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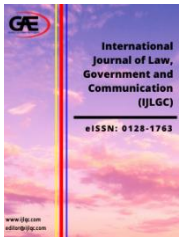

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JAPAN'S EPIDEMIC PREVENTION AND WATER SUPPLY DIVISIONS (EPWSDs) IN MALAYA AND TRIALS ADDRESSING DISEASES ALONG THE THAI-BURMA RAILWAY

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Abstract:

During World War II (WWII), the Japanese Navy conducted malaria research at the Institute of Medical Research (IMR) in Kuala Lumpur. However, it is unclear whether any Japanese epidemic prevention and water supply division (EPWSD) had followed the Japanese military after Malaya's invasion and was present at the IMR. Whether the Japanese military at the IMR ever played a role in overseeing the building of the Thai-Burma railway also raises a salient question. Therefore, this study aims to determine whether any Japanese EPWSD had ever been deployed to the IMR and if it played a role in overseeing work at the Thai-Burma railway. A secondary objective is to examine the trials of former Japanese soldiers who were negligent in providing Allied prisoners of war (POWs) with clean accommodations and forced them to live in unsanitary conditions along the railway, resulting in diseases, a punishable war crime. This is a qualitative study that relies on old documents, especially those concerning the trials of the Japanese by the Allies, memoirs of former Japanese soldiers serving in Malaya and other secondary sources. A document and content analysis were conducted. The results of this study are presented as a narrative. The findings show that the 2nd EPWSD, part of the 5th Division of the Imperial Japanese Army, conducted malaria research at the IMR and was present at the Thai-Burma railway to supply clean water with the Ishii Shiro water filter, dig trenches, make attempts to combat malaria and ensure the cleanliness of the camps where POWs lived. However, the trials of Banno Hirateru et al., Major Mizutani, Eiguma Ishida et al. and Seita Takizawa illustrate that failing to ensure sanitary living conditions, resulting in various diseases, and denying medical supplies were punishable war crimes with varying sentences.

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Keywords:

2nd Epidemic Prevention and Water Supply Division (2nd EPWSD), Thai-Burma Railway, Institute of Medical Research (IMR), Biological Warfare, Unit 9420

Introduction

Whenever the Imperial Japanese Army (IJA) embarked on colonising a region, they brought along an Epidemic Prevention and Water Supply Division (EPWSD). The EPWSD ensured that the IJA was supplied with clean drinking water devoid of pathogens, using the water filter developed by Ishii Shiro (Shiraishi, 1982). Moreover, the EPWSD conducted experiments on disease-causing pathogens to identify possible cures. During World War II (WWII), the EPWSD played a crucial role for the IJA as the personnel were used to a cool climate and had not been exposed to tropical diseases such as malaria, prevalent in Southeast Asian countries such as Thailand, Malaya, Indonesia, Papua New Guinea (PNG) and the Solomon Islands. Therefore, the EPWSD consisted of doctors and scientists directly employed or commissioned by the IJA to research malaria-causing mosquitoes to identify preventive measures, which were documented in booklets Japanese soldiers easily read. For instance, Japanese soldiers were supplied with quinine to help reduce the symptoms of malaria. Both the IJA and Allied troops in Southeast Asia and the South Pacific were plagued by malaria and they lost a considerable number of troops. In the later years of the war, Allied troops were supplied with atropine, a new drug (at the time) that helped reduce the symptoms of malaria as quinine became useless.

Two commissioned Imperial Japanese Navy (IJN) officers were known to conduct malaria research at the Institute of Medical Research (IMR) in Kuala Lumpur (Majid, 2021). Besides them, it is not known whether IJA members or EPWSD personnel had conducted other forms of research at the IMR. Therefore, it is difficult to identify other Japanese researchers who worked at the IMR and the kind of research they performed. Obtaining this information is crucial because there is a gap concerning Japanese activities at this institution during 1941–1945 that needs to be filled to enhance our knowledge of history.

Moreover, there is a need to know whether the Japanese researchers at the IMR – through any EPWSD based there – had been entrusted with overseeing the sanitary conditions and clean water supply at the Thai-Burma railway. Zhang (2018) mentions that the notorious Unit 9420, associated with Japanese biological warfare in Yunnan, China, was deployed to the Thai-Burma railway. Unit 9420 was part of the Japanese Southern Epidemic Prevention and Water Supply Corps, based in Southern Asia. However, it is unclear whether there were other EPWSDs sent to prevent diseases and epidemics along the Thai-Burma railway.

While the EPWSDs may have been deployed to the Thai-Burma railway, their failure (and that of the overall IJA) to prevent and contain diseases such as cholera, malaria, beriberi, dysentery, plague and other ailments resulted in army personnel facing trials at the end of the war. Failure to prevent and contain diseases and forcing prisoners of war (POWs) to work and live in unsanitary conditions are war crimes subjected to punishment. Neglect in treating sick POWs and not providing adequate medical supplies also falls within the ambit of a war crime. Therefore, this study emphasises some exemplary trials of IJA personnel who failed in their duty to provide clean and comfortable camp accommodations for the POWs and Asian

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labourers, resulting in the spread of diseases. It is expected that this will serve as a lesson for present war crime cases, which may involve negligence in providing sanitary conditions to prevent diseases among those being held in prison camps.

Moreover, this study aims to determine whether any Japanese EPWSD (besides Unit 9420, based in Singapore) had ever been deployed to the IMR in Kuala Lumpur and whether it oversaw work at the Thai-Burma railway. A secondary objective is to examine the trials of former Japanese soldiers who were negligent in providing Allied POWs with clean accommodations and sanitary living conditions along the Thai-Burma railway, a war crime subjected to punishment. This study's findings are expected to enrich the literature on the work conducted by Japanese researchers at the IMR from 1941 to 1945, contributing to our knowledge of history and law.

Literature Review

The literature (Gold, 1997; Lim, 2020; Majid, 2017, 2021; Sidhu, 1991; Tsuchiya, 2005; Zhang, 2018) had previously highlighted the presence of Unit 9420 in Singapore, with some of its research facilities for breeding rats and fleas at the old Tampoi Mental Hospital in Skudai, Johor, and the Tuanku Muhammad School in Kuala Pilah, Negeri Sembilan. While this may have been the case, Lim (2020) pinpointed that the IMR's former Japanese director in Kuala Lumpur, Dr Onari Kimura, was suspected of being a member of Unit 731, the Japanese core unit based in Harbin, China, responsible for developing biological weapons.

Moreover, Majid (2021) investigated the kind of research conducted by commissioned Japanese naval officers at the IMR in Kuala Lumpur and found out that their research was mainly focused on malaria mosquitoes. This raises the question of whether the IJN commissioned officers were the only ones who researched malaria at the IMR or whether there were other IJA members who also conducted research within this premises. This leaves a gap we intend to fill as evidence has surfaced that the 2nd EPWSD, which followed the 5th Division of the IJA to the Malay Peninsula, conducted research at the IMR besides the one already known (Yang, 2021). As shown in this paper, not only Unit 9420 (the fixed EPWSD) was present in the Malay Peninsula but also the 2nd EPWSD was based at the IMR.

