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XXCA CHINA REPORT

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Serial No. R-713-CH-45

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Date: 28 June 1945

From: JICA/China

At: Kunming.

Sources: CWS Mission Team No. 2 through Chinese Doctor.

Evaluation: B-2

Reference: CIG/CT 56-SS-45, 15 March 1945. Japanese Intelligence Targets in Far East, WD Folder XIX, dated 29 May 1945.

Subject: CENTRAL CHINA – Japanese use of BW at CH'ANG TE, Hunan Province.

Transmitted herewith is a report of the investigation of an alleged use of Bacteriological Warfare by the Japanese prepared by an American Army Medical Officer with the CWS Mission in China. The Officer interviewed a Chinese Medical Doctor at CH'ANG TE (xx) (E11132, N2902), Hunan on 28 and 29 May 1945 regarding the alleged incident of BW by the Japanese on the city of CH'ANG TE on 4 November 1941.

The Chinese doctor was trained at Yale University in China and has worked in Mission Hospitals in China for many years. The U.S. Army Medical Officer accompanied the Chinese doctor on his ward rounds and has seen him work and is of the opinion that the Doctor is a capable, well trained and qualified medical man. The doctor was in CH'ANG TE at the time of the alleged use of BW and made a complete investigation of the incident at that time which is included in this report.

A Japanese airplane dropped grains of rice on CH'ANG TE on 4 November 1941, samples of which were gathered up and tested by the doctor in the hospital. Bacteria were found on the rice grains which were characteristic of plague bacilli in form and staining characteristics. Within seven days rats in CH'ANG TE died in large numbers and human cases of plague appeared. Complete diagnosis of plague in human victims was made at the Presbyterian Mission Hospital in CH'ANG TE. Prior to 1941 there had been no plague in the CH'ANG TE vicinity.

From the investigation of the incident by the Chinese doctor, it is believed highly Probable that the Japanese did spread plague by means of rice grains contaminated with Plague bacteria at CH'ANG TE in November 1941.

The Chief of the CWS Mission in China comments that the above report is the strongest evidence obtained in China to date on Japanese employment of BW and that probably the incident was an experimental trial.

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Approved and forwarded:

HAROLD E. TRIDE, R. G. MACDONALD,
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INTRODUCTION

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In view of the many conflicting stories, elements of doubt and the uncertainty of the incident reported to have been a BW attack by the Japanese of CH'ANG TE, Hunan, China, occurring on 4 November 1941, it was deemed advisable by the Source to proceed to CH'ANG TE and obtain first hand information in order to evaluate the incident. CH'ANG TE was visited on 28 and 29 May 1945.

CIRCUMSTANCES SURROUNDING THE INVESTIGATION

Dr. H. H. Tang (Tang Hsueh-huo) a graduate of the Ch'ang Ya Medical School (Yale in China) was the prime source of information, Dr. Tang was the first person to investigate the incident and remained in CH'ANG TE before, during and after the plague epidemic, Dr. Tang has been employed by the Presbyterian Mission (Kuang TE) Hospital in CH'ANG TE for over seven years.

Dr. George Tootell, Director of the Hospital and a well trained, capable, American Missionary doctor, who has been at CH'ANG TE in the Mission Hospital for approximately 30 years, stated that he had known Dr. Tang for over seven years and considered him to be a capable, industrious and intelligent doctor.

On accompanying Dr. Tang at ward rounds in the hospital one gains the impression that Dr. Tang is an astute clinician, well trained in simple laboratory techniques. Dr. Tang is especially well qualified in infectious diseases and the laboratory diagnosis of these diseases.

Dr. Tootell stated that prior to the incident under consideration he had neither encountered or heard about a single case of plague in CH'ANG TE throughout his stay of approximately 30 years in the area. Dr. Tootell was on furlough in the United States at the time of the incident and did not return to CH'ANG TE until 26 December 1941. xxx Dr. Tootell returned, cases of plague were occurring in the area. Dr. Tootell further stated that he had no doubt in regard to the reliability of Dr. Tang's statements and considered that Dr. Tang had carried out a very excellent piece of work in his investigation of the incident.

