Unit 731 (Japanese: 731 部隊 Hepburn: Nana-san-ichi Butai) was a covert biological and chemical warfare research and development unit of the Imperial Japanese Army that undertook lethal human experimentation during the Second Sino-Japanese War (1937–1945) of World War II. It was responsible for some of the most notorious war crimes carried out by Japan. Unit 731 was based at the Pingfang district of Harbin, the largest city in the Japanese puppet state of Manchukuo (now Northeast China).

It was officially known as the Epidemic Prevention and Water Purification Department of the Kwantung Army (関東軍防疫給水部本部 Kantōgun Bōeki Kyūsuibu Honbu). Originally set up under the Kempeitai military police of the Empire of Japan, Unit 731 was taken over and commanded until the end of the war by General Shiro Ishii, an officer in the Kwantung Army. The facility itself was built between 1934 and 1939 and officially adopted the name “Unit 731” in 1941.

Between 3,000 and 12,000 men, women, and children[1][2]—from which around 600 every year were provided by the Kempeitai[3]—died during the human experimentation conducted by Unit 731 at the camp based in Pingfang alone, which does not include victims from other medical experimentation sites.[4] Almost 70% of the victims who died in the Pingfang camp were Chinese, including both civilian and military.[5] Close to 30% of the victims were Russian.[6] Some others were South East Asians and Pacific Islanders, at the time colonies of the Empire of Japan, and a small number of Allied prisoners of war.[7] The unit received generous support from the Japanese government up to the end of the war in 1945.

Instead of being tried for war crimes, the researchers involved in Unit 731 were given immunity in exchange for their data on human experimentation.[8] Some were arrested by Soviet forces and tried at the Khabarovsk War Crime Trials in 1949. Americans did not try the researchers so that the information and experience gained in bio-weapons could be co-opted into the U.S. biological warfare program.[9] On 6 May 1947, Douglas MacArthur, as Supreme Commander of the Allied Forces, wrote to Washington that "additional data, possibly some statements from Ishii probably can be obtained by informing Japanese involved that information will be retained in intelligence channels and will not be employed as 'War Crimes' evidence."

[10] Victim accounts were then largely ignored or dismissed in the West as Communist propaganda.[11]
2 Activities

A special project code-named Maruta used human beings for experiments. Test subjects were gathered from the surrounding population and were sometimes referred to euphemistically as “logs” (丸太 maruta), used in such contexts as “How many logs fell?”. This term originated as a joke on the part of the staff because the official cover story for the facility given to the local authorities was that it was a lumber mill. However, in an account by a man who worked as a “junior uniformed civilian employee” of the Japanese Army in Unit 731, the term Maruta came from German, meaning medical experiment.”[16]

The test subjects were selected to give a wide cross-section of the population and included common criminals, captured bandits and anti-Japanese partisans, political prisoners, and also people rounded up by the Kempeitai for alleged “suspicious activities”. They included infants, the elderly, and pregnant women.

2.1 Vivisection

Prisoners, including one known POW,”[17] were subjected to vivisection without anesthesia.”[18] Vivisections were performed on prisoners after infecting them with various diseases. Researchers performed invasive surgery on prisoners, removing organs to study the effects of disease on the human body. These were conducted while the patients were alive because it was feared that the decomposition process would affect the results.”[19] The infected and vivisected prisoners included men, women, children, and infants.”[20]

Prisoners had limbs amputated in order to study blood loss. Those limbs that were removed were sometimes reattached to the opposite sides of the body. Some prisoners’ limbs were frozen and amputated, while others had limbs frozen, then thawed to study the effects of the resultant untreated gangrene and rotting.