Zhang (2018, p. 2) indicated that Unit 9420 departed from Singapore on 15 April 1943 and arrived in Thailand on 20 April 1943. Unit 9420 played a role in building the Thai-Burma railway as it was responsible for water supply operations (Zhang, 2018, p. 2). This raises the question of whether only Unit 9420 had a role in building the Thai-Burma railway or whether the 2nd EPWSD and other EPWSDs were also involved. Thus, this study investigates which other EPWSDs were involved and the role they played during the construction of the Thai-Burma railway.

The literature has described the diseases that struck the Allied POWs and Asian labourers during the construction of the Thai-Burma railway, including malaria, cholera, typhus, plague, tropical ulcers, beriberi, diphtheria, and others (Asai, 1963; Crew, 1957; Futamatsu, 2013; Gill, 2018). Although the IJA sent various EPWSDs to the Thai-Burma railway to dig ditches, clean the surroundings, provide clean water and enforce immunisation for the Allied troops and Asian labourers, such efforts were insufficient to prevent disease and avoid high mortality (Futamatsu, 2013). The secluded location of the Thai-Burma railway and its difficult terrain made it challenging for the IJA to supply food and medical supplies to the POWs and Asian

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labourers (Futamatsu, 2013). This situation worsened during the rainy season, especially if the nearby river running along the railway had overflowed its banks, flooding the camps (Futamatsu, 2013). Beatings and torture, unwholesome food and working long hours without rest provoked fatigue and weakened the POWs and Asian labourers, leading to their death (Futamatsu, 2013).

After the war ended, the Allies held trials to punish the IJA members for their wrongdoings. Few authors have highlighted cases in which the IJA members were punished for failing to prevent diseases from occurring and spreading and subjecting POWs to unsanitary living conditions. Such is the case of Shigeo Nakamura in *United Kingdom v. Eiguma Ishida et al.* (1946) (Hashimoto, 2022; Kobayashi, 2006). A Korean guard, Lee Hak Rae, whose Japanese name was Kakurai Hiromaru and who served the IJA at the Thai-Burma railway, was sentenced for neglecting to provide adequate food, medicine and clothing at the Hintok Camp (Utsumi, Nakamura, & Heong-Yun, 2007). In another case involving a Korean guard, Cho Un-Kuk was sentenced for his brutality towards the prisoners (Cribb, 2018). These are just a few cases in which IJA members were punished. This study chose a few pertinent trials involving IJA members who failed to prevent and contain disease or subjected the Allied POWs to unsanitary living conditions, aiming to draw lessons from them. While there could be a plethora of trials in which the IJA is prosecuted for failing to contain diseases, this study chose four trials as examples as it is beyond the scope of this article to elaborate on other cases.

Methodology

This is a qualitative study that depends on historical archives. Memoirs of former Japanese soldiers of the 2nd EPWSD, Japan's report on its conduct at the Thai-Burma railway and Allied POWs' testimonies regarding their treatment by the Japanese at the Thai-Burma railway during 1942–1943 were obtained from the Japanese Archives (JACAR). Records of criminal trials of Japanese soldiers by the Allied forces concerning negligence to provide clean accommodations and sanitary living conditions, leading to diseases, were also consulted.

Furthermore, Japanese and Chinese books were used. Relevant sections of these books were translated into English using online translation software such as Easy Screen OCR and DeepL Translate and the AI Translate application. The translation's accuracy was verified by an individual proficient in Japanese and Chinese.

To understand the events that transpired among the POWs, Malayan labourers and civil servants recruited to work at the Thai-Burma railway, this study referred to websites, books and newspapers in English or Malay that presented these parties' memories of past events. Articles in Malay about former Malayan labourers talking about their experiences at the Thai-Burma railway were translated into English. As a result, the former Allied soldiers and Malayan labourers' recollections of being inoculated against diseases at the Thai-Burma railway indicate some efforts by the EPWSD medics to prevent the spread of diseases such as cholera and malaria.

Using documents and secondary sources in four languages provides a rich source of information from various parties, avoiding dependency on a single source of information (i.e. only Japanese documents and books). Documents and secondary resources from various sources allow for verifying the facts presented so they are more accurate and reliable. Thus, document and content analyses were conducted through triangulation.

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This study presents a narrative analysis of facts from various historical documents and secondary resources. The various sources were categorised into themes to form subheadings for the topics presented.

Background of the 2nd Epidemic Prevention and Water Supply Division (2nd EPWSD)

The 2nd EPWSD was part of the 5th Division of the IJA, based in Hiroshima, Japan (Imazawa, 2007, p. 12). A former Japanese soldier, Eisaburo Imazawa, mentioned that 20 individuals from French Indochina, where the IJA was stationed, were chosen to be part of the 2nd EPWSD that would follow the 5th Division of the IJA to the Malay Peninsula (Imazawa, 2007, p. 12). This 2nd EPWSD consisted of 200 non-commissioned officers, mostly doctors or scientists who may not have been part of Japan's Army Medical School in Tokyo, tasked with conducting research on various pathogens in Japan or its colonies (Imazawa, 2007, p. 12). The duties of the 2nd EPWSD included water inspection, disinfection and water supply (Imazawa, 2007, p. 12). Imazawa (2007, p. 12) recalled that the 2nd EPWSD was present in Northern China, French Indochina, the Malay Peninsula and PNG.

The 2nd EPWSD was an independent division that differed from Unit 9420 in Singapore (a fixed EPWSD). Other fixed EPWSDs managed by Ishii Shiro included Unit 731 in Harbin, the North China Expeditionary Army Epidemic Prevention and Water Supply Department in Beijing (Unit 1855), the Central China Expeditionary Army Epidemic Prevention and Water Supply Department in Nanjing (Unit 1644), the South China Expeditionary Army Epidemic Prevention and Water Supply Department in Guangzhou (Unit 8604), and the Army Medical School Epidemic Prevention Research Laboratory in Tokyo (Committee for the 'War and Medicine', 2008). Some of these fixed EPWSDs, such as Unit 1644 in Nanjing and Unit 1855 in Beijing, are known to have conducted gruesome human experimentation (Committee for the 'War and Medicine', 2008).

