journal reported, “[t]he natives are largely afraid and so to ward off evil they pray to their gods and Buddha, in addition, day and night they bang on drums and ring bells atop carts pushed around the city.”

In another entry from *Iji shinbun*’s “Foreign Reports” the topic centered on a unique scorpion from Korea and its healing powers. The arachnid was called a “round scorpion” because of its oblong brown thorax. According to the article captured scorpions were preserved in salt or dried out and sold for between two to four *sen* a piece as a local medicinal.

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In both articles there was little real discussion of medicine, rather the focus was on the Chinese turn to the supernatural to cope with an horrific contagious illness and the Korean belief in the salubrious nature of a small preserved arachnid. Entries like these portrayed medicine and people in Taiwan and on the continent as uncivilized and bereft of the benefits of modern medicine.

During the Sino-Japanese War the medicine available to Chinese soldiers also became a point of interest for the Japanese medical community. The treatments Chinese soldiers received were described as superficial and transactional. In one article titled, “There are No Physicians in the Qing Army,” (Shingun ni ishi nashi) it was stressed that while there were no doctors among the Chinese forces there were practitioners who charged Chinese troops to rub self-prepared ointments on the wounds of the injured.25 In another article based on a report from the medical bureau of the Fifth Division, Ishiguro Tadanori, the then Director-General of Field Hygiene for the Japanese Army, wrote that individual Chinese soldiers carried their own patent medicines, poultices and ointments, because there was no organized medical department in the Qing military.26 Ishiguro did point out that among the Qing forces facing the Fifth Division there was a physician that had been trained in the United States called Doctor Yao, who was accompanied by three assistants and traveled from unit to unit examining five patients daily. According to Ishiguro Dr. Yao’s motives were largely entrepreneurial, because “when patients come

25 “Shingun ni ishi nashi” (There are No Physicians in the Qing Army), Iji shinbun (The Journal of Medical Affairs), no. 434, October 17 (1894), 21.

26 Ishiguro Tadanori, “Shingun no ishi” (A Medical Officer in the Qing Army), Iji shinbun (The Journal of Medical Affairs), no. 435, October 31 (1894), 28.
down with an illness he will examine them for a fee, and even if they are on the brink of death he will not examine them unless a fee is paid.”

The Japanese emphasis on the Chinese army’s lack of an official medical service was another way in which Japanese medical practitioners highlighted differences between themselves and Chinese. The focus on Dr. Yao drove home those differences by drawing stark contrasts between the Japanese army’s modern organized medical service that cared for all combatants at no charge and Yao, who despite his Western training, seemed more interested in silver than philanthropy.

In Japanese medical journals the commercial focus on Chinese medical practitioners was not uncommon. Another article in *Iji shinbun* titled “The Appearance of the Consultations of Chinese Doctors” (Shina ishi shinsatsu no teisai) was almost solely concerned with the transactional nature of consultations by Chinese physicians. The article stressed that a patient paid for a consultation based on the fame of the practitioner, a renowned doctor could charge as much as twelve taels of silver, while a run of the mill physician might ask for as little as three taels of silver for a consultation. In addition to these fees patients were also expected to pay for the practitioner’s transportation costs if the consultation took place in the patient’s home. It is significant the article did not discuss the session or any treatments the Chinese physicians administered during their consultations.

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27 Ibid.

An article in the Japanese army’s official medical organ about local medicine in Southern Manchuria, like similar articles in *Iji shinbun*, focused more on fee scales and less on medicine. One of the local Chinese, Bai Shiju, interviewed for the article discussed his inoculation from small pox at the age of two. The article offered no description of the medical practice, but rather chose to focus on the cost of the procedure and that it was carried out by a specialist. The physician in the article was called a smallpox doctor (shutōi) and he charged a fee based on the gender of the patient: it cost 40 *sen* to inoculate a boy and half that, 20 *sen*, for a girl.29

The depiction of medicine in Taiwan, China and Korea in the pages of Japanese medical journals gave the impression of a type of medicine that was the polar opposite of the Western scientific medicine the Japanese had only recently adapted. Medicine in Asia was described as exotic and superstitious and practiced by a medical community that seemed primarily concerned with collecting fees. This presentation of Chinese physicians seemed largely to be determined by race and not training, because even Yao, who was Western trained was described as being solely concerned with his own personal enrichment. In addition, what was missing from these descriptions of medicine in Asia was any hint of the type or manner of care patients received. Local practitioners were

29 “*Shinkoku Shahe chihō jinmin no tōki eisei*” (The Winter Hygiene of the People in the Shahe Region of the Qing Empire), 158. From the article it is not possible to tell whether Bai Shiju was inoculated from smallpox by being vaccinated or undergoing variolation. Vaccination is the introduction of the cowpox virus into an individual to produce immunity against smallpox. The cowpox virus is not usually dangerous to humans. Variolation is a decidedly more dangerous form of inoculation that involves the purposeful introduction of the smallpox virus into the human body. In China this was usually done by drying material from smallpox blisters into a powder and blowing it up the nose of an individual. Both these methods of smallpox prevention were in use in China in the nineteenth century.
queried for their knowledge of local disease patterns, but not for their treatments. Even Chen, who had been trained by an English physician, was not asked how he cared for his patients. This gives the impression that Chinese medical practitioners possessed no clinical expertise relevant to Japanese medical officers and physicians trained in modern medicine. These portrayals of medicine in Taiwan and on the continent drew clear distinctions between Japanese physicians and their Chinese counterparts.

Hygiene and Sanitation:

Japanese writings were often highly critical of the level of hygiene and sanitation in the streets, wells and homes in Taiwan and on the continent. The emphasis on filth was another way Japanese drew contrasts between themselves and other Asians. Accounts in Japanese medical journals, medical reports and letters sometimes merely noted the conditions individuals encountered, and at other times these conditions were evaluated as epidemiologically dangerous for their assumed contribution to the spread of disease.