Some prisoners had their stomachs surgically removed and the esophagus reattached to the intestines. Parts of the brain, lungs, liver, etc. were removed from some prisoners.”[18]”[21]

In 2007, the Japanese army surgeon Ken Yuasa testified to the Japan Times that, “I was afraid during my first vivisection, but the second time around, it was much easier. By the third time, I was willing to do it.” He believes at least 1,000 people, including surgeons, were involved in vivisections over mainland China.”[22]

2.2 Germ warfare attacks

Prisoners were injected with inoculations of disease, disguised as vaccinations, to study their effects. To study the effects of untreated venereal diseases, male and female prisoners were deliberately infected with syphilis and gonorrhea, then studied. Prisoners also were repeatedly subject to rape by guards.”[23]

Plague fleas, infected clothing, and infected supplies encased in bombs were dropped on various targets. The resulting cholera, anthrax, and plague were estimated to have killed around and possibly more than 400,000
Chinese civilians."[24] Tularemia was tested on Chinese civilians."[25]

Unit 731 and its affiliated units (Unit 1644 and Unit 100 among others) were involved in research, development, and experimental deployment of epidemic-creating biowarfare weapons in assaults against the Chinese populace (both civilian and military) throughout World War II. Plague-infested fleas, bred in the laboratories of Unit 731 and Unit 1644, were spread by low-flying airplanes upon Chinese cities, coastal Ningbo in 1940, and Changde, Hunan Province, in 1941. This military aerial spraying killed thousands of people with bubonic plague epidemics."[26]

2.3 Weapons testing

Human targets were used to test grenades positioned at various distances and in different positions. Flame throwers were tested on humans. Humans were tied to stakes and used as targets to test germ-releasing bombs, chemical weapons, and explosive bombs."[27][28]

2.4 Other experiments

In other tests, subjects were deprived of food and water to determine the length of time until death; placed into high-pressure chambers until death; experimented upon to determine the relationship between temperature, burns, and human survival; placed into centrifuges and spun until death; injected with animal blood; exposed to lethal doses of x-rays; subjected to various chemical weapons inside gas chambers; injected with sea water to determine if it could be a substitute for saline solution; and burned or buried alive."[29]

3 Biological warfare

Japanese researchers performed tests on prisoners with Bubonic plague, cholera, smallpox, botulism, and other diseases."[30] This research led to the development of the defoliation bacilli bomb and the flea bomb used to spread bubonic plague."[31] Some of these bombs were designed with ceramic (porcelain) shells, an idea proposed by Ishii in 1938. These bombs enabled Japanese soldiers to launch biological attacks, infecting agriculture, reservoirs, wells, and other areas with anthrax, plague-carrier fleas, typhoid, dysentery, cholera, and other deadly pathogens. During biological bomb experiments, researchers dressed in protective suits would examine the dying victims. Infected food supplies and clothing were dropped by airplane into areas of China not occupied by Japanese forces. In addition, poisoned food and candies were given out to unsuspecting victims, and the results examined.

In 2002, Changde, China, site of the flea spraying attack, held an "International Symposium on the Crimes of Bacteriological Warfare" which estimated that at least 580,000 people died as a result of the attack."[32] The historian Sheldon Harris claims that 200,000 died."[33] In addition to Chinese casualties, 1,700 Japanese in Chekiang were killed by their own biological weapons while attempting to unleash the biological agent, which indicates serious issues with distribution."[1]

During the final months of World War II, Japan planned to use plague as a biological weapon against San Diego, California. The plan was scheduled to launch on September 22, 1945, but Japan surrendered five weeks earlier."[34][35][36][37]

4 Known unit members

- Lieutenant General Shirō Ishii
- Lieutenant Colonel Ryoichi Naito, founder of the pharmaceutical company Green Cross
- Masaji Kitano
- Yoshio Shinozuka
- Yasuji Kaneko

5 Divisions

Unit 731 was divided into eight divisions:

- Division 1: Research on bubonic plague, cholera, anthrax, typhoid and tuberculosis using live human subjects. For this purpose, a prison was constructed to contain around three to four hundred people.
- Division 2: Research for biological weapons used in the field, in particular the production of devices to spread germs and parasites.
6 Facilities

One of the buildings is open to visitors

The Unit 731 complex covered six square kilometers and consisted of more than 150 buildings. The design of the facilities made them hard to destroy by bombing. The complex contained various factories. It had around 4,500 containers to be used to raise fleas, six cauldrons to produce various chemicals, and around 1,800 containers to produce biological agents. Approximately 30 kg of bubonic plague bacteria could be produced in several days.