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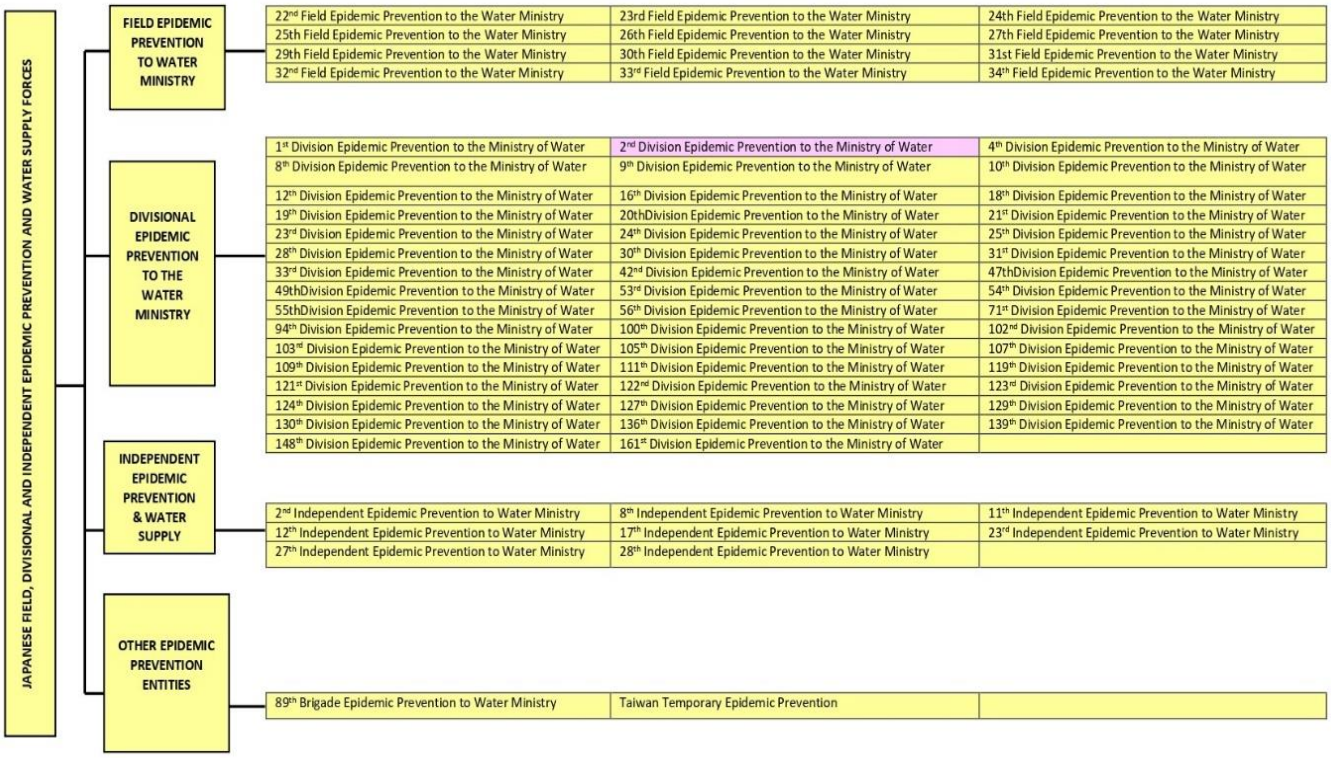

Figure 1. Japanese Field, Divisional And Independent Epidemic Prevention And Water Supply Structure During World War II

Source: Adapted and translated from the Heilongjiang Provincial Library, 2024.

The 2nd EPWSD was part of Ishii Shiro's network of EPWSDs but was independent. One source indicated that a biological weapons unit had followed the 5th regiment of the 5th Division of the IJA, which may have referred to the 2nd EPWSD (Michigan Historical Society, 2001). Besides the fixed and independent EPWSDs, there were also field EPWSDs that moved from place to place within the war zone. Figure 1 shows the structure of the EPWSDs of Ishii Shiro's network, translated from the Heilongjiang Provincial Library's (2024) website. The position of the 2nd EPWSD is highlighted in pink. Figure 2 displays a map of fixed and independent EPWSD divisions in East and Southeast Asia. Based on Figure 2, it appears that Malaya had an independent EPWSD division.

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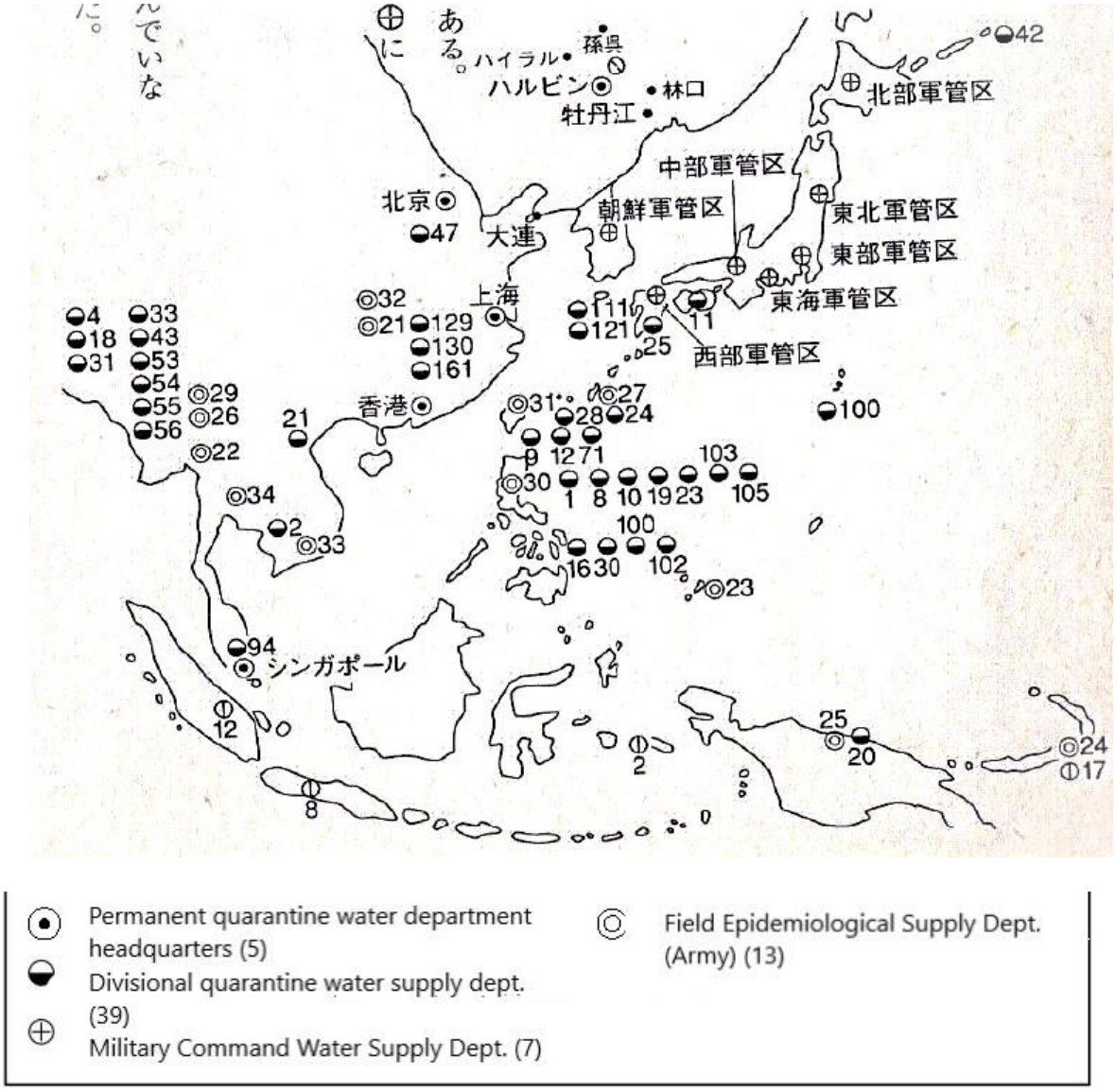

Figure 2. Location Of Japanese Water Supply Units In East And Southeast Asia During World War II.