A typical criticism of Chinese public sanitary practices was evident in a Japanese soldier’s letter home to his family. Sawa Tomohiko’s infantry unit was moving through a Southern Manchurian town in pursuit of fleeing Russian forces during the campaign in 1904-1905. In the letter Sawa remarked on the conditions he encountered. “These city streets differ greatly in appearance from those in Japan. They are exceptionally filthy, most prominent are the flies, excrement, foul stench and garbage.”

Here Sawa was

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30 Ōhama, 106. In the letter Sawa also lamented the absence of Chinese women in the towns his unit passed through. This was a common observation among Japanese soldiers and medical officers. During the Sino-Japanese and Russo-Japanese Wars it was
drawing distinctions between Japan and China based on different levels of public sanitation.

Articles in Japanese medical journals highlighting these conditions appeared more than a decade before the Sino-Japanese War and some twenty-two years prior to Sawa’s letter home. One of the earliest writings on this topic was a translated article in *Tokyo Iji shinshi* (The New Tokyo Journal of Medicine), which was originally published in the American Journal of Medicine. The commentary, written by American physician Joseph Andrews, was a record of his personal observations while in the Southern Chinese city of Guangzhou. He offered the following description of the conditions of the city’s narrow streets:

> The people of this city pay scant attention to the principles of hygiene. The refuse from households, human waste and rainwater pour into the open gutters along the streets. There these materials mix and decompose and the stench is so bad that even Chinese cover their noses when they walk down the street.\(^{31}\)

This article is significant because it represents an early view of hygiene and sanitation in China. The appearance of Andrews’ article in *Tokyo Iji shinshi* underscores the authority the Japanese medical community placed in Western accounts of Asia, especially at a time when few Japanese physicians were visiting the continent.

The general condition of public sanitation in Korea received an equally critical treatment in Japanese medical documents. The Japanese army medical bureau’s official report on its medical activities during the Sino-Japanese War included a description of common for Chinese families, and especially women, to flee the advancing Japanese forces.

the hygienic conditions of the streets and drainage ditches in Korean villages, towns and cities as gleaned by Japanese colonists living on the peninsula:

Some say that even though Korean laborers often show symptoms of chronic dysentery (bloody stool), they do not seem concerned about the conditions of their drainage ditches. It is said some have witnessed Koreans defecating bloody, mucous riddled stool along the roadside in ditches in the bends of their towns and neighborhoods.\(^{32}\)

The report concluded that the “daily customs of the Korean people” (Kankokumin no fūshū seikatsu) created “places that are good bacterial cultures for the causative agent of the disease.”\(^{33}\) The Japanese Army Medical Bureau’s decision to express Korean hygiene practices in bacteriological terms is significant, because it highlights the Japanese army’s adherence to the principles of Western scientific medicine, while at the same time drawing clear delineations between modern Japanese medicine and traditional Korean customs.

An entry in *Iji shinbun*’s “Foreign Reports” offered a harsh appraisal of public sanitation in Taiwan. The article explained that the filth in the streets of a city in Taiwan had led to the outbreak of a terrible contagious disease that was sweeping through the island. “The cause of the illness stems from the rubbish piled in the streets and the sewage that flows freely through the roadways. Every household should remove their own garbage and sewage.”\(^{34}\) Since the article did not offer even a basic symptomatological description of the disease it is impossible to determine the cause of

\(^{32}\) Meiji 27-28 neneki rikugun eisei jiseki, dai 2 hen: sekiri, dai 3 shō: sentō chiiki dojinkan, 175.

\(^{33}\) Ibid.

\(^{34}\) “Gaihō: Shina,” 23.
the malaise. What is significant about this report is the assumption of a causal link between sanitation habits and an unspecified epidemic illness. It presented an image of Taiwan as uncivilized and epidemiologically dangerous.

When the Japanese army operated in Taiwan and on the continent during the Sino-Japanese and Russo-Japanese Wars it was a common practice to occupy civilian homes along the line of march. The Japanese army medical bureau went to great lengths to protect its soldiers from what the bureau perceived to be filthy Chinese living conditions. Medical officers in the Japanese army supervised soldiers in removing and disinfecting all furniture and articles left in the homes. The soldiers washed the items down in either a mercuric chloride, or a carbolic acid solution.\(^{35}\) They also used these chemicals to disinfect the inside of the homes, including the walls, windows, woodwork and rafters. In addition, in the case of mud walls and dirt floors, both were thoroughly scrubbed with a brush dipped in the carbolic acid solution.\(^{36}\) This practice of the hyper disinfection of Chinese homes by the Japanese military is emblematic of the degree to which Japanese had come to view Chinese daily hygiene practices as sub-standard.

The Japanese army’s fear of the bacteriological perils of Chinese homes was matched by their dread of Chinese wells. An article in *Rikugun guni gakkai zasshi* that discussed the unhygienic nature of wells in the Liaodong region of Southern Manchuria

\(^{35}\) *The Russo-Japanese War: Medical and Sanitary Reports from Officers Attached to the Japanese and Russian Forces in the Field*, (London: Printed for His Majesty’s Stationary Office by Eyre and Spottiswoode, Ltd., 1908), 321. The mercuric chloride solution was mixed at a ratio of 1 to 1,000, while the carbolic acid solution had a ratio of 1 to 20. Both are extremely corrosive chemicals and were in common usage in the late nineteenth and early twentieth centuries.