Some of Unit 731’s satellite facilities are in use by various Chinese industrial concerns. A portion has been preserved and is open to visitors as a War Crimes Museum.

6.1 Tokyo

A medical school and research facility belonging to Unit 731 operated in the Shinjuku District of Tokyo during World War II. In 2006, Toyo Ishii—a nurse who worked at the school during the war—revealed that she had helped bury bodies and pieces of bodies on the school’s grounds shortly after Japan’s surrender in 1945. In response, in February 2011 the Ministry of Health began to excavate the site.¹³⁸

China requested DNA samples from any human remains discovered at the site. The Japanese government—which has never officially acknowledged the atrocities committed by Unit 731—rejected the request.¹³⁹

6.2 Guangzhou

The related Unit 8604 was operated by the Japanese Southern China Area Army and stationed at Guangzhou (Canton). This installation conducted human experimentation in food and water deprivation as well as water-borne typhus. According to postwar testimony, this facility served as the main rat breeding farm for the medical units to provide them with bubonic plague vectors for experiments.¹⁴⁰

6.3 Related units

Unit 731 was part of the Epidemic Prevention and Water Purification Department which dealt with contagious disease and water supply generally.

7 Surrender and immunity

Information sign at the site today.

Operations and experiments continued until the end of the war. Ishii had wanted to use biological weapons in the Pacific War since May 1944, but his attempts were repeatedly snubbed.

7.1 Destruction of evidence

With the Soviet invasion of Manchukuo and Mengjiang in August 1945, the unit had to abandon their work in haste. The members and their families fled to Japan. Ishii ordered every member of the group “to take the secret to the grave”, threatening to find them if they failed, and prohibiting any of them from going into public work back in Japan. Potassium cyanide vials were issued for use in the event that the remaining personnel were captured.

Skeleton crews of Ishii’s Japanese troops blew up the compound in the final days of the war to destroy evidence of their activities, but most were so well constructed that they survived somewhat intact.
7.2 American grant of immunity

Among the individuals in Japan after their 1945 surrender was Lieutenant Colonel Murray Sanders, who arrived in Yokohama via the American ship *Sturgess* in September 1945. Sanders was a highly regarded microbiologist and a member of America’s military center for biological weapons. Sanders’ duty was to investigate Japanese biological warfare activity. At the time of his arrival in Japan he had no knowledge of what Unit 731 was. [41] Until Sanders finally threatened the Japanese with bringing communism into the picture, little information about biological warfare was being shared with the Americans. The Japanese wanted to avoid the Soviet legal system so the next morning after the threat Sanders received a manuscript describing Japan’s involvement in biological warfare. [42] Sanders took this information to General Douglas MacArthur who was the Supreme Commander of the Allied Powers responsible for rebuilding Japan during the Allied occupations. MacArthur struck a deal with Japanese informants. [43] MacArthur secretly granted immunity to the physicians of Unit 731, including their leader, in exchange for providing America, but not the other wartime allies, with their research on biological warfare and data from human experimentation. [10] American occupation authorities monitored the activities of former unit members, including reading and censoring their mail. [44] The U.S. believed that the research data was valuable. The U.S. did not want other nations, particularly the Soviet Union, to acquire data on biological weapons. [45]

The Tokyo War Crimes Tribunal heard only one reference to Japanese experiments with “poisonous serums” on Chinese civilians. This took place in August 1946 and was instigated by David Sutton, assistant to the Chinese prosecutor. The Japanese defense counsel argued that the claim was vague and uncorroborated and it was dismissed by the tribunal president, Sir William Webb, for lack of evidence. The subject was not pursued further by Sutton, who was probably unaware of Unit 731’s activities. His reference to it at the trial is believed to have been accidental.

