MEDICINE

Bargain Cobalt Bomb

➤ THE DAY of bargains in cobalt bombs for cancer treatment is seen coming closer with the unveiling of a new style cobalt bomb at the City of Hope Medical Center, Duarte, Calif.

The radioactive cobalt bomb is so compact its designers think it will set a style that will make it possible for hospitals everywhere to have one. Heretofore, protective housing and apparatus for using the supervoltage radiation sources have limited the cobalt bombs to only a few medical centers.

Patients to be treated with the new type of cobalt bomb will be spared the fearful feeling of being isolated and alone with their cancer and the bomb. This is because the treatment room has only a simple safety chain instead of the usual heavy lead-lined door to block entrance while the bomb is on and treatment is in progress.

Gamma rays of the new bomb's cobalt wafer are equivalent in cancer-destroying power to 2,500,000 X-ray volts. The bomb itself is an eight-foot-long cylinder balanced on a single hydraulic support.

The complete mechanism weighs only two and one-half tons, substantially less than other bombs now in use. Its hydraulic support rises from the floor, just like the lifts seen in gasoline stations, dispensing with the need for costly and intricate ceiling-based suspension.

Designers of the unit are Dr. Cheng Wu Li, physicist, and Dr. Melville L. Jacobs, chairman of the department of radiology, at the free and nonsectarian City of Hope Medical Center. The mechanism was constructed by the Mars Engineering Co., Burbank.

The doorless treatment room is five-sided, with walls of solid concrete. Inside, another wall parallels the outside for a brief distance, forming a corridor leading to the bomb. In this manner, two walls stand directly in the "line of fire" and absorb stray radiation.

Because the field of radiation itself is so well-defined, City of Hope radiologists and physicists found it possible to dispense with the customary heavy, lead-lined door.

Science News Letter, June 11, 1955

GENERAL SCIENCE

Scientists' Efforts Praised

➤ THE HOOVER Commission praised the nation's scientists, engineers and military personnel for their contributions strengthening the national defense, in a report on Federal research and development activities submitted to Congress on May 31.

The Commission on Organization of the Executive Branch of the Government, of which former President Hoover is chairman, said the Government is engaged in the largest scientific and technical program ever attempted.

Defense against potential aggressors depends largely upon the program's success, the commission concluded.

To speed acceptance of radically new weapons and weapons systems in the Defense Department, appointment was recommended of a committee of outstanding scientists reporting directly to the Assistant Secretary of Defense for research and development.

Although the report mainly concerned proposals for improving defense research, the commission deplored the "minor amount of basic research into the laws of nature," and urged "greater Federal support for basic and medical research."

Of the estimated $2,400,000,000 the Government will spend on research and development during fiscal year 1956, which begins July 1, 1955, probably less than $130,000,000 will be for basic research, the commission found.

"Of all the special research and development activities inside and outside the Federal Government," the commission's report said, "the most beneficent to mankind has been in medical and health research."

Increased use of the National Research Council and the National Academy of Sciences in establishing and staffing advisory committees and panels was recommended.

Science News Letter, June 11, 1955

BACTERIOLOGY

Tularemia-Like Germ Found in Water

➤ A DISEASE germ very much like the germ of rabbit fever, or tularemia, has been discovered by scientists at the Rocky Mountain Laboratory of the Public Health Service, Hamilton, Mont.

Muskrats found dead near the Ogden Bay Bird Refuge near Ogden, Utah, aroused the suspicions of Dr. Jessup B. Low of the Utah Cooperative Wildlife Research Unit. He sent a sample of turbid water from the refuge to the Hamilton laboratory.

When some of the water was injected into mice and guinea pigs, they died with spots on liver and spleen suggesting tularemia. Material from these spots was cultured and the germs on the culture seemed to be those of tularemia.

Further tests, however, showed that the germs were new ones apparently not seen before by scientists. Besides mice and guinea pigs, they cause sickness in a wide range of experimental animals.

Whether these germs cause sickness in humans has not yet been reported. The new germ has been tentatively named *Pasteurella novicida.* The tularemia germ is called *Pasteurella tularensis.*

Tularemia germs are known to exist in ponds, rivers and streams in northwestern United States and to cause epidemics among equatic animals. Waterborne epidemics among humans have been reported from Russia and Turkey.

Identification of the new tularemia-like germ was made by Drs. Carl L. Larson, William L. Jellison and Mr. William Wicht. Details of their studies appear in *Public Health Reports* (March).

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