\(^{36}\) Ibid, 475.
underscored this perspective. The article was based on medical officer Yasui Hiroshi’s comparative study of local Chinese wells and those recently dug by the Japanese army. Yasui’s article included a sketch of a Chinese well that outlined his main points of concern regarding cleanliness and contamination prevention. For Yasui the problem with Chinese wells began with the construction of the well wall, which was uneven and irregular and allowed filthy water to flow into the well through the soil. He was also worried that the Chinese wells had been built without a well crib, which is an extension of the well wall above the ground around the opening of the well that prevents someone from accidentally falling into the well, as well as limiting opportunities for incidental contamination. Yasui described the opening of the Chinese wells as mere holes in the ground covered by a flat stone that allowed animal and human feces to be tracked into the well from the soles of the feet of those who came to draw water. The structural problems of the wells were compounded by the Chinese habit of positioning troughs for cattle and horses near the opening of the wells, which Yasui argued meant the soil surrounding the wells was inundated with animal excrement.37

Then in considerable detail Yasui described the new wells dug by the Japanese army. While there was no mention of the construction of the well walls, Yasui did stress that the wells were built with a suitable well crib made from wooden planks that were relatively watertight. In addition, the Japanese packed, pounded and compressed the ground around the wells to insure proper drainage. Yasui was clear to point out that the Japanese wells gave the Japanese army an ample supply of good potable water, because

37 Yasui Hiroshi, “Liaodong ni okeru mizu to ie” (Water and Homes in Liaodong), Rikugun guni gakkai zasshi (The Journal of the Society of Army Medical Officers), no. 159 (March 1907), 166-167.
they were constructed with knowledge of the theory of the transmission of infectious illnesses (riron kyō densenbyō baikai). 38

Yasui ended his study with a comparative chemical analysis of the Chinese and Japanese wells in Liaoyang, Dalian and Fengtian. He tested the water for its visual clarity, which he termed purity, smell, and a variety of chemical compounds. There was little difference between the Chinese wells in Liaoyang and the newly built Japanese wells. The water in all the wells was visually clear, had no strong smell, and contained no or only mere minute traces of nitric acid, nitrous acid, ammonia and chlorine. The water in the Chinese wells in Fengtian, however, while visually clear, was marked by a perceptible stench, which was most likely because it contained high amounts of nitric acid, nitrous acid and chlorine. 39

Rather than examine the reasons for the differences between the water in Chinese wells in Liaoyang and Fengtian, Yasui concluded with a general statement that bordered on being misleading. “[T]o use traditional Chinese wells is dangerous especially with the wide transmission of infectious illnesses…. It should not be considered an exaggeration to say that more than half of the Chinese wells do not have good water.” 40 It is apparent that Yasui’s treatment of Chinese wells as an aggregate whole was purposeful and designed to underscore the primary goal of his study, that Chinese wells were unsafe.

The Japanese treatment of sanitation and hygiene in Taiwan and on the continent in medical journals, medical reports and letters consistently used the specter of filth to

38 Ibid, 168.
39 Ibid, 166 and 169.
40 Ibid, 170.
underscore differences between Japanese and Chinese and Koreans. This tendency to employ hygiene and sanitation to create space between Japanese and other Asians was often accompanied by direct references to the Japanese adherence to the principles of scientific medicine, as in the case of the Japanese army medical bureau’s report regarding public hygiene in Korea during the Sino-Japanese War and Yasui’s comparative study of wells in Southern Manchuria. The Japanese tendency to invoke the mantle of science in these studies and reports accentuated the Japanese image of modernity, while correspondingly reinforcing the perception that their Asian counterparts were an uncivilized other.

Bodies:

Chinese and Korean bodies were also subject to the same type of inquiry, analysis and classification that typified Japanese studies of food, medicine and sanitation. For the Japanese medical officer the Asian body represented a vessel to be measured, weighed, tested for parasites and deadly pathogens, and ultimately to be experimented upon. These medical investigations allowed Japanese medical officers, physicians and Japan’s broader medical community to fill this vessel with meaning and view Chinese and Koreans as perceptible others.

The first Japanese study involving the Asian body occurred in the opening months of the Sino-Japanese War and was comparative in nature and focused on mapping the other’s build in relation to the Japanese body. This initial survey of the Chinese physique was published in the December 1894 issue of Iji shinbun. Ishiguro Tadanori, the Director-General of Field Hygiene ordered each divisional commander to conduct a
medical survey of the age, height, weight and chest width of the prisoners in their charge. Taniguchi Ken, a medical officer in the Third Division was tasked with compiling the raw data into a “physique chart.” The study was lop-sided because it included a mere 77 Chinese prisoners of war and more than 14,000 Japanese soldiers. Nonetheless, the averages teased out for the chart revealed differences between the two groups: Chinese prisoners were slightly more than eight years older, less than one inch taller and enjoyed slightly chests that were roughly one and a half inches wider, while Japanese soldiers were fourteen pounds heavier than the Chinese in the study.\(^4\)

In a military study conducted after the war civilian bodies in Taiwan became an object of inquiry. In March 1896 the First Battalion of the Japanese Sixteenth Infantry Regiment stationed on the island carried out a detailed study of the physiques of more than five hundred Chinese from all walks of life.\(^5\) Like the army’s study of prisoners in 1894 this survey recorded the subject’s age, height, weight and chest width, but focused on the ratio between the subject’s height and chest width. It found that only 38 individuals, or 7% of those surveyed had chests that measured more than half their height. According to the study the remainder, on average, had chests that measured 2.54 inches

\(^4\) Ishiguro Tadanori, “Nisshinhei taikaku no hikaku” (A Comparison of the Physiques of Japanese and Chinese Soldiers) *Iji shinbun* (The Journal of Medical Affairs), no. 438, December 16 (1894), 31. One reason so few Chinese soldiers were included in this study is simply that when the study was ordered (prior to December of 1894) the war was in its early stages.

\(^5\) Sakamoto Takeshi and Owa Matashiro, “Tainanjin taikaku kensa hōkoku” (A Report of a Study of Taiwanese Physiques), *Rikugun guni gakkai zasshi* (The Journal of the Society of Army Medical Officers), no. 77, July (1896), 811-824. A majority of those in the study were identified as laborers (288 persons out of a total of 544), the remainder were described as merchants, scholars, teachers, butchers and meat sellers, carpenters, servants, mail carriers, public officials, jewelers, rice dealers, peasants and unemployed.
less than their height. This finding of a relatively narrow Chinese chest was presented as the “greatest difference between Japanese and Chinese.” Sakamoto Takeshi and Owa Matashiro, the medical officers who authored the article, summarized the study in the following manner:

In comparing the physiques of Chinese to Japanese we see that, in general, the Chinese are very lean with little, if any fat, so their bodies are long and light in weight with extremely narrow chests…. However, in spite of the fact that they are not well muscled they are able to carry heavy objects, scampering and dashing about for long distances without showing the slightest sign of fatigue. No doubt Sakamoto and Matashiro’s findings reflect the composition of their subject pool, more than half of those surveyed were laborers, who would easily be able to carry heavy loads long distances with little trouble.