Dr. Tang is regarded by the community as being an especially well trained and capable medical man.

At the time of the incident, 4 November 1941, there were very few refugees moving through CH'ANG TE. About one year before, refugees had passed through CH'ANG TE but this had ceased many months prior to the incident. At the time of the incident Japanese troops were held up at YUEH YANG (YO CHOW), across Tung-T'ing Lake from CH'ANG TE.

Dr. Tootell stated that in view of the fact refugees were required to spend 8 to 10 days walking before reaching CH'ANG TE, it was considered unlikely that plague could have been introduced into CH'ANG TE by refugees.

Prior to the incident, as well as after it, CH'ANG TE received frequent bombings from Japanese planes. It was reported that all bombings had occurred in the evenings and that not a single bombing had occurred in the early morning. These bombings usually xxxxxxx were carried out by three or more enemy planes.

REPORT OF INCIDENT AS RELATED BY DR. TANG

Early in the morning of 4 November 1941, between daybreak and sun up, a single Japanese plane (type unspecified) circled CH'ANG TE three times at a very low altitude. At this time there was a heavy fog over the city, such fogs being common at that time of the year. No bombs were dropped by the plane but many grains of rice and barley were dropped by the plane in the vicinity of the North and West Gates of the city. Village officials collected a considerable amount of this grain and sent it to the Presbyterian Mission (Kuang Te) Hospital for examination by Dr. Tang.

No fleas were found in or associated with the grain. A sample of the grain was washed in sterile saline, the washing centrifuged and smears were made from the sediment. These smears when stained by Grams Method showed Gram positive rods and a few

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small, Gram negative bipolar staining bacilli. In view of the fact that no culture media was available, 30 ccs, of Ascitic Fluid was withdrawn from a hospital patient suffering from Cirrhosis of the liver and 10 cc portions were placed under sterile conditions into each of three sterile test tubes. Two tubes thus prepared were inoculated with grain obtained from the streets and one tube with grain from normal stores of rice. After incubation for 24 hours the three tubes were observed and smears were prepared. The tubes inoculated with normal grain from the street showed more turbidity than the tube inoculated with normal grain. Smears stained by Gram's Method prepared from the tubes inoculated with grain from the street showed Gram positive rods and small Gram 1-negative, bipolar staining rods which measured 1.5 x 0.5 m. Smears from the tube inoculated with normal grain showed only Gram positive bacilli.

In view of the absence of guinea pigs in the locality and the fact that native rats were considered to be unsatisfactory experimental animals, two rabbits were used. One rabbit was inoculated intraperitoneally with 1 cc of culture from the tube inoculated with grain from the street. The second rabbit, which served as a control, was inoculated intraperitoneally with 1 cc normal saline. The second and third day after inoculation the rabbit that was inoculated with culture showed a fibrils reaction xxx then recovered and remained healthy. The control rabbit remained healthy.

On the morning of 5 November 1941 a meeting of the village officials and Dr. Tang was held at which Dr. Tang expressed the opinion that the incident probably represented plague and that control measures should immediately be instituted. It was recommended that (1) the grain dropped by the Japanese plane should be collected and burned; (2) xxx should be sent to the Provincial Health Bureau to request an expert on plague; xxx anti-plague measures should be spread and (4) an isolation hospital for plague victims should be made ready. As a result of this meeting word was sent to the Provincial Health Officials at LMI YANG but no answer as received.

On 10 November 1941 it was noted that many rats died on the streets and several people were reported to be sick with a high fever.

