

# The Trail of Germ War Tests Here

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The long-buried trail of the U.S. Army's germ warfare tests in the Bay Area more than 25 years ago remained obscure yesterday — hidden in death and illness records destroyed many years ago, and in the imperfect recollections of scientists who knew about the secret incidents.

It is known and the Army confirms it officially — that in 1950 Army scientists released quantities of bacteria into the air around San Francisco in order to test the dispersal of airborne microbes.

The experiment was part of a series of germ warfare defense research projects conducted in eight areas of the United States — including the New York City subways — from 1950 to 1966.

The tests were secret then, and yesterday Joseph Penton, public affairs officer for the Army Materiel Command, told The Chronicle by telephone that the reports on the tests are still classified.

But shortly after the still-secret tests in San Francisco, an epidemic of bacterial infections struck the old Stanford University Hospital.

Eleven patients in the hospital were infected with the same bacteria strain that the Army had just used in its airborne experiments, and one patient, 75-year-old Edward Nevin, died of endocarditis — a bacterial infection that eroded and destroyed his heart valves.

The bacteria in question are called *Serratia marcescens*; in other tests elsewhere the Army said it used cultures of *bacillus globigii* and *spargillus fumigatus*.

A survey by The Chronicle yesterday turned up no evidence that the Army had ever notified any Bay Area public health officials, epidemiologists or non-military bacteriologists that it was dispersing microbes into the air.

According to Dr. John Mills of  
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San Francisco General Hospital, who has been studying a recent and continuing outbreak of the same bacterial infection here, the germ was widely considered to be "non-pathogenic" — that is, incapable of causing disease — in the early 1950s.

Since then, however, *Serratia* bacteria have been known to cause infections in sensitive people, particularly those whose resistance has been lowered by drugs designed to suppress immune reactions after organ transplants. Mills is also studying a significant number of cases of infection among heroin users.

Mills said he considers it "extremely unlikely" that the Army's germ experiments in 1950 could have sown infectious bacteria whose descendants could persist as a pollutant in Bay Area air today.

Army scientists said the strain of *Serratia* they used in 1950 was specially cultured to be extremely sensitive to antibiotics, but Mills pointed out that one characteristic of the bacteria is that they change their properties rapidly as they propagate. Thus, a culture of *Serratia* that started out as sensitive to antibiotics could swiftly become highly resistant to them within a few generations.

The infections at Stanford Hospital proved difficult to treat with antibiotics in 1950, and the epidemic itself was so unusual it was described in detail in a 1951 issue of the *Archives of Internal Medicine*.

That article was written by Drs. Lowell Rantz, Richard Wheat and Anne Zuckerman, who were all then on the Stanford Medical School faculty. Their paper indicated no knowledge that the Army was experimenting with the *Serratia* germ at the time.

All medical records of the 11 patients, including the report on Edward Nevin, whose infection followed a prostate operation, have long since been destroyed, according to officials at Pacific Medical Center here. The clerks took over the records after Stanford Hospital moved to Palo Alto in 1959. The law requires such records to be kept for only seven years, and few hospitals keep them on file for more than 15 years.

Mills said yesterday it seems unlikely that the Army's germs were responsible for the 1950 Stanford epidemic, but he agreed that the "temporal coincidence" was

"mighty suspicious," and that a cause-and-effect relationship could not be ruled out. Reports yesterday said the Army's cultures of the *Serratia* bacteria were prepared by scientists at the Naval Biological Laboratory in Oakland. But according to Dr. Robert Heckley, associate director of the institution which is now called the Naval Biosciences Laboratory, that report was erroneous.

In fact, Heckley said, in 1950 the Army leased a building next to the Naval laboratory and sent its own technicians, microbiologists and bacterial cultures out from Ft. Detrick, Md., to prepare the quantities of *Serratia* and to conduct the dispersal experiments. Heckley said his laboratory had nothing to do with the work.

The Naval laboratory is located on the grounds of the Navy Supply Center in Oakland and is operated by the University of California through its School of Public Health in Berkeley.

According to Heckley, the lab conducts no classified research at all, and has not done so for at least 15 years. Scientists there study such fields as diseases of marine mammals; organisms that foul ship bottoms; and — under National Cancer Institute culturing sponsorship — the problems of cells and the hazards of cancer-causing viruses.

In its own statement yesterday the Army said its experiments were designed to "determine vulnerability to enemy biological attack and adequacy of defense measures."

The statement added that the *Serratia* organisms "could undoubtedly have been found in the Bay Area before these trials, and can no doubt be found there today. Our data indicate that these organisms decay at an extremely rapid rate and that none remain after 24 hours. The likelihood of any of the test organisms remaining active today does not exist."