Korean bodies also became the subject of a comparative study in the post Sino-Japanese War period. Medical officer Iijima Shigeru carried out the most extensive examination of the Asian physique in his survey of more than 3,000 Korean men and children, which he compared to similar data collected in European surveys of children and those conducted by the Meiji Life Insurance Company and the Japan Life Insurance Company of Japanese adults and children. Like the previous studies of Chinese bodies, Iijima also focused on the subject’s height, weight and chest size.

Iijima’s study of adolescent bodies began with a comparison of Japanese, Korean and European boys and girls under the age of fifteen, divided into two age groups: 5-9

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43 Ibid, 811. The shortest person in the survey was measured at 4 feet 4.4 inches in height, while the tallest individual in the study was 5 feet 8.3 inches. The average height of all those surveyed was 5 feet 3.3 inches. The range in weight was equally dramatic with the lightest person weighing a mere 75 lbs. and the heaviest more than double that at 187 lbs.

44 Ibid.
and 10-15. Iijima noted that in both categories European boys and girls were recorded as being taller and heavier than Korean and Japanese children. Despite this significant fact he spent the bulk of the study parsing the differences between Korean and Japanese youngsters. He found that in the lower age group Korean boys were the shortest at 42.2 inches, while in the older age group Japanese boys were the shortest at 53.44 inches. Japanese girls were charted as being taller than their Korean counterparts in both age groups. From ages 5-9 Japanese girls averaged 44.68 inches and in the upper age bracket Japanese girls were recorded as having an average height of 53 inches.\textsuperscript{45}

Iijima’s approach and language reveals much about the purpose of his study. His focus on the differences between Korean and Japanese children at the expense of any detailed discussion of European children highlights Iijima’s concern with constructing a hierarchy of physiques driven by the need to place Japanese above Koreans. His information regarding girls fits into this approach, but the data on boys was problematic because in the upper age group Korean boys, on average, were taller than Japanese boys. Iijima analyzed the data by linking the development of Korean boys at a younger age with the development of Korea as a state. “Korea is a poor country (hinjyaku koku), and so Koreans are very poor and at a young age their bodies are not well developed.”\textsuperscript{46} He then noted that for some unexplained reason Korean boys between the ages of ten to

\textsuperscript{45} Iijima Shigeru, “Chôsenjin no taikaku ni tsuite” (Korean Physiques), \textit{Rikugun guni gakkai zasshi} (The Journal of the Society of Army Medical Officers), no. 124, November (1901), 821-823. Iijima’s data on European children came from three studies: a German survey of children in Hamburg done by Kottelmann, a compilation of the body measurements of Swedish children and information collected by the clinic at the University of Vienna’s medical school. Iijima did not disclose when these studies were carried out in Europe.

\textsuperscript{46} Ibid, 821.
fifteen underwent a period of dramatic and pronounced growth that resulted in their greater size than Japanese boys in the same age group. He concluded, “regrettably I must assert that according to this chart we see that the physiques of Korean boys, when compared to those of Japanese boys are, in general, better.”47 By noting that early childhood development was closely linked to general wealth and prosperity Iijima was able to rank Japan above Korea, a poor country, and thus closer to European nations.

The second half of Iijima’s study focused on a comparative analysis of Japanese and Korean males from the ages 16 to 60. On average Korean males were an inch and a half taller and nearly four pounds heavier than Japanese males, while their chests were roughly three inches narrower. Iijima concluded that while Korean males enjoyed relatively strong and vigorous physiques the narrowness of their chests, which were often less than half the measurement of their height, meant Korean males had a lung capacity that was considerably less than that of Japanese males.48

Iijima’s search for differences, like those in prior studies, focused on very marginal disparities between Japanese and their Asian neighbors. The army’s first study during the Sino-Japanese War that compared the bodies of a handful of Chinese prisoners to those of Japanese soldiers found Chinese to be taller by less than an inch, and their chest measurements were only an inch and a half more than the Japanese in the study. In the post war study of Chinese bodies in Taiwan the primary difference between Chinese and Japanese physiques was the Chinese narrow chest, defined as a chest width less than


48 Ibid, 827. Iijima recorded the average height of Korean males at 64.6 inches and the average chest width at 31 inches. The average height of Japanese males in Iijima’s study was set at 63.1 inches with a chest measurement of 33.9 inches.
half the measurement of the individual’s height. This mirrored Iijima’s findings that Koreans also had narrow chests. The point here is simply that Japanese medical officers, under the mantle of scientific medicine carried out these studies that sought to classify Chinese and Korean bodies and compare them to Japanese physiques.

Parasites:

Japanese medical officers did not limit their inquiries into Chinese bodies to physical measurements they also carried out detailed screenings for parasites. In the wake of the battle of Mukden (Fengtian), the final engagement of the Russo-Japanese War, the 12th Infantry Division established a field hospital near Taipingguo. Within a few months Chinese from surrounding communities began to be admitted to the hospital with intestinal parasites. Commander Matsumoto, the head of the hospital tasked medical officers Takatsuki Saburo and Nakano Ryusuke to conduct a survey of the parasites infecting the bowels of the local population. The study was based on laboratory tests of fecal matter collected from families living in nearby villages and hamlets.49

The two medical officers approached the village headmen of two local communities and explained the survey and how the individual samples were to be collected. Takatsuki and Nakano handed out sheets of oil paper that were used to wrap the fresh samples, and then instructed the villagers to write their name, age and sex on the outside of each sheet. The physicians began the survey by using the village headman’s

49 Takatsuki Saburo and Nakano Ryusuke, “Manshu domin no isshōbu ni tsuite shikōshitaru funben kensa seiseki” (The Results of a Survey of Stool Carried Out among a Small Section of the Native Population of Manchuria), Rikugun guni gakkai zasshi (The Journal of the Society of Army Medical Officers), no. 155, September (1906), 1,193.
family as an example for the other villagers to follow. Medical officers from the 12th Infantry Division collected the samples from the local people.\footnote{Ibid, 1,194-1,195.}