On 12 November 1941 the first patient suspected of having plague was brought to the Presbyterian Mission Hospital a 12 year old girl with history of sudden onset of chill and fever the night before. She complained of headache and general malaise. On physical examination, temperature 105, pulse 115. She appeared acutely ill and was delirious, The pulse was weak and the liver and spleen were palpable. Blood smear for malaria was negative: WEC 12,050, 88% polys. A few small bacilli were noted in the blood smear and when stained by Gram's method showed Gram negative, bipolar staining small bacilli.

The patient was isolated and given sulfanilamide, 0.5 grms, every 4 hours. At midnight the temperature was 106, pulse was 116, R. 47. Early the next morning (13 November) her skin was cyanotic and her general condition appeared quite critical. A blood smear taken at this time showed a good many bipolar staining rods. At 0800 the patient died.

At autopsy there was no fluid in the peritoneal cavity. The liver was swollen and showed small areas of hemorrhage. A few areas of hemorrhage were noted in the intestinal mucosa. The spleen was twice its normal size and showed areas of hemorrhage. The kidneys were edematous and showed areas of hemorrhage in the pelvis. The heart and lungs were not examined.

Smears from the spleen showed many Gram negative bipolar staining bacilli. The autopsy and smears were observed by Dr. Chan Wei-kuei of the Chinese Red Cross and Dr. Liu Jung-han from Ch'ang Ya Medical School. Both men agreed with the diagnosis of plague and with this a telegram was sent to the Public Health Officials in Chungking.

A second case was admitted to the hospital on 14 November. The case, a 25 year old laborer had experienced a sudden onset of fever, headache and delirium on 12 November. On admission to the hospital the right inguinal glands were swollen and tender.

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Smear from material obtained from a gland puncture showed many Gram negative, bipolar staining bacilli. The patient died on the afternoon of the day of admission.

A third case is a 58 year old man from Chixxing Village who became ill on the night of 12 November. On 13 November the right inguinal glands became swollen. The Red Cross investigated the case and smear made from material aspirated from the gland showed many bipolar staining Gram negative rods. The patient died on the evening of 12 November.

A fourth case became ill with a high fever on 11 November and died on 13 November. On 14 November smears made from material aspirated from the body showed many Gram negative, bipolar staining bacilli.

Other cases were reported to have died in the streets and numerous rumors began to spread over the city. At this time a second telegram was sent to the Public Health Officials in LEI YANG which regulated in the arrival of several plague specialists. These were Dr. Shih, National Health Commission; Dr. Teng, Assistant Superintendent from LEI YANG; Dr. Li, Chiang Ya Medical School; and Dr. Chang, Red Cross Bacteriologist from LEI YANG.

After going over the material, these men reported to Chungking, that they were uncertain and stated that plague was very difficult to diagnosis. On 24 November 1941 another case was autopsied and from the case cultures and guinea pig inoculations substantiated the diagnosis of plague. About 25 December 1941 Dr. Trollitzar, a plague expert arrived on the scene. He remained in the area for approximately one year and estimated that 150 cases had occurred and that the incidence in rats reached 70% of the rat population. An isolation hospital was put in operation, rat control measures and mass immunizations were put in effect. As a result of these efforts the epidemic was gradually brought under control. Cases spread into the country as far as 50 li to the northeast of the city.

COMMENT: Much of the above related material was published by Dr. Tang in the March 1942 issue of the Chiang Ya Medical Journal in an article entitled "History of Plague in CH'ANG TE, Hunan".

It must be admitted that absolute bacteriological proof of *Pasturella pestis* is lacking in Dr. Tang's original cultures from rice grains. Nevertheless, this work strongly points to the presence of plague bacilli on the rice grains. A very important point in the evaluation is the effect of *Pasturella pestis* on the rabbit; this is unknown to the Source and no technical material is available at present to evaluate this point, therefore, no opinion will be expressed.

Nevertheless, the absence of plague in the area prior to the dropping of rice grains, the demonstration of bacteria morphologically similar to *Pasturella pestis*, the prediction of plague epidemic by Dr. Tang and the appearance of cases of plague seven days after the dropping of the rice grains materially substantiates the authenticity of the incident.

