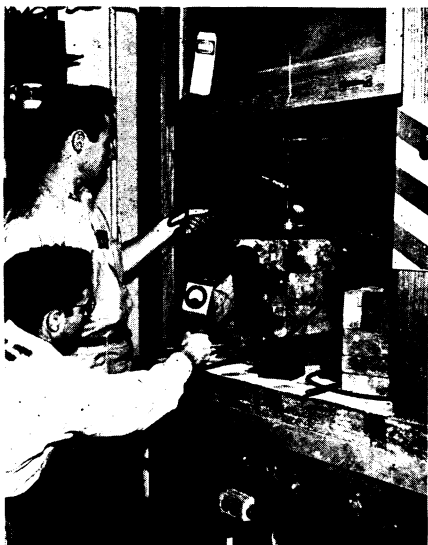


mental basis only. Those marked Class D can be made, but with difficulty.

Many months of coordinated effort among atomic scientists at various Manhattan Project facilities preceded the release of the radioisotopes for experimental work. Most of the radioisotopes will be prepared at the Clinton laboratories at Oak Ridge operated for the Army by the Monsanto Chemical Company, but the bombardment facilities of the Hanford Engineer Works at Pasco, Wash., now operated by du Pont, to be taken over by General Electric Company about Sept. 1, will also be used. Research will be conducted by the Argonne National Laboratory, which is University of Chicago operated for the Army and also at the University of California and Iowa State College.

The isotope distribution will be supervised by an advisory committee nominated by the National Academy of Sciences, with Dr. Lee A. DuBridge, new president of the California Institute of Technology now at the University of Rochester, as chairman. Dr. K. T. Bainbridge of Harvard is sub-chairman of allocation, while all requests for application of radioisotopes for human medical problems will flow through the hands of Dr. Andrew Dowdy of the University of Rochester.



IODINE FROM TELLURIUM—A sample of radioactive iodine, destined for medical investigational use, is about to be extracted chemically from tellurium bombarded in the atomic pile. This activated sample has become sufficiently decayed in activity to be handled with short tongs and small shielding.

The Manhattan District's isotopes branch is headed by Dr. Paul C. Aebersold, with Dr. W. E. Cohn as chief of the radioisotope development section and Dr. J. R. Coe, director of the chemistry division.

Methods of Producing Isotopes

Several methods are available for making radioactive isotopes. The cyclotron, original apparatus for atom-smashing, and its younger sister, the betatron, are versatile in the variety of radioisotopes they can turn out, because they can utilize different atom-bombing projectiles at different energies. The chain-reacting pile works by slow neutron bombardment, and can produce isotopes by only two processes, fission and gamma ray radiation, but the yields of elements so produced are enormously greater.

The method of producing any isotope must vary with the quantity wanted and the uses to which it is to be put. For some purposes a minute quantity is sufficient. Some uses would require a high degree of purity, while for others admixture with other isotopes of the same element or with considerable quantities of different elements might not be considered undesirable. In general, the Manhattan Engineer District expects the cost of their isotopes to be cheaper if the users will take them as they come from the pile.

The photograph on the cover of this SCIENCE NEWS LETTER is the first picture of an atomic energy pile at Oak Ridge to be released by the Manhattan District. Radioactivated material is being removed from the pile at the end of a neutron bombardment period. The bombarded sample has just been lifted with the long holder from the block that has been pulled from the pile. The pile itself, which is not operating, is concealed behind the thick concrete wall. The sample's radioactive strength is being checked with a counter in feminine hands at the right.

Science News Letter, June 22, 1946

MEDICINE

Vaccine for Streptococcal Infections a Possibility

➤ **FIRST STEPS** toward a vaccine for protection against the hemolytic streptococci which cause dangerous sore throats and other serious illnesses were reported by Dr. Lowell A. Rantz, of Stanford University hospital, at the meeting of the American Federation for Clinical Research.

Preliminary tests show that antibodies

against these germs can be produced in the blood of vaccinated persons. Whether or not this means that the vaccinated persons will be immune to attack by the germs is not yet known.

Some of the men vaccinated had severe reactions with doses of vaccine that may be too small to stimulate production of antibodies. Several became increasingly sensitive as succeeding doses were given.

These efforts to develop a vaccine against streptococci were made under the auspices of the Army's Commission on Hemolytic Streptococcal Infections when it was found that sulfa drug prophylaxis against these germs proved to have limited usefulness.

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