The study was not limited to the mere search for intestinal parasites in the guts of Chinese, rather it centered on a comparison of the intestinal parasites found in the bodies of the locals and those evident in Japanese soldiers stationed in Northeastern China. The medical officers examined the samples under a microscope to identify the eggs of the parasites in the fecal matter. The study included material collected from more than 300 local people in two villages and 95 Japanese soldiers. The Chinese data was categorized by sex, age and type of parasite, while the information about Japanese soldiers was organized by length of time stationed in Manchuria (six months, up to one year, more than one year) and type of parasite. The survey revealed that 85.5% of Chinese suffered from round worms and only six, or 1.8% showed evidence of another parasite. Japanese soldiers suffered from a broader array of parasites: 57.8% had hookworms, 37.8% suffered from roundworms and unspecified nematodes respectively and 8.4% of the soldiers were infected with liver flukes.\footnote{Ibid, 1,193-1,195.}

Takatsuki and Nakano summarized their findings by cautioning that the survey could not be considered conclusive because their statistical data of local people was too limited. The two were perplexed there was little evidence Chinese were troubled by hookworms, liver flukes and other parasites, and suggested the data set may be deceptive. Conversely, the medical officers were concerned with the variety of parasites found in Japanese soldiers, because the survey, they argued, showed there was not a wide diversity
of intestinal parasites in Manchuria. Their conclusion was ambiguous because they could not determine whether the hookworm, liver fluke and unspecified nematode eggs had lain dormant in the men’s bodies from Japan, or if they had contracted the parasites in the war-zone. This difference in parasitical infection was clearly not the distinction between Chinese and Japanese bodies Takatsuki and Nakano had hoped to make.

From Experimental Animal Bodies to Chinese Bodies:

The advent of scientific medicine in the mid-nineteenth century centered on the emergence and increasing prominence of bacteriological research in understanding disease pathology. One of the most significant bacteriologists in this period was the German physician Robert Koch, who identified the pathogenic agents that cause anthrax (1877), tuberculosis (1882) and cholera (1883). In 1884 he formulated the Koch postulates as a means of establishing the causative link between a specific microbial pathogen and an illness. One of the key features of this new methodology was the use of animal bodies in the laboratory to reproduce and confirm the etiology of a particular disease.

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52 Ibid, 1,196

53 Ilana Lowy, “The Experimental Body,” in Medicine in the Twentieth Century, ed. Roger Cooter and John Pickstone (Amsterdam: Harwood Academic Publishers, 2000), 437. Koch’s postulates included four steps: 1) the microbial must be found in the tissues of an animal or patient exhibiting symptoms consistent with the illness. 2) The pathogen must be isolated from the infected tissues and cultured in the laboratory. 3) The cultured microbes must then be introduced into the body of a healthy experimental animal, which in due course must present symptoms consistent with the disease. 4) Lastly, the pathogenic organism must then be isolated from the experimental animal and reproduced in a culture in the laboratory.
For the Japanese army medical bureau the importance of the body in discerning the cause of an illness was essential. The high rate of beriberi in the army during the Russo-Japanese War (discussed in Chapter Three) led army medical officers to seek answers among the microscopes, agar culture bases and experimental animal bodies in their laboratories, fundamental elements that informed the microbial gaze. The first such study following the conflict with Russia was carried out by Tsuzuki Jinnosuke, who claimed to have isolated the pathogenic agent responsible for beriberi in the urine and fecal matter of beriberi patients. Following Koch’s postulates Tsuzuki cultured the microbe he identified as “beriberikokkus” and injected it into the bodies of laboratory animals, which he claimed developed symptoms consistent with beriberi. In a similar experiment medical officers Kokubo and Okada tested the blood, urine and fecal matter of patient’s with beriberi in the army reserve hospital in Hiroshima during the Russo-Japanese War. The targeted microbe, which they called “kakkecoccus” (kakke is the Japanese word for beriberi) was cultured and injected into the bodies of rabbits, mice and guinea pigs, which did not develop beriberi like symptoms.

Experiments by Kokubo, Okada and Tsuzuki underscore the importance of experimental animal bodies to the research carried out by the army. The leap from animal to human subjects in the search for answers to beriberi represented a modest, but significant shift in research. In the years immediately following the conflict with Russia

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55 Ibid, 414.
medical officer Mine Naojiro carried out research using Chinese employees of the Japanese army and Chinese prisoners held by the Japanese military in Manchuria. In both of these studies Mine focused on the Chinese body, because, unlike Japanese, the inhabitants of Northeastern China did not contract beriberi. Mine was perplexed by the rarity of beriberi among the Chinese population:

...[i]f one looks at the conditions in which Chinese live one sees uncleanness and filth with poor ventilation and poor lighting. They mostly live in squalid hovels in conditions that seem ripe for this disease, but the reality is quite the opposite of what one would expect. What then is the reason for this extremely perplexing and unexplainable set of circumstances.\textsuperscript{56}

It is clear Mine assumed beriberi to be microbial in origin and so expected Chinese living conditions to lead to regular outbreaks of the illness. The lack of beriberi among Chinese, especially when compared to Japanese, was a difference that served as the basis for Mine’s use of Chinese as human test subjects. The medical officer’s experiments differed from other studies on beriberi in the Japanese army, which focused on treatments for soldiers afflicted with beriberi, while Mine sought to “infect” Chinese with beriberi.

