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Japanese germ warfare experiments cost 3000 lives, often after prolonged agony. America knew but chose to conceal the facts, and protect the perpetrators

The story which follows is ugly and disgusting. It is unsurprising that those involved kept it secret for more than 35 years. But the documentary evidence which has now come to light seems incontrovertible. From 1930 to 1945 Japan carried out germ warfare experiments, and actual attacks. In the course of these activities Japanese scientists pursued a programme of research on human subjects, including Chinese, Russian and American prisoners of war.

Japanese germ warfare experiments cost the lives of more than 3000 human victims, often after prolonged agony. The facts of the case were made known to the US State Department and War Department immediately after the second world war. But the American authorities concealed them, and granted the Japanese germ warfare scientists immunity from trial as war criminals, in order to gain exclusive American access to the Japanese data and experience about germ warfare techniques and effects.

"When this story first reached the *Bulletin of the Atomic Scientists* our reaction was one of horrified disbelief. I think all of us hoped that it was not true. Unfortunately subsequent research shows that it is all too true," said Robert Gomer, Professor of Chemistry at the University of Chicago, and a member of the Board of Directors of the *Bulletin*. His remarks introduced the special report which appears in this month's issue of the *Bulletin*.

The report is by John W. Powell, an American born in China. It is based on his personal observations in China and on material recently obtained under the US Freedom of Information Act and Privacy Act. The report is drawn from a book-length study of biological warfare which Powell is now writing.

Strong evidence

In 1931, shortly after the Japanese had occupied China's north-eastern provinces, including Manchuria, a Japanese army surgeon named Ishii Shiro persuaded his superiors that microbes could become an inexpensive and potentially devastating weapon. He was authorised to set up a biological warfare experimental station, named Unit 731, a few miles from Harbin.

It was a large, self-contained installation with sophisticated germ and insect-breeding facilities, a prison for the human experimental subjects, testing grounds, an arsenal for making germ bombs, an airfield, its own special planes and a crematorium for the human victims.

Thousands of Chinese, Russian, and American prisoners died there as a result of massive doses of bubonic plague, typhus, dysenteries, gas gangrene, typhoid, haemorrhagic fever, cholera, anthrax, tularemia, glanders and smallpox. The Japanese experimenters not only used their human guinea pigs to determine lethal dosages but also - in pursuit of exact scientific information - made certain that the experimentees did not survive. A disease would be inflicted on a group; then, as the infection developed, individuals would be killed, autopsies performed and an array of tissue and other pathological samples assembled. The progress of this research was dispassionately documented. Thus, General Kitano Masaji, recording work on tick encephalitis : "Mouse brain suspension . . . was injected . . . and produced symptoms after an incubation period of seven days.

Highest temperature was 39.8C. This subject was sacrificed when fever was subsiding, about the twelfth day." The report from which this extract is taken was prepared for US officials.

Nor were injections the only technique used to induce human pathology and suffering. Another Japanese testified: "In January 1945 I saw experiments in inducing gas gangrene . . . Ten prisoners . . . were tied facing stakes, five to ten metres apart . . . The prisoners' heads were covered with metal helmets, and their bodies with screens . . . only the naked buttocks being exposed. At about 100 metres away a fragmentation bomb was exploded . . . all ten men were wounded . . . and sent back to the prison . . . I later asked (the experimenters) what the results had been. They told me that all ten men had died of gas gangrene."

Then there was the freezing project. During extremely cold winter weather prisoners were led outdoors. "Their arms were bared and made to freeze with the help of an artificial current of air. This was done until their frozen arms, when struck with a short stick, emitted a sound resembling that which a board gives out when it is struck." Once back inside, various procedures for thawing were tried. One account of Unit 731's prison, adjacent to the laboratories, described men and women with rotting hands from which the bones protruded - victims of the freezing tests. A documentary film was made of one of the experiments.