7.3 Separate Soviet trials

Although publicly silent on the issue at the Tokyo Trials, the Soviet Union pursued the case and prosecuted twelve top military leaders and scientists from Unit 731 and its affiliated biological-war prisons Unit 1644 in Nanjing, and Unit 100 in Changchun, in the Khabarovsk War Crime Trials. Included among those prosecuted for war crimes including germ warfare was General Otozō Yamada, the commander-in-chief of the million-man Kwantung Army occupying Manchuria.

The trial of those captured Japanese perpetrators was held in Khabarovsk in December 1949. A lengthy partial transcript of the trial proceedings was published in different languages the following year by a Moscow foreign languages press, including an English language edition. [46] The lead prosecuting attorney at the Khabarovsk trial was Lev Smirnov, who had been one of the top Soviet prosecutors at the Nuremberg Trials. The Japanese doctors and army commanders who had perpetrated the Unit 731 experiments received sentences from the Khabarovsk court ranging from two to 25 years in a Siberian labor camp. The U.S. refused to acknowledge the trials, branding them communist propaganda. [47]

After World War II, the Soviet Union built a biological weapons facility in Sverdlovsk using documentation captured from Unit 731 in Manchuria. [48]

8 After World War II

8.1 Official silence under Occupation

As above, under the American occupation the members of Unit 731 and other experimental units were allowed to go free. One graduate of Unit 1644, Masami Kitaoka, continued to do experiments on unwilling Japanese subjects from 1947 to 1956 while working for Japan’s National Institute of Health Sciences. He infected prisoners with rickettsia and mental health patients with typhus. [49]

8.2 Post-Occupation Japanese media coverage and debate

Japanese discussions of Unit 731’s activity began in the 1950s, after the end of the American occupation of Japan. In 1952, human experiments carried out in Nagoya City Pediatric Hospital, which resulted in one death, were publicly tied to former members of Unit 731. [50] Later in that decade, journalists suspected that the murders attributed by the government to Sadamichi Hirasawa were actually carried out by members of Unit 731. In 1958, Japanese author Shusaku Endo published the book *The Sea and Poison* about human experimentation, which is thought to have been based on a real incident.

The author Morimura Seiichi published *The Devil’s Glutton* (*悪魔の飽食*) in 1981, followed by *The Devil's Gluttony: A Sequel* in 1983. These books purported to reveal the “true” operations of Unit 731, but actually confused them with that of Unit 100, and falsely used unrelated photos attributing them to Unit 731, which raised questions about its accuracy. [51] [52] Also in 1981 appeared the first direct testimony of human vivisection in China, by Ken Yuasa. Since then many more in-depth testimonies have appeared in Japanese. The 2001 documentary *Japanese Devils* was composed largely of interviews with 14 members of Unit 731 who had been taken as prisoners by China and later released. [53]
8.3 Official government response in Japan

See also: List of war apology statements issued by Japan

Since the end of the Allied occupation, the Japanese government has repeatedly apologized for its pre-war behavior in general, but specific apologies and indemnities are determined on the basis of bilateral determination that crimes occurred, which requires a high standard of evidence. Unit 731 presents a special problem, since unlike Nazi human experimentation which is extremely well documented, the activities of Unit 731 are known only from the testimonies of former unit members, and testimony cannot be employed to determine indemnity in this way.