Mine’s experiments were based on the assumption that the rice fed to Japanese soldiers was, in some way, contaminated with the pathogenic agent for beriberi. His first experiment using the Chinese body as a subject of inquiry took place in the city of Lushun and involved every Chinese civilian working for the medical bureau of the Japanese army on base, as well as those Chinese working in the officer’s quarters. The workers were fed a staple of the same rice Japanese officers consumed in their mess, but

\textsuperscript{56} Mine Naojiro, “Kome (baimai) narabi ni koryō to kakke to no kankei” (The Relationship between both Rice [Moldy Rice] and Sorghum and Beriberi), \textit{Rikugun guni gakkai zasshi} (The Journal of the Society of Army Medical Officers), no. 168, February, 1908.
not one of the eighteen individuals in the study contracted beriberi.\textsuperscript{57} Mine concluded that the high quality rice (\textit{ryōmai}) officers enjoyed was fundamentally different from that of the rank and file, so he carried out a second experiment and fed seventeen inmates in a local prison the same rice rationed out to the Japanese foot soldier. Mine described the staple as yellow in color, slightly moldy, worm eaten and ridden with bacteria. The experiment lasted for a couple of weeks and, as with the initial study none of the Chinese contracted beriberi.\textsuperscript{58}

Undaunted Mine expanded the scope of his inquiries to include a greater number of Chinese prisoners. In May of 1906 the Japanese military police in Lushun handed over 166 Chinese criminals in their custody to a local prison. Mine took control of their diet; from 28 May 1906 to 15 December 1906 the inmates were fed a mixed staple of barley and rice. After December 15 this was changed to a more traditional Northeastern Chinese dish of millet cakes and buns. And finally, from 16 July 1907 to 11 October 1907 Mine had the men in the study eat a daily ration of rice from the Japanese army. Again the experiment failed to produce even one case of beriberi.\textsuperscript{59}

In a larger parallel study at the prison Mine continued to tweak the diets of 1,975 inmates to see if he could produce beriberi in Chinese bodies. From September 27\textsuperscript{th}, 1906 through the end of August 1907 the prisoners were fed a staple of dumplings, from

\textsuperscript{57} Ibid, 194. Mine’s initial study lasted more than two years. Thirteen of the Chinese were involved in the experiment for its duration, while three Chinese consumed Mine’s rice staple for more than one year and two for less than half a year.

\textsuperscript{58} Ibid, 194. Mine divided the convicts into three groups and fed them different grades of the poor quality rice.

\textsuperscript{59} Ibid, 194-195.
September 1st their diet was changed to a ration of sorghum gruel, which was gradually changed to a red bean, sorghum and rice porridge. By October Mine’s tinkering finally generated the desired outcome, one inmate began to develop signs of beriberi.60

On October 5th, 1907 Zhu Kenian began to exhibit symptoms consistent with the early onset of beriberi: swollen legs that were sensitive to the touch, difficulty walking, a sense of heavy pressure in the abdomen, pallid facial complexion, and a swollen tongue. Mine tested Zhu’s blood for a pathogen and assessed the subject’s spine for irregularities, but found nothing amiss. The medical officer treated Zhu and tried to alleviate the inmate’s suffering by soaking his legs in Epsom salts, which Mine noted reduced the swelling in Zhu’s limbs so he was able to walk, unfortunately, however, Zhu’s calves continued to suffer from neurological dysfunction and its side effects including numbness, severe muscular pain and atrophied musculature.61 Mine summarized the findings of his experiments observing the following: “moldy rice does not influence the occurrence of beriberi, a staple other than rice (sorghum) leads to beriberi, and lastly, Japanese are not the only ones who contract beriberi, Chinese also come down with the affliction.”62 The article did not record whether Zhu recovered and survived the experiment or if he expired from the disease.

The focus on Asian bodies as a subject of inquiry was predicated on the need to show the differences between Japanese and Chinese, this began with a focus on basic physical measurements like height, weight and chest width. Even though the differences

60 Ibid, 196.
61 Ibid, 197.
62 Ibid.
in body types were marginal Japanese medical officers were more than willing to make much out of the inches that distinguished them between their Korean and Chinese counterparts, because these were quantifiable physical differences at a time when race was largely understood by visually verifiable physical differences. Later a study that was comparative in nature and delved into bowels of the subjects focused on the differences in parasitical infections between Chinese villagers and Japanese soldiers. While this examination offered unexpected results it still underscored distinctions between Japanese and Chinese. The rarity of beriberi among the Chinese population, a characteristic that distinguished them from Japanese was an essential rationale for Mine’s post Russo-Japanese War dietary experiments designed to give Chinese employees and inmates the deficiency illness. Mine’s studies are evidence that not all differences were desirable; he went to great lengths to prove that Chinese could also contract beriberi. Physical differences, whether they were measurable, parasitic or etiological all contributed to the medical construction of a Chinese and Korean Oriental other.

Conclusion:

In the pages of Japanese medical journals, medical reports and the letters of Japanese in Taiwan, Korea and China a discourse emerged that viewed Chinese and Korean food culture, medical practices, hygiene, sanitation and the Asian body as unusual. This ongoing presentation developed through the use of lists and the creation of classifications that implied other Asians were not the same as Japanese. In more direct comparisons Japanese physicians constructed categories that were oppositional in nature
and designed to highlight what they determined were obvious differences related to the body.

Whether implicit or explicit the use of binary categorizations, like those created by Japanese, were designed to construct reality. The social and cultural symbols and signs Japanese medical officers and physicians observed represented a systematic coded language they unlocked using meaningful classifications. For structuralists like Levi-Strauss “…[C]ulture…is a system of signs, the signs are placed in opposition and above all two by two. A sign exists only in relation to other signs, it has no reality on its own, outside the relation that opposes it to other signs.”63 For the Japanese the reality they fashioned sought to define other Asians as “uncivilized” opposites of themselves.

The Japanese use of scientific medicine to reify Chinese and Koreans is typical of the Orientalist discourse, because it was based on disparities in political and intellectual power. The Japanese held a dominant political position in Asia through their military victories and they assumed an inherent intellectual superiority, in part, because of their understanding and practice of scientific medicine. A central feature of Said’s Orientalism is that it does not merely represent the other, but also tells us much about those who employ it. The Japanese construction of an Asian “Oriental” other was developed within a dual context and designed to highlight the success of Japanese modernity by illustrating what Japanese perceived to be the relative backwardness of their neighbors.

