Pioneer Science and the Great Plagues

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In World War II, military war dogs were returned home after the war and given to their former owner or the new adopted owner. Sadly, dogs used in Vietnam were euthanized prior to the U.S.’s departure from the country. In 2000, President Bill Clinton signed a law that allowed dogs to be adopted by their handler, and that has been the case since then.

**28. POSTWAR INVESTIGATIONS OF ENEMY BIOLOGICAL WARFARE**

In August 1942, a Japanese plane had flown out of the western sky and circled low over the rice paddies that surrounded the village of Congshan in the eastern Zhejiang Province of China. Villagers noticed a trail of smoky dust coming from its tail. Two weeks later, village rats started dying en masse — the first signs...
of the coming deadly human plague. For two months the fevers raged, eventually killing 404 villagers, one-third of the population, before Japanese troops moved in on November 18 and started burning down plague-ridden houses and cruelly taking tissue samples from the sick, often without anesthesia. No outsider would hear of this tragedy, and no Japanese officer would ever admit to any connection with their war effort.

The Kwantung Army, the largest and most prestigious unit of the Imperial Japanese Army, had been formed after the Japanese had defeated Russia in 1905. Stationed in the weak nation of Manchuria, the Kwantung was to “assert influence in the area.” Its commanders, Hideki Tōjō and Otozō Yamada, operated semi-independently from Tokyo, and in the 1930s Japan annexed Manchuria. During the war, U.S. intelligence reports suggested that the 731st Division of the Kwantung Army had built a biowarfare unit in Manchuria. It was true.

As the advancing Soviet Army crossed the Siberian-Manchurian border at midnight on August 8, 1945, the Japanese destroyed their biowarfare plant at Camp 731. The remaining prisoners were killed and records removed to Korea, and then to Japan. The Unit 731 commander, a Japanese army surgeon named General Shirō Ishii, fled for Korea and on to Japan. There he disappeared, falsifying a death certificate showing that he had been killed in the war.

The advancing Soviet Army captured several Unit 731 soldiers who failed to escape. Quickly placed on trial for war crimes were Yamada, the commander of the Kwantung Army and direct supervisor of work at Camp 731, and eleven other Japanese officers, including Lieutenant General Takaatsu Takahashi, head of the Veterinary Division of the Kwantung Army. They received sentences of two to twenty-five years in prison. Evidence at the trial revealed that the Japanese had infected cattle and contaminated pastures and waterways with “epidemic germs.”

As the war was winding down, there were growing concerns in the U.S. Army about the frightening possibilities of the Japanese using bioweapons in an all-out last-ditch stand in the homeland. The two highest-ranking officers at Camp Detrick, Colonel Murray Sanders, the director, and his assistant, Lieutenant Colonel Arvo Thompson of the Veterinary Corps, had been assigned to work at the nation’s new germ warfare base, Camp Detrick. They wondered: What if bubonic plague bacteria had been inserted in the balloon bombs that were floated over the Pacific Ocean?

Intelligence reports were vague, with only hearsay evidence of what was going on in Manchuria. And, of course, there was nothing in the press about these
fears and what should be done about them. But the truth was, during the final months of the war, Japan planned to use bubonic plague as a biological weapon against San Diego in an attack code-named Cherry Blossoms at Night. The plan was set for September 1945 but was never launched.

When the war ended, the U.S. Military Intelligence wanted to know the details about the Japanese biological war effort. Arvo Thompson and Murray Sanders received orders for a top-secret mission to Japan, with orders to investigate unconfirmed reports about horrendous Japanese biological warfare research and to locate Japanese military officers who had been involved. When the Japanese surrendered in August 1945, they left for Japan immediately, landing in Yokohama, to get to the bottom of the “grapevine of intelligence” about the Japanese germ warfare program.

Thompson and Sanders arrived in Tokyo on Christmas Day, 1945, two of the first Americans to enter Japan. U.S. Intelligence uncovered evidence that the director of the Japanese biological warfare laboratory in Manchuria, General Shirō Ishii, was still alive. Tracking him down, they found Ishii in one week. His interrogation began immediately. Ishii’s testimony was one of denial and confusion.

When interviews began, Sanders and Thompson had sifted through prisoners for a translator, unwittingly selecting Lieutenant General Ryōichi Naitō—the microbiologist who had tried and failed to get yellow fever virus from Rockefeller Institute in New York. Once his role as third in command of Unit 731 was discovered, Naitō became a primary interviewee. Over a ten-day period Sanders and Thompson questioned Naitō, who finally gave them a twelve-page document that acknowledged the existence of Unit 731 but denied that humans were used in experiments.14

The interviews with Ishii had gone on for ten weeks when Sanders was detailed back to the States, and the investigation was taken over by Thompson. In interviews, Ishii misled Thompson at their first meeting by stating, “Our work was to protect our soldiers,” and “We did not do any experiment on large animals.” He also denied any knowledge of any airborne biowarfare assaults. Reports from China had indicated that the Japanese Army had bombed several sites with ceramic bombs filled with fleas carrying bacteria to cause bubonic plague—Naitō gave no information about that, either.