Japanese history textbooks usually contain references to Unit 731, but do not go into detail about allegations, in accordance with this principle.[54][55] Saburo Ienaga’s New History of Japan included a detailed description, based on officers’ testimony. The Ministry for Education attempted to remove this passage from his textbook before it was taught in public schools, on the basis that the testimony was insufficient. The Supreme Court of Japan ruled in 1997 that the testimony was indeed sufficient and that requiring it to be removed was an illegal violation of freedom of speech.[56]

In 1997, the international lawyer König Tsuchiya filed a class action suit against the Japanese government, demanding reparations for the actions of Unit 731, using evidence filed by Professor Makoto Ueda of Rikkyo University. All Japanese court levels found that the suit was baseless. No findings of fact were made about the existence of human experimentation, but the decision of the court was that reparations are determined by international treaties and not by national court cases.

In October 2003, a member of the House of Representatives of Japan filed an inquiry. Japanese Prime Minister Junichiro Koizumi responded that the Japanese government did not then possess any records related to Unit 731, but the government recognized the gravity of the matter and would publicize any records that were located in the future.[57]

8.4 Abroad

8.4.1 Films

There have been several films about the atrocities of Unit 731.

- *Men Behind the Sun* (1988), China, directed by Tun Fei Mou.
- *Philosophy of a Knife* (2008), Russia, directed by Andrey Iskanov.
- *731: Two Versions of Hell* (2007), produced by James T. Hong; documentary about Unit 731 told from the Chinese and Japanese sides.[58]

8.4.2 Music

- “The Breeding House” (1994), Bruce Dickinson. Segment of the CD-single *Tears of the Dragon*, describing the atrocities committed by Unit 731 and the immunity granted by the Americans to the physicians of the Unit.
- “Unit 731” (2009), American thrash metal band Slayer. Song on the album *World Painted Blood*, describing the events and atrocities that occurred at Unit 731.

8.4.3 Television

- *The X-Files* episode “731” (1995). Former members of Unit 731 secretly continue their experiments on humans under control of a covert U.S. government agency.
- *ReGenesis* episode “Let it burn” (2007). Outbreaks of anthrax and glanders are traced to World War II Japan.

9 See also

- Human subject research
- War crime
- Poison laboratory of the Soviet secret services

9.1 Pacific War (World War II)

- Changde chemical weapon attack
- Japanese war crimes
- Kaimingjie germ weapon attack
- Second Sino-Japanese War

9.2 Other human experimentation

- Nazi human experimentation
- Josef Mengele
- North Korean human experimentation
- Unethical human experimentation in the United States
- Porton Down
10 References


[7] The devil unit, Unit 731. 7 3 1 部隊について


[16] One known case of US POWS used in experiments were a B-29 captured may 5, 1945


[18] Interview with former Unit 731 member Nobuo Kamada at the Wayback Machine (archived November 19, 2006)


[21] “Vivisectionist recalls his day of reckoning”

[22] Unit 731: One of the Most Terrifying Secrets of the 20th Century


[29] Biological Weapons Program-Japan Federation of American Scientists


11 Further reading


- Lusip, Marco. *Orrori e misteri dell’Unità 731: la “fabbrica” dei batteri killer*, La Repubblica, 14 aprile 2003, on line too.


12 External links

- The Nazi War Crimes and Japanese Imperial Government Records Interagency Working Group (IWG)—The U.S. National Archives and Records Administration (NARA).

- History of the Unit 731 UNIT 731 information site.

- History of Japan's biological weapons program—The Federation of American Scientists (FAS).

- History of United States' biological weapons program—The Federation of American Scientists (FAS).

- Unit 731, Nightmare in Manchuria, a World Justice documentary, Video on YouTube

- Unit 731: Auschwitz of the East at the Wayback Machine (archived October 24, 2007)—All POW-MIA images.

- Army Doctor—a firsthand account by Yuasa Ken.

- Theodicy - through the Case of “Unit 731” by Eun Park (2003).


- Japan's sins of the past by Justin McCurry (2004), The Guardian.

- The Asian Auschwitz of Unit 731 by Shane Green (2002), The Age.

- War Crimes: Never Forget—review of the book Unit 731 by Peter Williams and David Wallace
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13.1 Text


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