Source: Lida City Homepage (2023).

It is yet unknown whether the IJA or IJN ever conducted any human experimentation at the IMR. However, two or three jars of fully grown human foetuses preserved in formaldehyde were found there (Figure 3). Furthermore, there were diseased human organs, now on display at Kuala Lumpur's Biomedical Museum, along Jalan Pahang, which was part of the old IMR. The current IMR has moved to Setia Alam in Shah Alam to accommodate its expansion. Until further evidence comes to light, the culprits will remain anonymous. Throughout history, the IMR was occupied by British and Japanese researchers and later by local Malaysians. Someone among them must be responsible for storing these fully grown foetuses in jars, a gross violation of bioethics and human dignity.

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Figure 3. Human Foetus In A Jar Of Formalin At The Biomedical Museum, Kuala Lumpur.

Source: Biomedical Museum, Kuala Lumpur (2024).

Besides Imazawa (2007) indicating that the 2nd EPWSD was present in the Malay Peninsula, another former Japanese soldier, Shiraishi (1982), in his book memoirs recounted his experience with the 2nd EPWSD in Malaya. Shiraishi (1982) indicated that the IMR in Kuala Lumpur had been used by the 2nd EPWSD to conduct research on malaria mosquitoes. He mentioned there were about 12 soldiers who were given the task of collecting malaria mosquitoes from various places in the Malay Peninsula, going as far as the Cameron Highlands and Fraser's Hill, where it was cold (Shiraishi, 1982, p. 92). The IJA also visited Telok Anson and Port Sweetenham to obtain malaria mosquitoes (Shiraishi, 1982, p. 92). Shiraishi (1982, p. 93) also described the IMR's location at the crossroad junctions of Jalan Pahang, Ipoh Road, Jalan Tuanku Abdul Rahman and Malaysia's national mosque along the Kuala Lumpur Station Road. While researching malaria mosquitoes, Shiraishi (1982, p. 93) mentioned that the Japanese stayed at the Victoria Malaria Research Institute, which is presently the Kuala Lumpur General Hospital. This is not to be confused with Victoria Institution, a high school that was also once the Japanese garrison in Kuala Lumpur during WWII.

As for the team conducting research on malaria mosquitoes at the IMR, Shiraishi (1982, p. 92) recalled the following names: Private First Class Sone Hiyasa, Kogama Shuji, as well as four Indian and four Malay soldiers. Other members of the malaria team included Corporal Shigeru Matsumara, Nobuo Yoshizawa, Tokijiro Tadaki, Tadahiro Matsuda, Tadashi Matsuda and Hideji Koyama (Shiraishi, 1982, p. 92). Lieutenant Yasumori Suda headed the malaria research team (Shiraishi, 1982, p. 92). Shiraishi (1982, p. 94) also described the equipment the Japanese used to catch mosquitoes included rubber boots, insect nets, test tubes and flasks. Once back at the IMR, the Japanese research team was given the task of recording the malaria mosquito species. Nobuo Yoshizawa, for instance, excelled at drawing and had to draw and paint the malaria mosquitoes (Shiraishi, 1982, p. 94–95). In the end, the malaria research team at the IMR came up with a booklet about malaria mosquitoes that emphasised preventive measures, with the cooperation of a knowledgeable 5th Division Medical Corps member, Colonel Tsunamiki Imazu (Shiraishi, 1982, p. 96). Moreover, thanks to the diligent work of Lieutenant

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Kojima in recording the malaria mosquito species and producing a useful booklet, the research team (*Nissho*) was awarded a letter of appreciation as a unit (Shiraishi, 1982, p. 98).

Besides malaria research, Yang (2021, p. 108) mentioned that, while in Malaya, Japanese researchers had conducted research on diseases such as cholera, rickets and blackwater fever. A document published by the Japanese records the diseases' locations on 10 September 1942 (Yang, 2021, p. 108).

Based on the memoirs of former Japanese soldiers such as Imazawa (2007) and Shiraishi (1982), who arrived in the Malay Peninsula as part of the 5th Division of the IJA during WWII, we can conclude that there was another EPWSD present in Malaya, namely the 2nd EPWSD. It was previously thought that only Unit 9420 had been involved in the southern states of the Malay Peninsula in Johor and Negeri Sembilan but this study's findings indicate that this was not the case.

Furthermore, through the 2nd EPWSD, Japanese researchers had their work documented in the Japanese Army Medical School Epidemic Prevention Research Report, which was not strictly meant to cover research by the Army Medical School in Tokyo (Committee for the 'War and Medicine', 2008). This shows the importance the Japanese placed on research in its colonies to generate scientific data concerning tropical diseases, which could not be studied effectively in Japan's cool climate. Colonial conquest was thus a gateway for the Japanese to discover new species of insects and contribute to the scientific literature to make a name for themselves.

Participation of the 2nd Epidemic Prevention and Water Supply Division during the Building of the Thai-Burma Railway

Beyond conducting malaria research at the IMR in Kuala Lumpur, the 2nd EPWSD collaborated with other EPWSDs around mid-1942 to November 1942 to contain malaria and other pressing diseases along the Thai-Burma railway that was being built at the time (National Diet Library, 1945–1948). The South Army Epidemic Prevention and Water Supply Corps were in charge of overseeing cleanliness and hygiene, supplying clean water and preventing the spread of diseases among the POWs and local Asian labourers (*romushas*) who had been recruited in Java, Malaya, Thailand and Burma. The South Army Epidemic Prevention and Water Supply Corps was headed by two controversial, known members of Unit 9420. First, Colonel Kitagawa Masataka, who died in a plane accident while on duty (National Diet Library, 1945–1948, p. 27). After Masataka's death, Unit 9420 was headed by Colonel Hareyama Yoshio, who then took charge of the South Army Epidemic Prevention and Water Supply Corps, which had a base in Kanchanaburi, Thailand (National Diet Library, 1945–1948, p. 27). In addition to part of the 2nd EPWSD, which was transferred from Malaya, other participants included the Japanese 2nd Division Field Hospital from Singapore and Malaya and the 21st Division Field Hospital from French Indochina (National Diet Library, 1945–1948, p. 27). The Japanese 56th Division Field Hospital from Burma, part of the 31st Division of the EPWSD (a passing army group), the 54th Division Field Hospital (a passing division) and the 2nd Army Hospital in Bangkok were all stationed along the Thai-Burma railway (National Diet Library, 1945–1948, p. 27).

