



PHYSICS-MEDICINE

# Hospitals Should Use Radium For Atomic Physics Research

EVERY cancer hospital a "bee-hive" of atomic research was the picture suggested by Drs. Leo Szilard and T. A. Chalmers of the physics department of St. Bartholomew's Hospital, London. (*Nature*, Sept. 29.)

Most cancer hospitals, say the doctors, have sealed containers of radium which might be used for atomic studies at times when they are not needed for therapeutic purposes. There would be no loss, or expense, in such an auxiliary use of radium products for the materials are constantly breaking up and giving off their penetrating rays. Nothing man can do will stop or reduce this self-destruction.

When radium and its disintegration products are not being used medically the powerful radiation is lost, like the energy of a waterfall that is not being harnessed.

The St. Bartholomew scientists describe new experiments demonstrating that it is possible to slip the tiny radium

containers inside packets of the light element beryllium and make the unit serve as a source of much-wanted neutrons. The gamma rays from the radium products create neutrons when they strike beryllium atoms.

Neutrons are the non-electrical units of matter as heavy as atoms of hydrogen. Their lack of electric charge means that they are able to pass easily through the electric field of ordinary atoms. Because they are so penetrating they are greatly desired for atomic collision experiments such as those producing artificial radioactive disintegration.

Current discussions at the International Union of Pure and Applied Physics in London indicate that the rays from these artificially produced radioactive substances may find uses in medicine.

Thus the suggestion of Drs. Szilard and Chalmers indicates that medicine can, perhaps, help itself by helping atomic research.

The suggestion of Drs. Szilard and Chalmers that radium vials from cancer hospitals might serve double duty for atomic research has already been applied in the United States. The neutron experiments of Drs. George B. Pegram and John R. Dunning at Columbia University were made possible by close cooperation with Dr. G. Failla, physicist of Memorial Hospital in New York City. Working at odd hours, late at night and on Sundays and holidays the containers of radium products from the hospital were rushed up to Columbia for atomic experiments. Memorial Hospital has one of the world's largest supplies of radium. The Columbia investigators were thus able to obtain a most powerful source of neutrons.

*Science News Letter, October 13, 1934*

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