COMMENT BY THE CHIEF OF THE CWS MISSION IN CHINA

This is the strongest evidence obtained in China to date on Japanese employment of BW. It appears likely that this is an authentic incident, probably an experiment trial, since these tactics have not been observed or reported since.

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JICA SN xxx 716-CH-45

From JICA/China at Kunming. Date 30 June, 1945

Reference JICA/China xxx, 4 June 1945.

(For identification with previous reports)

Source W. K. xxx Officer with xxx Evaluation Axx
Mission Team No. 2. (A-1 to F-O etc.)

Subject xxx
(Nation report on) (Main title as per index guide)
(Subtitles) (Make separate report for each title)

Brief --(Here enter careful summary of report, containing substance succinctly stated; include important facts, names. Places, dates, etc.)

Source made a trip during the first week of June 1945 in the CH'ANG TE (x x) (E11132, xx908) area of Hunan to examine the natives for Shistoxxx japxxx

Many positive cases were discovered, with most of the cases having enlarged livers and spleens. Several cases were observed which showed the marked retardation of development associated with severe xxx. According to a Missionary doctor xx ilter with the area for many years, the incidence of histogame japxxx has declining from 5% to 1% of the population although no reason for the decline was evidence.

It is believed that only those persons exposed to water from the lake area (Tung T'ing Lake in Hunan province) appear to contract the disease.

7154 James R. XXX
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Prevalence of *Shistosoma*, Japonicum.

I. Introduction.

xxx, accompanied by an American Missionary Medical doctor and another U.S. Army Medical Officer, visited small village located along the west shore of Tung T'ing Lake in Hunan province during the first week of June 1945. Two Chinese laboratory technicians accompanied the group to examine stool specimens of the natives for the prevalence of *Shistosoma japonicum*.

II. Examination of Natives.

At the village of TA SHSI CH'IAO, NE of CH'ANG TE, one case was identified and eggs of *Shistosoma japonica* demonstrated in a stool specimen. It is of interest to note that this specimen also showed the eggs of xxx and hookworm as well as motile xxx, *histolytica*. It was learned at a small village 3 li from TA SHUI CH'ANG there were about 70 cases of *Shistosoma japonica* infection and for this reason the men of the village had not been taken for service in the Chinese Army, TA SHUI CH'IAO is located 56 li NE of CH'ANG TE in a very productive rice area.

At SHIH KUNG CH'IAO, 65 li NE of CH'ANG TE, examinations were carried out on stool specimens of suspected cases and five positive stool specimens were discovered. Or in specimens of other villages throughout the area, at least 15 additional positive stool specimens for *Shistosoma japonica* were observed. Most of the cases were of the chronic variety, having enlarged livers and spleens, and several showed severe ascites. Several cases were observed which showed the marked retardation of development associated with severe anemia, as well as an enlarged spleen and liver. One case in particular demonstrated this; a man of 22 years of age appeared to have developed only to the age of 10 years.

As a result of observations and conversations with villages, the Missionary doctor estimated that a approximately 1% of the population was infested representing approximately 200,000 cases. The doctor stated that this was a sharp decline in the number of cases, as 20 years ago it was estimated that over 5% of the population of the area was infested. No reason for the decline was evident.

III. Search for Source of the Disease.

Snails were search for along the banks of the streams. None of the smooth variety, Katayama nosophora, were discovered, but many of the rough ridged variety of snail, Oncomelania, were collected and it is considered that this variety is the intermediate host in the area.

IV. Conclusions.

Since cases of *Shistosoma japonica* do not occur as far inland from the lake as CH'ANG TE, and no cases have been observed or are known in CH'ANG TE, T'AO YUAN, CH'EN CH'I, YUAN LING or CEIH CHIANG, it is believed that only these persons exposed to water from the lake area proper and that area immediately adjacent to it appear to contract the disease.

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