Chapter 6: Conclusion

This study has looked at the emergence of a modern Japanese identity from the perspective of Japanese practitioners of scientific medicine. The discourse I examine occurred within the context of Meiji Japan’s modernization reforms that transformed Japan into a modern imperialist power. The 1880s and 1890s were a turning point for both Japan as an imperialist state and scientific medicine as a field of knowledge. By 1895 Japan’s program of reforms began to bear tangible results with the defeat of the Qing Empire and the imposition of an unequal treaty on China that included a large indemnity and control of Japan’s first overseas possession, Taiwan. In addition, in 1896 in recognition of Japan’s progress on the road to “civilization,” the Western imperialist powers began to abrogate the unequal treaties they had forced upon Japan at the end of the Tokugawa period. In the 1880s scientific medicine also underwent a significant transformation with Robert Koch’s discovery of the causative agents for tuberculosis, anthrax and cholera, which ushered in a new understanding of disease causation. These were heady times for both Japan and medicine.

I have argued that identity construction within the field of medicine in Japan at this time was a process wherein Japanese physicians identified with Western modernity, or “civilization” to use the nineteenth century term, while at the same time
distancing themselves from their Asian neighbors by portraying them as an “uncivilized,”
diseased, different other. They were able to do this because of the inherent authority
associated with scientific medicine based on its perceived universality and rationality that
gave those who could master its methodology a claim to modernity. Furthermore, the
advent of Western medicine in Japan gave rise to an imagined community of Japanese
physicians who were bound together through a common education and similar
understanding of the human body and disease, as well as through affiliations with
medical schools, universities and medical organizations like hospitals, the Japanese Red
Cross Organization (JRCS), the Army Medical Bureau and the Home Ministry’s Central
Sanitary Bureau. These commonalities were reinforced through reports, studies and
experiments published in medical journals and presented at national and international
conferences.

Stefan Tanaka’s work on Tōyō scholars shows that Japanese physicians were not
the only group that viewed China as an other. My point here is simply to offer that in
Japan practitioners of scientific medicine, while riding the sharp edge of modernity, were
not alone in Orientalizing Asia. In fact, taken together my study and Tanaka’s work
suggest that this view of China was fairly widespread and point to a broader trend in
Meiji society that marginalized China as an object of Japanese and Western imperial
power. Japanese physicians and scholars did not live a cloistered existence hermetically
sealed from the broader social changes that permeated Japan, rather they were a part of
this stunning transition and their views regarding modernity and Asia reflect this
relationship.
The grafting of Western scientific medicine onto the Japanese social body produced mixed results, because traditional culture—understood as existing social norms—and this new field of knowledge were not always a seamless match. The entry of Red Cross nurses in military hospitals during wartime placed modern medical practices and traditional views of the role of women in medicine at odds with one another. The broadly accepted view that female sexuality in a public space was potentially disruptive initially prevented the entry of JRCS nurses from entering military hospitals. The Army Medical Bureau and the JRCS, modern medical organizations understood that “civilization” required the use of female nurses to ameliorate the suffering of the sick and wounded. These two organizations established a set of regulations designed to control female sexuality that included restrictions in dress, age, looks and personal conduct inside as well as outside the hospital. In addition, the Army Medical Bureau established a system of intimate oversight in the form of upper class women in the Ladies Voluntary Nurses Association (LVNA), who lived and worked with the nurses.

These detailed rules represent a type of embodied subjecthood that provided the Japanese army with the requisite moral counter balance to female sexuality and resulted in the dispatch of JRCS women to the exclusively male-space of the military hospital. The manner in which the army integrated Red Cross nurses into its hospitals quickly transformed the way Japanese society viewed the field of nursing. The army incorporated the nurses into its command hierarchy by granting the women an official rank; this gave the army direct authority over the nurses and also created a tangible place for the women in the hospitals. The nurses held a rank equivalent to a private and this placed them on the same level of the young men who had gone off to war. Their role as caregivers to the
army, their place in military hospitals and their parallel status with the soldiers at the front gave the women a legitimate claim to national service that ultimately led to the popularization of a new identity for women in the field of medicine, that of the Red Cross nurse.

While contradictions between the requirements of modernity and social values produced a positive outcome in the case of JRCS nurses, the same cannot be said for the relatively frictionless interaction between the Army Medical Bureau’s embrace of scientific medicine and traditional notions of Japanese dietary practices, which, combined insured the persistence of outbreaks of beriberi in the army. The microbial gaze blinded Army Medical Bureau physicians and civilian researchers to any other cause of disease save that of a microbial pathogen. Furthermore, practitioners of scientific medicine tended to marginalize dietary modifications, like the adoption of a barley-rice mixture as a staple, because it was associated with Chinese medical treatments. Lastly, the leadership of the Army Medical Bureau consistently defended the white rice staple as nutritious and a necessary link to a shared past based on elite dietary practices.

Lower-level officers in charge of individual units and tasked with protecting the health of the men in their command began to adopt the mixed staple of barley and rice after 1885 when the medical bureau of the Fourth Division made the switch. Within a few years nearly every unit in the Japanese army was eating the mixed staple daily. The Army Medical Bureau refused to recognize this change, so what emerged was an official staple of white rice that was not eaten and an unofficial diet of rice and barley that was consumed daily. This fiction persisted except when on campaign when the Army Medical
Bureau shipped its soldiers the official staple only. During the Sino and Russo-Japanese Wars tens of thousands of soldiers at any given time were stricken with beriberi.

Beriberi plagued the Japanese army because it stubbornly clung to the idea that food therapies were unscientific and white rice was an historically shared food item that, in part, was a cultural symbol of Japanese-ness. In terms of disease causation the Japanese Army Medical Bureau was left with only one option, finding a scientific explanation for the cause of beriberi. The practice of an official/unofficial diet solved the problem of beriberi during peacetime, but ensured its reoccurrence during wartime. Scientific medicine and the notion that rice was a traditional staple formed the basis of the Army Medical Bureau’s understanding of what it meant to be Japanese in the nineteenth century, and also guaranteed continued epidemics of beriberi in the ranks of its soldiers.

