

# Border control in question: transformation of anti-cholera measures in Japan at the end of the 19th century

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**Abstract.** This paper aims to examine how Japan's medical authorities explored a flexible way of border health control against cholera at the end of the 19th century. Since quarantine measures provoked diplomatic tensions with neighbouring countries, the Japanese government considered implementing a scheme of medical inspection of vessels from infected ports. However, Japanese geographical conditions seemed unsuitable for this measure. As a result, a permanent border control was established on the one hand and, on the other hand, bacteriological examinations were carried out within the territory. This exploration of flexible border control, which comprised the domestic realm, aimed to set up a reliable outbreak alert network, but cholera epidemics revealed the lack of material conditions of this system. From the turn of the century, the authority began to seek more technical solutions.

## 1 Introduction

Border control against infectious diseases is a crucial subject in the history of medicine. For example, historian Erwin Ackerknecht described, in his seminal article on the 19<sup>th</sup> century anticontagionism, how economic and commercial interests influenced public health policies in European countries, driving them to abolish maritime quarantine measures. [1] These measures, restricting vessels' movements for fear of importing diseases, were questioned not only in Europe and America<sup>1</sup>, but also in the Middle East [2] or Japan in the end of the 19th century. The literature on Japanese quarantine policies explains this phenomenon as a result of diplomatic pressures imposed by Western powers, seeking to ensure smooth trade flows. [3] This paper aims to explore further this question, and to show that the Japanese medical authorities challenged the idea of border and sought to expand the scope of epidemic control within the domestic realm. To shed light on this issue, the British case proves to be helpful: the so-called "English system", a flexible border control system, protecting economic interests as well as health security [4], led to the creation of "port sanitary zones", in which the domestic health service checked the suspects. [5] In addition to this spatial notion of disease control, which blurs the concept of linear border, the present paper would draw

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<sup>1</sup> In recent studies, historians have pointed out that European countries did not abolish quarantine measures, but rather externalized the burden of these measures to extra-European areas, especially to the Middle East.

attention for the temporal and technical dimensions of disease containment practices. The paper will show that the actors in the Japanese case sought to find technical methods, with which they could alert of the presence of cholera as early as possible. [6] To investigate this question, the present paper analyses discourses and actions of Japanese scholars working on the control of cholera epidemics, in the 1880s and 1890s, mainly for the Health Board of the Home Ministry.

The paper consists of three sections. First, it provides a brief account of cholera epidemics and quarantine measures in Japan during the 19th century. Then it examines how doubts on the effectiveness of quarantine measures emerged after several experiences of cholera outbreaks. Finally, it scrutinizes the introduction of bacteriological examination of the sick as a tool for an early and accurate alert of the presence of the disease.

## **2 Historical context: cholera outbreaks and quarantine measures**

Japan witnessed eight cholera outbreaks on its territory during the 19th century (1822, 1858, 1877, 1879, 1882, 1885-86, 1890, 1895). The first two took place by the end of the feudal era. After experiencing its horrific scourges, feudal rulers published an *Official version of the Prevention Theories on Epidemic Poison* [*Kanban ekidoku yobô setsu*] in 1862 to prepare scholars for a next potential outbreak, in which the word “quarantine” was presented and translated for the first time in Japanese language as a preventive measure that Western countries were exercising against cholera. [7] When the disease came back with virulence in 1877 and 1879, the Meiji government, which had abolished the feudal regime and established the Empire of Japan in 1868, tried to control it with Western medical knowledge. Quarantine was one of the main actions that the government aimed to carry out against the epidemics. However, it provoked diplomatic conflicts: foreign consuls contested and breached the quarantine rules imposed on the vessels of their respective country, complaining to the Japanese authorities that these measures did not make sense for the prevention of cholera. Instead, they carried out themselves medical inspections of the vessels of their nationality. [8, 9]

Despite these conflicts, quarantine rules acquired legal force through the enforcement of the *Law for the Maritime Prevention of Cholera Dissemination*, on July 14, 1879. However, since quarantine was a target of criticism, new rules were implemented on the June 23, 1882, with the *Law for the Examination of Ships arriving from Cholera Infected Areas*. In doing so, the government replaced quarantine measures by medical inspection, and appointed medical inspectors at the main ports to check the sanitary condition of vessels coming from infected areas, as well as the health conditions of the crew on board. Even though this shift was a consequence of diplomatic influence on border control with the aim of reducing obstacles for trade, as the literature has pointed it out, the central idea behind these measures – delineating the health border where infected objects and human beings were to be controlled – remained unquestioned. From the middle of the 1880s, Japanese scholars began to doubt the effectiveness of the maritime border control.