Arvo Thompson concluded his interview with Ishii on February 25 and submitted his report on May 31, 1946.15 In the intervening time, Sanders had recommended to General MacArthur that the United States promise Ishii that
no one involved in biowarfare will be prosecuted as a war criminal. A top-secret cable from MacArthur had gone from Tokyo to Washington, reporting that Ishii stated that if guaranteed immunity from war crimes in documental form for himself, superiors, and subordinates, he would describe the program in detail. A report in December 1947 by Edwin Hill, chief of basic sciences at Camp Detrick, described some of the technical data secured from the Japanese during an official visit to Tokyo by Hill and Joseph Victor, who had interviewed those in charge of Unit 731. Later, Ishii reportedly came to Camp Detrick to reveal his methods for the use of anthrax. Ishii mysteriously disappeared from public records, but papers that appeared years later placed him at Fort Detrick. Naitō returned to civilian life in Japan and founded the Japan Blood Bank, which became the Green Cross Corporation, a leading pharmaceutical company that employed several officers in Unit 731.16

Arvo Thompson returned to the U.S. and in 1948 took his own life for reasons never explained publicly. It would take years for Thompson’s report to be declassified and made available to the public. When released, the report revealed that in 1931, shortly after the Japanese had occupied China’s northeast provinces and Manchuria, General Ishii had developed a biological warfare experimental station, including a prison for human subjects. Using the name Togo Unit (after the admiral who had defeated the Russians in 1905 at Tsushima), Ishii had built the first biological lab in Manchuria in a reconditioned soy sauce distillery outside Harbin. In 1938, the Japanese Army moved to a new location called Pingfan, fifteen miles south of Harbin, that operated simply as Unit 731.

Deep in the remote plains of Manchuria a large proving ground called Anta was built. Ceramic and metal bombs and weaponized contents for delivery of anthrax and other bacteria had been tested at Anta. Delivery vehicles bearing anthrax included fruit, vegetables, meat, water supplies, feathers, and chocolates. A third biowarfare camp, Unit 100, had been created in 1936 for agroterrorism. Called by the Japanese the Hippo-Epizootic Unit or the Kwantung Army Stables, it was commanded by veterinarian Lieutenant General Yumiro Wakamasu and based ten kilometers south of Hsinking at the village of Men-chiangtung (Mogatong). Staffed by Japanese veterinarians and a seven-hundred-man force, the unit did research on animal diseases, including vaccines and serum production for horses and studies on diseases in sheep and cattle. In 1941 it began mass production of anthrax and glanders and studies on their effectiveness in spreading animal disease in the climate and geography of Russian Manchuria.
In August 1946 the U.S. team received a report that implicated Japanese veterinarians in human experimentation, especially Motoji Yamaguchi, head of Unit 100’s human experiment section: “The above veterinary surgeons dissected many war prisoners of the Allied Forces at the outdoor dissecting ground of No. 100 Army Corps at Hsinking (Changchun), Manchuria.” Human experimentation had been part of the operation of Unit 731 from the start. The first studies were done on prisoners who were sentenced to death at the Harbin Prison; they were expanded to include spies, dissidents, and local worker agitators, many from the white Russian population in Harbin. Russian and American prisoners were reported to have died there from bubonic plague, typhus, and hemorrhagic fever. Experiments involved the sequential killing of prisoners to study how disease developed. Research recorded by General Kitano Masaji was that “mouse brain suspension . . . was injected . . . and produced symptoms after an incubation period of seven days. The subject was sacrificed when fever was subsiding, about the twelfth day.” Survivors revealed horrific episodes of vivisection—the Japanese had proceeded with the autopsies by vivisection—collecting tissue while the patient was alive and screaming in pain. It was estimated that three thousand people died in experiments at Unit 731.

In an interview as an old man, Sanders told reporters that MacArthur and other top U.S. military officers decided that they had their hands full in the seething cauldron of postwar Japan and that immunity should be granted to the Japanese scientists involved. He believed that the main reason for keeping silent was that they did not want to involve the emperor. The real reason seems more practical: more information could be gleaned from Ishii by granting immunity.