Around November 1942, the South Army Medical Corps was dispatched to the Thai-Burma railway for inspection and improving supply and maintenance (National Diet Library, 1945–1948, p. 28). In December 1942, the Syonan Times reported that the medical corps from

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Singapore had brought with them around 200,000 tons of anti-malaria liquid to the swampy area of the Thai-Burma railway to eradicate mosquitoes ('Nippon Army', 1942, p. 2). Surprisingly, the plague prevention section of the IJA based in Singapore was responsible for that task ('Nippon army', 1942, p. 2). Indeed, the Umeoka Unit – the section of Unit 9420 responsible for dealing with the plague – travelled with the anti-malaria liquid to the Thai-Burma railway. It is unknown why the plague unit was given this task because the Kano Unit, which directly handled malaria under Unit 9420, should have been responsible for it. The South Army Medical Corps delivered mosquito nets and blankets for the POWs and *romushas* at the Thai-Burma railway (National Diet Library, 1945–1948, p. 28).

The 2nd EPWSD played a crucial role in preventing malaria along the Thai-Burma railway. This is because Dr Onari Kimura, the director of the Institute of Tropical Diseases (*Nettai Igaku Kenkyusho*, presently the IMR), who was the 'authority on malaria-prevention, come to the assistance […] as a non-regular member of the staff of the South Army' (National Diet Library, 1945–1948, p. 30). The preventive measures against malaria included knowledge of the disease, prevention of mosquito bites using mosquito nets and clothing, fumigation, and extermination of mosquitoes through drainage, oil sprinkling and cleaning (National Diet Library, 1945–1948, p. 30). Other efforts included supplying 45 doses of quinine sulphate and three doses of plasmocin to be taken monthly by the POWs, *romushas* and Japanese troops (National Diet Library, 1945–1948, p. 30).

Several measures were implemented to prevent cholera at the Thai-Burma railway. The type of water filter designed by Shiro Ishii was supplied for clean drinking water, although it was certainly inadequate for the numerous POWs and Asian labourers at the railway site (National Diet Library, 1945–1948, p. 29). In addition, the POWs and Asian labourers who worked along the railway line were reportedly inoculated against cholera by the Japanese (National Diet Library, 1945–1948, p. 29). Nevertheless, more evidence for this is needed. Che Omar Che Lah, a Malayan labourer from Kelantan who once worked at the Thai-Burma railway mentioned that, before travelling to Palekbang by train, he and other fellow Malayans had their ears pierced, received an injection and some form of medicine was inserted into their anuses so that they would not pass any waste while travelling to Thailand (Rani, 2003). However, Che Omar did not know the purpose of the inoculation he received (Rani, 2003). Pergas Singh, a Malayan assigned to the 19th Ambulance Corps of the Japanese, known as the *Kudo Butai*, also recalls having been screened by the Japanese for cholera and being inoculated and isolated while at Ban Pong, Thailand (Singh-Bedi, 2023). There were also cases whereby the Japanese gave cholera vaccines to POW Australian military doctors for them to inoculate Australian troops labouring along the railway line (2/4 Machine Gun Battalion, 2021). An Australian soldier based at Konkoita, Thailand, recalled that some Australian troops died despite receiving one or two inoculations against cholera while there was a man who succumbed to his ailment within 36 hours after receiving the third dose of a cholera vaccine (Taylor, 2024). This suggests that the cholera vaccine supplied by the Japanese was ineffective. The 'F' Force consisting of Australian POWs sent to the railway had their first cholera inoculation in Singapore on 13 April 1943 and should have obtained their second dose on 19 April, but their inoculations were deferred because they were supposed to get them once they arrived at the Thai-Burma railway, their final destination (2/4 Machine Gun Battalion, 2021). In this case, the Japanese entrusted the trained doctors among the POWs to inoculate their troops based on their own supplies or those provided by the Japanese.

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Despite the cholera inoculation, a fatal cholera outbreak occurred among the Asian labourers on the Burma side in November 1942 that subsequently spread to the Thailand side of the railway by April 1943 (National Diet Library, 1945–1948, p. 29). Whether the cholera outbreak occurred naturally or was a deliberate sabotage will never be known unless new evidence based on recollections from survivors surfaces in the future. Nevertheless, the cause of this unusual cholera epidemic that cost many lives is suspicious.

Other diseases that broke out among the POWs and Asian labourers included tropical ulcers, dysentery, beriberi, gastroenteric disorders, pestilence and smallpox, which occurred in early 1943 (National Diet Library, 1945–1948, p. 31). Moreover, blackwater fever and typhus were also recorded (Stewart, 1945, p. 3). As proof of smallpox infections at the Thai-Burma railway, Captain Bill Dover recalled that the Japanese army made him sleep on a bamboo platform where another man died of smallpox and the Japanese soldier forced him to use the garment of the deceased (‘Hero’, 1947, p. 2). Captain Dover was lucky not to have contracted smallpox. A British soldier named Richard Arthur Brown also provided testimony that the Kinsayo camp, where he and his mates were sent, was rat-infested and many individuals died ‘like flies of a virulent type of rat plague’ (Office of Strategic Services, 1945). When the doctor in Brown’s camp asked for medications to treat the plague, he mentioned that the Japanese soldiers laughed it off (Office of Strategic Services, 1945). The occurrence of virulent plague suggests something was amiss, especially considering the dismissive attitude of the Japanese soldiers. Notably, the Kinsayo camp was used by the Japanese as a hospital besides those at Chungkai, Tamarkan, Kanchanaburi and Nong Pladuk, Thailand (Crew, 1957, p. 14).

At the International Military Tribunal for the Far East (IMTFE) and as part of Japan’s defence report, the excuses put forward for the lack of medical supplies to treat the POWs and Asian labourers included their large numbers, the rainy season, worsened by the river running parallel to the railway, which delayed the arrival of medical supplies, and the bad sanitary habits of Asian labourers who defecated anywhere, causing dysentery outbreaks and rendering any medical treatment useless. However, the lack of nutritious food supplied to the POWs and Asian labourers and their weakened condition before being sent to work on the Thai-Burma railway also made them succumb to various diseases and resulted in numerous fatalities.

When the Japanese army realised they were going to lose the war, they discarded the records of Asian labourers who were recruited to work on the railway. Thus, the exact number of Asian labourers is unknown but is estimated to be around 270,000 individuals (Chandrasekaran, 2023). These labourers included the Tamils who worked at estates in Malaya, the Malays recruited from various states throughout Malaya and a few Chinese from Malaya. In most cases, for these Asian labourers who succumbed to diseases and died along the railway, no proper burial rites were performed according to their customs and religion and their bodies were just dumped along the railway track, without any care or dignity. Neither any memorial was erected nor a proper graveyard was set to bury the Asian labourers who perished building the Thai-Burma railway until quite recently, after being pressed by the Death Railway Interest Group in Thailand to accord such respect (Chandrasekaran, 2023). Indeed, it is painful enough to know that these Asian labourers, including those from Malaya, died because of malnutrition, disease and mistreatment while working to build the railway but the wound would cut more deeply if it were ever known that the diseases from which they succumbed had involved foreplay and were deliberately inflicted. Unless anyone who worked at the railway and in his

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twilight years wishes to share the truth regarding what really transpired regarding these disease occurrences, there can never be a definite answer.