## **3 Border control in question**

In a speech on the cholera outbreak of 1885–1886, Sensai Nagayo, director of the Health Board of the Home Ministry, said:

“In the beginning of the epidemic of the year 18 [1885], maritime health inspectors were instructed to quarantine vessels coming from infected ports for 48 hours and to disinfect them, with or without the sick on board: to implement this action, the number of

personnel was increased. However, quarantine practices, like medical inspection rules, are only practicable once those ports have been declared infected. As Japan is close to Chinese ports and South Sea islands where cholera is constantly spreading, if action is taken for the implementation of control measures only after official information on outbreaks is obtained, it is too late [to prevent cholera from reaching the territory]”. [10]

The point of Nagayo was that the border control could not play its preventive role in the Japanese context since it depended on diplomatic information which took too much time to be confirmed. In other words, the diplomatic alert network did not work as well as intended. This fear was reinforced in May 1891, when the Japanese ambassador in Hong Kong alerted the Ministry of Foreign Affairs about vessels leaving the port of Bangkok. The ambassador assumed that this port was infected, even though the local government had not yet recognized the presence of cholera. [11] The Central Hygiene Committee, a consultative body of the Health Board, organized a special meeting to react to this information, but was compelled to wait until the British embassy announced the Bangkok port was infected, which finally allowed to quarantine and disinfect the vessels concerned.

One of the consequences of this episode was the enactment of the *Law for the Enforcement of the Practice of Quarantine on Ships arriving from Overseas Ports* on June 22, 1891, which established medical inspection for all vessels from foreign ports, without questioning whether the departure port was infected by cholera. [12] In other words, the Japanese authority installed a permanent health border, keeping a systematic surveillance on these vessels. Nonetheless, the reinforcement of the maritime border was not the only solution for the problem. Identification of cholera bacilli within Japanese territory was required to establish a domestic alert network, making it possible to obtain accurate information as early as possible. For this purpose, laboratory tools were mobilized as a means of alerting on the presence of cholera.

#### **4 Bacteriological examination as outbreak alert tool**

Simultaneously with the rise of doubt about the border control following the outbreak of 1885–1886, the Japanese state medical body began to explore the use of bacteriological knowledge and laboratory tools for the control of cholera epidemics. At that time, the regional health departments were weekly reporting the number of suspected cholera cases to the police, from where they were transferred to the Home Ministry. Between 1877 and 1900, the Ministry recorded between 500 and 900 cases each year, except the years with an outbreak. This declaration system, set up to take preventive measures, was however contested by populations as well as by physicians: for the former, it meant police officers would come to their home and send them to a quarantine hospital as soon as they would show suspected symptoms; for the latter, its diagnostic criteria was quite confusing. [13] The Health Board sought to overcome this problem with the new laboratory techniques. The goal was to carry out bacteriological examinations to detect cholera cases with accuracy at an early stage of disease propagation. In 1885, the Board began to send officers trained in the bacteriology to the region where suspected cases were reported as soon as it had received information. [14]

Bacteriological examination had a twofold purpose: in cases where cholera bacilli were absent, the Ministry could reassure surrounding communities and avoid taking unnecessary control measures; in cases where the officer detected cholera bacilli, the authority could take early actions before the propagation of microbes had occurred. However, while reports on the absence of bacilli in 1888, 1889 and 1901 made it possible to keep calm on the territory, [15] when bacilli were detected in 1890, bacteriological examinations were barely useful to take action quickly. In July of that year, Tōichirō Nakahama, an officer of the Health Board, had been ordered to travel from Tokyo to Nagasaki, a southern port city where a couple of

suspected cases had been identified. He travelled there and detected cholera bacilli, [16] but this did not prevent microorganisms from spreading simultaneously and insidiously. By the end of the year, the Home Ministry registered 35,227 deaths. Nakahama suggested that local health personnel themselves should carry out bacteriological examination: however, since only several scholars working for the Health Board had acquired the techniques indispensable for bacteriological examination, this new strategy could not provide early warning, as occurred with the diplomatic maritime control.

To deal with this problem, training and technical courses on bacteriological tools were taught successively in Japan since 1892 at the Institute for Infectious Diseases, Tokyo University, the Tokyo Microscope Academy, as well as under the direction of the Private Hygiene Society of Great Japan, which had local branches. [17] But a new cholera outbreak in 1895, caused by soldiers returning from the Sino-Japanese war, posed challenges to the measures based on bacteriological examination. If the number of health personnel who had learned bacteriological techniques had substantially increased, the shortage of medical equipment, especially microscopes, was critical. [7] The outbreak revealed that, whether with old or new techniques, medical and public health infrastructure was still indispensable to take early action.

## 5 Conclusions

The present paper has analysed questions raised by maritime border control in late 19<sup>th</sup> century Japan, as well as the subsequent transformation of cholera control practices and its difficulties. All this reflects a fundamental discordance between the unpredictable nature of cholera epidemics and the disease-containing measures which require collective organization and preparation. The Japanese authority mobilized border medical inspection and domestic bacteriological examination against cholera – the latter integrating the role of border control within the domestic public health structure – to avoid generalized quarantine measures, but political, social and material factors hindered these actions. In the aftermath of the 1895 outbreak, authorities began to explore more technical solutions, i.e., vaccination campaigns that could allow to avoid outbreaks despite the presence of cholera bacilli. This measure, launched despite the reluctance of Japanese bacteriologists toward vaccination in the last decade of the 19th century, might be considered as a consequence of the long and severe struggle for constructing an alert network in cholera control measures.

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