The other side of identity construction in Meiji Japan was the denigration of China and Korea as “uncivilized” others. This allowed the Japanese to conceptually distance themselves from Asia thus underscoring their own success on the road to modernity. The latter half of this project has focused on how Japanese medical practitioners used scientific medicine to draw distinctions between Japan and Asia, as well as Japanese and Asians. This process largely occurred in the pages of Japanese medical journals. The articles were based on reports from members of Japan’s diplomatic corps stationed in places like Hong Kong, Macau and Seoul, or from first hand accounts from medical officers during wartime or based in Taiwan and Korea in times of peace. The majority of the readership of these journals never ventured beyond Japan’s shores and so came to understand Asia and Asians as an imagined place and an imagine people.
The imagining of Asia as a distinctly dangerous place filled with exotic and mysterious ailments and where cholera was a continual threat was the picture of the continent that appeared in Japanese medical journals and reports. This image was reinforced through the practice of Japanese practitioners of scientific medicine to construct disease categories that drew distinctions between Japan and the continent.

In Japan cholera was associated with Asia because of its origins in India and this view persisted even after the disease became endemic in Japan as early as 1878. Initially Japanese journals and government reports drew distinctions between “Asiatic” cholera, a deadly epidemic disease originating in Asia and *kakuran*, a less lethal domestic enteric illness. This bifurcation followed the Western understanding of the disease, which was often referred to as true cholera and apparent cholera. By the mid-1880s these distinctions disappeared following Robert Koch’s discovery of the cholera vibrio. However, by the Sino-Japanese War the Army Medical Bureau had creatively resurrected a dual categorization of cholera by calling cases in the army cholera only if they had been confirmed through a bacteriological examination. Cases that appeared to be cholera, but had not been tested were identified as a form of intestinal catarrh. The army did not extend this same standard to Chinese civilians in the war zone, who were diagnosed as having cholera based on a visual examination of their symptoms. Chinese were never classified as having contracted intestinal catarrh in the army’s records. This gave the impression that cholera was far less prevalent in the army than it was, since many cases of intestinal catarrh were no doubt cholera. Conversely, this practice over reported the cases of cholera among Chinese civilians, and underscored the notion that China was a particularly diseased space.
In addition, the Japanese practice of referring to diseases in Asia by local or regional names contributed to the construction of Asia as a diseased and “uncivilized” other. By the mid-1880s scientific medicine had developed the tools to support a rational understanding of disease etiology and pathology. This, of course, does not mean nineteenth century medicine understood the origin of every illness, in cases where unknown illnesses were encountered in Japan and the West convention held that they be explained in terms of their symptoms and associated to diseases that seemed similar or named in relation to their symptoms. However, in Japanese medical writings illnesses in Asia that seemed to defy definition within the framework of scientific medicine were often located in and identified with a particular city, region or country. This was a system of classification used in Japan’s early modern period and its application vis a vis China, Taiwan and Korea marked these places as “backward.” It is conspicuous that in the pages of Japanese medical journals this type of disease classification is not used to identify illnesses in Japan and the West.

Japanese medical practitioners also dedicated a considerable amount of energies in studies and reports that presented Asians as others. This was done through exhaustive examinations of continental food, sanitation and medical practices, as well as detailed comparative studies of Asian and Japanese bodies. The information produced in these studies and surveys, as an aggregate whole, defined Asians as physical and cultural others. This was important to Japanese physicians at a time when race was largely determined through physical differences like skin color, facial features and stature. These studies, it seems, were designed to offer a convincing explication of the differences between peoples who outwardly appeared to be similar.
Studies of food tended to take three forms: food was portrayed as unusual, processed food items were assumed to be unsafe, or food practices were presented as filthy. Many of the studies of food items consisted of lists of consumables that most Japanese would readily identify as different and exotic. When not presented as a curiosity Chinese food was assumed to be dangerous, as in the case of food poisoning in a hospital in Andong province where medical officer Asano Komatarō’s investigation of Chinese oil was not conclusive. In addition, food practices were also described as unhygienic and filthy. An article in Rikugun guni gakkai zasshi described how locals preserved vegetables in the winter in Manchuria by burying them in pits in the ground, while another entry in the same journal reported that farmed fish in Taiwan were fed a diet of human and swine feces. These depictions of Chinese food practices purposely highlighted the differences and dangers inherent in the food of the “other.”

The journal entries were also critical of sanitation standards on the continent and the way practitioners of Chinese medicine plied their trade. The streets and homes in Taiwan, Korea and China were often described as filthy and prime places for promoting the spread of contagious illnesses. While Japanese medical officers, who treated combatants free of charge, described Chinese medical practitioners as engaging in transactional medicine. Even though these articles did not always draw explicit comparisons between Asian and Japanese medicine, nonetheless the descriptions of sanitation and medical practices in Asian were readily understood in comparison to Japanese norms by the readership of the Japanese medical journals.

Where the journal articles did offer a clear comparative format were in studies of Asian bodies, which they measured, weighed and identified in contrast to the Japanese
physique. These examinations of the physical differences ran the gamut centering on a comparison of intestinal parasites in the bowels of Chinese villagers and Japanese soldiers to comparative surveys of the height, weight and chest measurements of Japanese and Chinese and Koreans. The final study addressed in this project focused on attempts to modify the diet of Chinese prisoners held in Japanese custody to see if they would contract beriberi. This was carried out because Japanese medical practitioners understood that Chinese in Manchuria, generally, did not contract beriberi. These inquiries were premised on the notion that there were physical, as well as physiological differences between the Japanese and their Chinese and Korean neighbors. Whether these differences existed in the bowels, physical measurements or an assumed resistance to an illness they were significant, because they identified Asians as somehow different from Japanese.

In the late Meiji period, Japanese medical practitioners developed a discourse in their journals, studies and reports that identified Japanese in general, as a “civilized” people conceptualized within the framework of nineteenth century European modernity. As a part of Asia, an area of the world that was the object of Western imperialism, it was essential that Japanese physicians distinguish themselves from what they considered to be other less advanced Asians. Thus the modern Japanese identity that emerges in the folds of medical journals, reports, essays and experiments is one negotiated and constructed within the binary opposites of Occident and Orient, or as it was more often expressed by Japanese physicians “civilized” and “uncivilized.”


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