Malayan Civil Servants Assisting the Japanese at the Thai-Burma Railway

In the latter half of 1943, about 400 medical staff from Malaya were deployed by the Japanese to all areas of the Thai-Burma railway to make up for the shortage of personnel (Singh-Bedi, 2023). These individuals served on the 19th Ambulance Corps of the Japanese, based in Kanchanaburi, Thailand, in addition to hospitals already established in Wanyai, Kinsayo and Nieke, in the same country (Singh-Bedi, 2023). One such individual was Pergas Singh, a hospital assistant from Parit Buntar, Perak, who was first transferred to Ipoh and in 1942 was chosen by the Japanese to be a medical aide at the labourers' hospital in Wampo, Thailand (Singh-Bedi, 2023). While serving at the Thai-Burma railway, Pergas Singh was injured by an Allied bomb and received treatment before being sent back to Malaya (Singh-Bedi, 2023). However, in the latter half of 1943, Pergas Singh had to return to Wampo to serve until May 1944 (Singh-Bedi, 2023).

Another individual, Kantar Singh, a hospital assistant from Penang, Malaya, was sent by the Japanese to work at a labourers' hospital along the Thai-Burma railway in Thailand (Singh-Bedi, 2023). Kantar Singh, experienced in treating skin ailments in the hot and humid weather of the railway's location, treated many Asian labourers, Japanese soldiers and POWs. A lack of medical supplies along the railway had forced Kantar Singh and his medical team to improvise and create bandages from the bark of banana trees that were dried to produce a similar texture to cotton gauze (Singh-Bedi, 2023). Kantar Singh returned to Penang to serve as a senior medical assistant at the Balik Pulau Hospital until his retirement in 1975 and died in the 1980s (Singh-Bedi, 2023).

The above narration shows that the Japanese medical corps were deployed to work along the Thai-Burma railway but when local Malayans with medical capabilities were needed, they were also entrusted by the Japanese to serve at the railway.

Trials and Punishment for Negligence in Preventing Diseases and Unsanitary Conditions

In the case of *United Kingdom v Banno Hirateru et al.* (1947), one of the charges against the first accused, Hirateru and his comrades concerned the British and Australian soldiers known as the 'F' Force, who were subjected to unhealthy and unhygienic working and living conditions along the Thai-Burma railway. While in Changi, Singapore, the 7,000 party of the 'F' Force were submitted to blood examinations and were vaccinated against smallpox, dysentery, plague, cholera and enteric diseases in two doses at weekly intervals (*United Kingdom v Banno Hirateru et al.*, 2004, p. 2). Upon their arrival in Banpong, Thailand, the 'F' Force were unable to bring with them their hospital equipment, medical supplies, tools, cooking gear and personal kits as the IJA did not provide transportation and they had a long march to Konquita (*United Kingdom v Banno Hirateru et al.*, 1947, p. 4). Upon reaching Konquita, the 'F' Force were placed just a few yards away from hundreds of cholera-stricken coolies but Lieutenant-Colonel Banno ignored the protests from the 'F' Force (*United Kingdom v Banno Hirateru et al.*, 1947, pp. 4–5). As a result, a cholera epidemic started to spread among the 'F' Force around May 1943 (*United Kingdom v Banno Hirateru et al.*, 1947, p. 5). This trial was one of joint responsibility between Banno and his subordinates. At the end of the trial, a decision was made against Banno for failing to take proper action against the cholera epidemic in May 1943 by not building isolation hospitals to contain the epidemic (*United Kingdom v*

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Banno Hirateru et al., 2004, p. 4). Subsequently, Banno received three years imprisonment (*United Kingdom v Banno Hirateru et al.*, 1947, p. 1). The second accused in this case, Captain Tanio Susumu, had failed to provide adequate medical supplies, medical staff and hospital accommodation for the POWs and was given five years imprisonment (*United Kingdom v Banno Hirateru et al.*, 1947, p. 1). The said case shows that the failure to provide reasonable conditions that ensured the POWs were free of disease was the result of criminal negligence.

In another case, Major Mizutani was charged with the inhumane treatment of British, American, Australian and Dutch POWs at the Thai-Burma railway, resulting in high mortality and physical suffering (*United Kingdom v Totaro Mizutani et al.*, 1946). Mizutani had failed in his responsibility to provide proper shelter, medical supplies, food, medical treatment and care, hygiene and sanitation at the camps he was entrusted with along the Thai-Burma railway (*United Kingdom v Totaro Mizutani et al.*, 1946, p. 2). Diseases such as tropical ulcers, beriberi, dysentery and malaria were prevalent at the camps Mizutani took charge of (*United Kingdom v. Totaro Mizutani et al.*, 1946, p. 1). For instance, most of the POWs at the Anganan camp died of tropical ulcers and malnutrition from June to October 1943, while medical supplies were denied (*United Kingdom v Totaro Mizutani et al.*, 1946, p. 3). At Apenan, there were unhygienic open latrines; the absence of medical officers and medical supplies caused the POWs to die in their own filth and the bodies remained unburied for days (*United Kingdom v Totaro Mizutani et al.*, 1943, p. 3). Considering these and other charges, Mizutani was sentenced to death for his negligence (Simner, 2018).

In the case of *United Kingdom v Eiguma Ishida et al.* (1946), Shigeo Nakamura, Tamie Ishii, Shoichi Yanagita and Sotomatsu Chida were charged with forcing the Allied POWs to live and work in unhygienic conditions along the Thai-Burma railway, among other charges. This trial highlighted that malaria and cholera were rife while Asian labourers were put in close proximity to the POWs' camps (*United Kingdom v Eiguma Ishida et al.*, 1946, p. 4). As both the POWs and Asian labourers shared a common water supply, polluted water from the latter group would reach the POWs' camps, resulting in contamination and disease. Moreover, there was a shortage of medical supplies and inadequate medical facilities that were unable to prevent the high mortality among POWs and issues like amputations (*United Kingdom v Eiguma Ishida et al.*, 1946, p. 4). Filthy makeshift latrines consisting of bamboo sticks being laid across dug trenches that would overflow during heavy rains were also highlighted (*United Kingdom v Eiguma Ishida et al.*, 1946, p. 5). This trial concerned offences that took place around 1942–1944. In the end, Nakamura, Ishii, Yanagita and Chida were found guilty of causing the POWs to live and work in unhealthy and unhygienic conditions (*United Kingdom v Eiguma Ishida et al.*, 1946, p. 2).

In a similar case, Seita Takizawa (*United Kingdom v Seita Takizawa*, 1946, p. 1), who was part of the 9th Railway Regiment, was charged with the inhuman treatment of British POWs between 1 November 1942 and 31 August 1943 while serving at the camps of Wanlung, Matona and Konkoita. At Matona, Takizawa ordered a POW suffering from cholera to be put in a tent outside the camp with two dead Asian labourers (*United Kingdom v Seita Takizawa*, 1946, p. 3). This POW was refused food and medical treatment. At the end of the trial, Takizawa was sentenced to three years imprisonment (*United Kingdom v Seita Takizawa*, 1946, p. 1).

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The above four trials are just a few that illustrate the Japanese negligence to prevent diseases and their responsibility for subjecting POWs and Asian labourers to unsanitary and inhuman conditions at the Thai-Burma railway, resulting in their punishment by the Allies.