There were postwar sequels to the methods developed in Japanese chemical and biological warfare. On the rainy afternoon of January 26, 1948, a man entered a Tokyo suburb branch of the Teikoku Ginko Bank (“Teigin”) at closing time and poisoned sixteen people, including the entire staff and the children of the caretaker. The assassin pretended to be a Dr. Yamaguchi, come to immunize the victims against dysentery, which he claimed had been found in the area. Wearing an official Health Ministry armband, he presented a card proclaiming himself “Technical Officer, Ministry of Health and Welfare” and added that he was working under the guidance of the Americans and that a Lieutenant Parker would soon be along to check that the work had been carried out thoroughly.
All victims were simultaneously induced to take a deadly poison in teacups, a move that Yamaguchi first demonstrated calmly, stressing how important it was to take the liquid, thought to be cyanide, on the tongue. Only four survived. The motive of the killer remained hazy; he had taken only money laying on desks. A connection with Unit 731 had been implied but never authenticated. An innocent painter and sometime pornographer, Sadamichi Hirasawa, was falsely arrested for the crime. After a coerced confession, he was sentenced to death but died in prison of natural causes in 1985 at the age of ninety-five. Japanese officials had refused to sign the death warrant for his execution.

Writing about the Teigin event in his novel *Occupied City*, David Peace produced a fictional character, Murray Thompson—derived from a conflation of Murray Sanders and Arvo Thompson. The fictional Thompson dies in the hospital, perhaps to keep him quiet. The real Thompson’s suicide was laid to mental illness as a consequence of his failure to bring Ishii to justice, allowing him freedom and transport to the U.S. *Occupied City* contains quotes from despairing letters supposedly written by Veterinary Corps lieutenant colonel Arvo Thompson to his superiors and to his wife, Peggy. In one of his last letters he says, “I swear to you, Peggy, that I did not know that human guinea pigs had been used when I suggested the arrangement [to grant immunity to Ishii].”

**RETURNING HOME WHEN THE WAR ENDED**, veterans had carried burdens of tragedies. Veterinary Corps officers from the heartland had especially bitter memories of early war in the Pacific. Shortly after the bombing of Pearl Harbor, the Japanese had completed their takeover of the Philippines. The U.S. Army, trapped on the Bataan peninsula, had moved to the island of Corregidor and finally surrendered. On April 9, 1942, the Japanese began moving 80,000 surviving Americans and Filipinos seventy miles inland, with horrifying physical abuse, torture, and wanton killing along the route; 650 Americans and 18,000 Filipinos died in the Bataan Death March. Several veterinary officers died on the march or in Japanese prisons. Captain Clayton H. Mickelsen, DVM (Washington State College, 1939), had been in charge of the health care of horses and mules in the Philippines. He survived transport to Japan but died in a prisoner of war camp in Kyushu on February 10, 1945, a few months before the Japanese surrendered. One veterinary officer survived the Death March, William S. Gochenour Jr., who spent the rest of his military career in scientific research at Fort Detrick and supervising the laboratories for the Commission on Epidemiologic Survey.
Survivors of the Bataan Death March, who had also lived through brutal transport and atrocity-laden prisoner of war camps in Japan, brought back a strange story. Captain Burton Thomson of the Veterinary Corps had been shot in Corregidor by an American traitor named Provoo, who was cooperating with the Japanese. John David Provoo, a U.S. Army staff sergeant assigned at Corregidor in 1942, spoke fluent Japanese, had converted to Buddhism, and had aided the Japanese in controlling surrendering Americans.

Captain Thomson had grown up in Swea City, Iowa, and graduated from the Iowa State College veterinary school in the Class of 1938. At 6’5” and weighing 250 pounds, he had played basketball for the Cyclones. A Delta Upsilon fraternity man, he had married the Tri-Delta queen of the veterinary ball and had left an infant son behind when he departed for the Philippines. In Manilla, Thomson had been assigned to head food inspections of the Quartermaster Corps. In the first days after capture at Corregidor, Thomson had developed a combative relationship with Provoo, refusing to give the victors the remaining food supplies hidden in the tunnels and meant for American soldiers. With Provoo’s complicity, Thomson was driven into the jungle and shot by the Japanese.21

After the war, Provoo was court-martialed, tried, and convicted of treason in New York. On appeal, his release was granted on the basis that prosecutors had introduced his homosexuality, which had improperly influenced the court. Avoiding prison, Provoo returned to postwar Japan.

29. PRELUDE TO THE SCIENCE REVOLUTION

When World War II ended, the business of the country rapidly moved back into the civilian economy. Returning military veterinarians provided a young vital workforce eager for new technical innovations, spreading American products into the global void caused by the destruction of European and Japanese industries. To keep abreast of new techniques and drugs developed during the war, practicing veterinarians flocked to state and national professional organizations and to meetings offered by state extension programs.

Returning soldiers took advantage of the new GI Bill, the provisions of which paid for tuition, books, and much of the costs of college. One of the greatest