The fruits of these scientific endeavours appear to have included the use of bacteriological weapons in actual attacks. Strong circumstantial evidence suggests an attack on the Chinese city of Ningbo, near Shanghai, on October 27, 1940. Something was seen to come out of a Japanese plane; there followed a heavy infestation of fleas and an outbreak of bubonic plague, with 98 of 99 victims dying. Yet the rats in the city, the traditional carriers of plague, showed no sign of it. A later attack, November 4 1941, on Changde, was carefully investigated by officials of the Red Cross and the League of Nations. The technique in use appeared to involve feeding fleas on plague-infected rats, then dropping from an aircraft wads of cotton and paper filled with the fleas and mixed with grain.

When Soviet tanks crossed the Siberian-Manchurian border at midnight August 8, 1945, Japan was less than a week away from unconditional surrender. In the intervening days the Japanese destroyed their biological warfare installations in China, killed the remaining human experimentees, and shipped out most of their personnel, plus slides, laboratory records and histories, to South Korea and eventually to Japan. But the facts about Unit 731 and other Japanese biological warfare activities became known to top US authorities, including staff of General Douglas MacArthur's Tokyo headquarters and senior Washington officials.

A top-secret cable from Tokyo to Washington on May 6, 1947 described some of the information being secured and added: "Ishii states that if guaranteed immunity from 'war crimes' in documentary form for himself, superiors and subordinates he can describe program in detail."

A report on December 12, 1947, by Dr Edwin V. Hill, Chief, Basic Sciences, Camp Detrick, Maryland, described some of the technical data secured from the Japanese during an official visit to Tokyo by Hill and Dr Joseph Victor. Acknowledging the "Wholehearted cooperation of Brigadier General Charles A. Willoughby," MacArthur's intelligence chief, Hill wrote that the objectives were to obtain additional material clarifying reports already submitted by the Japanese, "to examine human pathological material which had been transferred to Japan from BW installations," and "to obtain protocols necessary for understanding the significance of the pathological material."

Hill and Victor interviewed a number of Japanese experts who were already assembling biological warfare archival material and writing reports for the US. They checked the results of experiments with various specific human, animal and plant diseases, and investigated Ishii's system for spreading disease via aerosol from planes. Dr Ota Kiyoshi described his anthrax experiments,

including the number of people infected and the number who died. Ishii reported on his experiments with botulism and brucellosis. Drs Hayakawa Kiyoshi and Yamanouchi Yujiro gave Hill and Victor the results of other brucellosis tests, including the number of human casualties.

Quiet retirement

Hill pointed out that the material was a financial bargain, and was obtainable nowhere else, and concluded with a plea on behalf of Ishii and his colleagues: " Specific protocols were obtained from individual investigators. Their descriptions of experiments are detailed in separate reports. These protocols . . . indicate the extent of experimentation with infectious diseases in human and plant species. Evidence gathered . . . has greatly supplemented and amplified previous aspects of this field. It represents data which have been obtained by Japanese scientists at the expenditure of many millions of dollars and years of work. Information has accrued with respect to human susceptibility to those diseases as indicated by specific infectious doses of bacteria. Such information could not be obtained in our own laboratories because of scruples attached to human experimentation. These data were secured with a total outlay of 250 000 yen to date, a mere pittance by comparison with the actual cost of the studies. Furthermore, the pathological material which has been collected constitutes the only material evidence of the nature these experiments. It is hoped that individuals who voluntarily contributed this information will be spared embarrassment because of it and that every effort will be taken to prevent this information from falling into other hands."

In due course, Ishii and his colleagues prepared voluminous reports, and supplied "selected examples of 8000 slides of tissues from autopsies of humans and animals subjected to BW experiments". A restricted memorandum dated July 1, 1947, added that since "any 'war crimes' trial would completely reveal such data to all nations, it is felt that publicity must be avoided in the interests of defence and national security of the US".

So General Ishii and colleagues were "spared embarrassment". In Powell's words, "Ishii and many of the top members of Unit 731 lived out their full lives, suffering only the natural afflictions of old age. A few, General Kitano among them, enjoyed exceptional good health and at the time of writing were living in quiet retirement."

(Walter C Patterson is a contributing editor of the Bulletin of the Atomic Scientists.)

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