Discussion

Through the memoirs of two Japanese soldiers, this study found that, during WWII, the 2nd EPWSD, which was part of the 5th Division of the IJA, was present at the IMR in Kuala Lumpur to conduct malaria research. This is a new discovery that adds to the knowledge that two commissioned IJN members, namely Masatoshi Iwata and Masahiro Ogaki, had conducted research on malaria at the IMR (Majid, 2021). In addition, it is now known that, during WWII, the Japanese conducted research on cholera, rickets and blackwater fever in Malaya (Yang, 2021). With this discovery, we now know the names of Japanese researchers and their work at the IMR besides merely knowing one former Japanese director, Dr Onari Kimura (Majid, 2021).

This study also shed light on the fact that, during WWII, not just Unit 9420 (an independent EPWSD) but also the 2nd EPWSD was sent to the Thai-Burma railway. Besides the 2nd EPWSD, the 31st Division EPWSD (a passing army group) was also present at the Thai-Burma railway (National Diet Library, 1945–1948). All these divisions and departments of epidemic prevention were under the control of the Southern Epidemic Prevention and Water Supply Corps, which was meant to oversee the railway's construction. A historical document revealed that Dr Onari Kimura – then in charge of the Institute of Tropical Diseases (presently the IMR) – had collaborated in the fight against malaria (National Diet Library, 1945–1948). This is an important finding, as Zhang (2018) previously highlighted the presence of the notorious Unit 9420, associated with Japanese biological warfare, at the Thai-Burma railway. Nonetheless, the presence of Unit 9420 does not necessarily mean that biological warfare was conducted there, at least until the memoirs of any former Japanese soldiers or new documents surface to prove otherwise. For now, we can assume that the diseases that occurred among the Allied POWs and Asian labourers occurred naturally. Nevertheless, strange incidents such as a virulent plague, a rat infestation at the Kinsayok camp and the breakout of the cholera epidemic in 1943 warrant caution as they may have been acts of nature or man-made.

The four trials highlighted in this study, namely *United Kingdom v Banno Hirateru et al.* (1947), *United Kingdom v Totaro Mizutani* (1946), *United Kingdom v Eiguma Ishida et al.* (1946) and *United Kingdom v Seita Takizawa* (1946) demonstrate that failure to provide the POWs with healthy working and living accommodations to prevent unsanitary conditions and diseases is punishable as a war crime. These cases can serve as references for any present war crimes trials involving unsanitary living conditions and diseases as there are records of precedence indicating such actions are punishable.

The presence of the 2nd EPWSD at the IMR in Kuala Lumpur during WWII also proves that not only did Unit 9420 had bases at the Tuanku Muhammad School in Kuala Pilah, Negeri Sembilan, and the old Tampoi Mental Hospital in Johor (Majid, 2017). Besides the presence of the Japanese EPWSDs in these three Malayan locations, future research will need to investigate whether the Japanese EPWSDs had a foothold in other Malayan states. This may only be possible if documents on the Japanese activities ever resurface or memoirs from former Japanese soldiers serving in Malaya are published and could provide information on whether any other EPWSDs were present in other Malayan states besides those already mentioned.

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Conclusion

This study achieved its main objective of determining that the 2nd Epidemic Prevention and Water Supply Division (EPWSD) from the 5th Division of the Imperial Japanese Army (IJA) was deployed to the Institute of Medical Research (IMR) in Kuala Lumpur to conduct malaria research. Furthermore, it is now known that besides Unit 9420 – which was Japan's fixed epidemic prevention body based in Singapore and a unit for biological warfare during WWII – the 2nd EPWSD had also overseen work at the Thai-Burma railway. Indeed, the 2nd EPWSD and Unit 9420 were part of Ishii Shiro's network for epidemic prevention with the only difference being that they were either a fixed, permanent division or meant to function on the field during combat. As it is now known that the Imperial Japanese Army and Navy conducted research on malaria and bred rats and fleas for plague in three locations (Kuala Lumpur, Kuala Pilah and Tampoi), future research on Japan's biological warfare could reveal the presence of such units in other states in Malaya (now Malaysia). Nonetheless, to prove this, old documentation evidencing Japanese biological warfare activities in other locations or memoirs and recollections of Japanese soldiers who once served in Malaya are needed. The trials examined in this study concerning the Japanese military's failure to provide clean accommodations, forcing the prisoners of war (POWs) to live in unsanitary conditions and without adequate medical supplies while building the Thai-Burma railway indicate that such practices are war crimes with varying forms of punishment. These trials are still relevant as they could be referred to by any judges who need to preside over present war crime cases, should they encounter any similar situation of unsanitary living conditions and diseases, which are rife during a war.

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References

2/4th Machine Gun Battalion Ex-Members Association. (2021). *'F' Force Thailand*. Retrieved from https://2nd4thmgb.com.au/submit-information/.

Asai, T. (1963). Taimentetsudō hoi [Addendum to the Burma-Thailand railway]. *Atarashī Chiri*, *10*(4), 1–31. https://www.jstage.jst.go.jp/article/newgeo1952/10/4/10_4_1/_article/-char/ja/

Biomedical Museum, Kuala Lumpur - Muzium Bioperubatan. (2024). *Malaysia Traveller*. Retrieved from https://www.malaysia-traveller.com/biomedical-museum.html

Chandrasakaran, P. (2023). Remembering Malayan victims of the death railway. *The Star*. Retrieved from https://www.thestar.com.my/lifestyle/living/2023/05/30/remembering-malayan-victims-of-the-death-railway#:~:text=The%20total%20number%20of%20those, sanitation%2C%20basic%20medicines%2C%20etc.

Committee for the 'War and Medicine' (2008). *Sensō to iryō: Nihon'Ishiikai `15-nen sensō' no jittai to sekinin* [War and medicine: The actual situation and responsibility of the '15 year war' of the Japanese Medical Society]. Retrieved from https://10000criesforjustice.org/wp-content/uploads/2023/10/Japanese_panel.pdf.

Crew, F. A. E. (1957). *The army medical services: Hong Kong, Malaya, Iceland and the Faroes, Libya, North-West Africa, 1942–43*. Vol. II. London: Her Majesty's Stationery Office.

International Journal of Law, Government and Communication
EISSN : 0128-1763
Volume 9 Issue 37 (September 2024) PP. 502-518
DOI 10.35631/IJLGC.937038

Cribb, R. (2018). The life and trial of Cho Un-Kuk, Korean war criminal. *Critical Asian Studies 50*(3), 329–52. doi: https://doi.org/10.1080/14672715.2018.1469421.

Futamatsu, Y. (2013). Chapter 28- Diseases and epidemics. In *Across the three pagodas pass: The story of the Thai-Burma railway* (pp. 134–37). Amsterdam: Amsterdam University Press.

Gill, G. V. (2018). Disease and survival on the Thai-Burma railway: Lessons for modern tropical medicine? *QJM: An International Journal of Medicine III*(12), 845–47.

Gold, H. (1997). *Unit 731 testimony*. Tuttle Publishing.

Hashimoto, K. (2022). *Constructing the Burma-Thailand railway: The war crimes trials and the shaping of an episode of WWII*. (PhD dissertation, SOAS, University of London).

Heilongjiang Provincial Library. (2024). *Zǔjiàn xìjùn zhàn bùduì* [Formation of a bacteriological warfare unit]. Heilongjiang Provincial Library, China. Retrieved from http://www.hljlib.org.cn/731/xjzsrbgjfz/201604/t20160426_52851_1.htm.

Hero of death railway. (1947, August 31). *The Sun*, 2.

Imazawa, E. (1997). *Indoneshia to watashi* [Indonesia and I]. Minato Ward General Management Department for Human Rights, Tokyo. Retrieved from https://adeac.jp/viewitem/minato-city/viewer/viewer/03007470/data/03007470.pdf.

Kratoska, P. (2005). *The Thailand Burma railway, 1942–1946: War crimes*. Abingdon: Taylor & Francis Group.

Lida City Homepage. (2023, July 26). *Dai 3-kai idashi heiwa kinen-kan tenji katsuyō kentō iinkai shidai* [3rd Lida City Peace Memorial Hall Exhibition and Utilization Review Committee Meeting]. Retrieved from https://www.city.iida.lg.jp/uploaded /attachment/63677.pdf

Lim, S. B. (2020). Nanpō-gun bōeki kyūsui-bu no kiroku o sagashimotomete [Searching for records of the Southern Army Epidemic Prevention and Water Supply Department]. *15-Nen sensō to Nihon no igaku iryō kenkyūkai kaIshii*, *20*(2), 13–30. http://www.war-medicine-ethics.com/Seniken/Journal/J20-2.pdf

Majid, M. A. (2017). A Japanese biological weapon's legacy in Malaysia: The aftermath effects for environmental contamination, sustainable development and application of international humanitarian law. *International Journal of Law, Government and Communication*, *2*(6), 46–62. http://www.ijlgc.com/PDF/IJLGC-2017-06-12-06.pdf

Majid, M.A. (2021). Disease bearing insect research in Malaya by Japanese scientists during World War II and its position in international law. *International Journal of Law, Government and Communication 6*(26), 69–89.

Michigan Historical Society of World War II in Asia. (2001). *Contact between US and Japanese BW Unit.* Archives. https://hqiu2000.tripod.com/mhs2/id9.html

National Diet Library. (1948) *Pros.Doc. No. 1509: Report, 'Burma-Thailand Railway' (Document name: GHQ/SCAP records, International Prosecution Section = Entry no.329 numerical evidentiary documents assembled as evidence by the prosecution for use before the IMTFE, 1945-47*. [Tokyo: National Diet Library] [Pdf] Retrieved from the National Diet Library, https://dl.ndl.go.jp/pid/12921369/1/29

Nippon army medical units triumph over malaria. (1942, December 18). *Shonan Times*, 2.

Office of Strategic Services (1945). *Experience of three escapes British prisoners of war*. War Crimes Office, Judge Advocate General's Office (2M-1273, RG153, Box. 105), Washington, United States. Retrieved from http://www.mansell.com/pow_resources/camplists /death_rr/JAG_Files_Malaya_camps_RG153Bx105.pdf

International Journal of Law, Government and Communication
EISSN : 0128-1763
IJLGC
Volume 9 Issue 37 (September 2024) PP. 502-518
DOI 10.35631/IJLGC.937038

Rani, M. N. (2003). *Pengalaman pahit jadi buruh paksa Jepun* [The bitter experience of being a Japanese forced labourer]. Retrieved from https://b.cari.com.my/forum.php?mod=viewthread&tid=212453&page=1&authorid=1026025.

Shiraishi, M. (1982). *Hibusō butai no monogatari ~ dai ni ken'eki kyūsui-ka ~* [The story of the unarmed troops: The Second Quarantine Water Supply Section]. Tokyo: Sairyūsha.

Sidhu, H. (1991). *The bamboo fortress: True Singapore war stories*. Native Publications.

Simner, M. (2018). *Building Burma's notorious 'death railway'*. Warfare History Network. Retrieved from https://warfarehistorynetwork.com/article/building-burmas-notorious-death-railway/

Singh-Bendi, H. (2023, May 23). The Sikhs who served on the Thai-Burma death railroad. *Free Malaysia Today*. Retrieved from https://www.freemalaysiatoday.com/category/leisure/2023/05/23/the-sikhs-who-served-on-the-thai-burma-death-railroad/

Stewart, A. (1945, September 3). Diggers die on 'death railway'. *Daily Examiner*, 3.

Taylor, R. (2024). *'H' Force No 4 camp for Australians.* Konkoita: Thailand-Burma Railway. Retrieved from https://www.britain-at-war.org.uk/ww2/Death_Railway/html/konkoita_.htm

Tsuchiya, T. (2005). Japanese medical atrocities 1932–45: What, who, how and why? *22nd International Congress of History of Sciences*. Presentation, http://www.lit.osaka-cu.ac.jp/user/tsuchiya/gyoseki/presentation/ICHS05.pdf

United Kingdom v Hirateru Banno et al., Case No. 234/1034, Details of Trial Records (December 31, 2004). Retrieved from https://www.legal-tools.org/doc/876d32

United Kingdom v Hirateru Banno et al., S-1804-0160-S-1804-0173, Trial Report (September 30, 1947). Retrieved from https://www.legal-tools.org/doc/2f0912/

United Kingdom v Seita Takizawa, JAG No. 65140, Trial against Takizawa Seita Charge Sheet (November 13, 1946). Retrieved from https://www.legal-tools.org/doc/44648c/

United Kingdom v Totaro Mizutani, JAG No. 65080, Trial against Totaro Mizutani, Charge Sheet, (June 6, 1946). Retrieved from https://www.legal-tools.org/doc/6dc759/

United Kingdom v Eiguma Ishida et al., WO 00235 No. 00963, JAG No. 65149, Judgment and sentence on charge of various war crimes (March 6, 1947). Retrieved from https://www.legal-tools.org/doc/6114dc/

Utsumi, A., Nakamura, I., & Heong-Yun, G. (2007). Lee Hak Rae, the Korean connection and 'Japanese' war crimes on the Burma-Thai railway. *The Asia Pacific Journal 5*, 81–8.

Yang, Y. (2020, February 4). Qīsānyī bùduì rényuán biān chéngkǎo [The formation of the 731st army]. *Frontier Time and Space.* Retrieved from https://www.sohu.com/a/370526917_523177.

Yang, Y. (2021). Èrzhàn shíqí rìběn qīn zhù dōngnányà de shēngwù zhàn bùduì [Japanese biological warfare units in Southeast Asia during World War II]. *Běifāng Wénwù*, *2*, 103–112.

Zhang, H. (2018). *Qīn huá rìjūn dì 9420 bùduì jí yúnnán xìjùn zhàn yánjiū* [Research on the 9420th unit of the Japanese invading army and Yunnan bacterial warfare]. Beijing: Zhōngguó shèhuì kēxué chūbǎn shè.