

Conference on Isotopes

More than one hundred medical and physical scientists gathered on the Vanderbilt campus recently to discuss their specialties in the field of radioactive materials

By J. D. Brown, A'42

More than one hundred delegates from medical schools over the South assembled April 21-25 at Vanderbilt University to confer on the medical application of this new weapon against disease. The conference delegates inspected Vanderbilt's isotope project, and spent five days listening to experts from various parts of the country discuss their specialties in the field of radioactive materials.

The Medical School with the most direct transportation access to radioactive material from the Oak Ridge chain-reacting uranium pile is making Vanderbilt one of the nation's leading sources of information and assistance on medical use of radioactive isotopes. With the exception of the staff at Oak Ridge itself, according to Dr. E. W. Goodpasture, Dean of the University's Medical School, none of the other medical schools in the United States can get radioactive material for medical purposes as quickly as Vanderbilt. This fact, along with the University's past and present program of research with isotopes and the wide experience of several Vanderbilt staff members in the use of radioactive materials, led to Vanderbilt's selection as host for a one-week conference on the Use of Radioactive Isotopes as Tracers and Therapeutic Agents.

Dr. Goodpasture, a member of the Board of Directors of the Oak Ridge Institute of Nuclear Studies, has revealed the story of Vanderbilt's work in isotope research, beginning in 1943 when Dr. Paul F. Hahn was brought to the biochemistry department to initiate a project. Radioactive isotopes obtained from the M. I. T. cyclotron were being used in this project at Vanderbilt when the first atom bomb was dropped in 1945. After the use of the bomb against the Japanese, Dr. Hahn and Dr. C. W. Sheppard, who joined the Vander-

bilt staff in 1945, were among the first medical scientists to request radioactive material from Oak Ridge's chain-reacting pile, a much larger producer of isotopes than the previous cyclotron. Oak Ridge did not release any radioactive material for medical purpose until May, 1946, but in the meantime the Vanderbilt staff members were busy developing their treatment project with additional isotopes from the M. I. T. cyclotron. Once the new and more abundant supply of material from Oak Ridge became available—and the Vanderbilt Medical School was one of two medical groups which received the first batch of isotopes from Oak Ridge—the Vanderbilt doctors were ready to put it to immediate use.

"We have been greatly encouraged by our efforts thus far in the use of isotopes," Doctors Hahn and Sheppard, who have directed research in this field at Vanderbilt, stated in an interview recently. "We have already devised methods for the safe handling of this material, which is itself one of the most important steps toward wide medical application of radioactive isotopes, and we have gained much experience in its use." Thus far the research at Vanderbilt has dealt with isotopes as tracers, and as treatment for certain malignant diseases. Doctors Hahn and Sheppard have urged in an article prepared for publication in a medical journal that medical science should "proceed with vigor" in "attacking" malignant diseases with radioactive isotopes "even though our knowledge is incomplete at the moment." These scientists believe that "one is justified in taking some risk in treatment where there is every reason to believe a certain percentage of patients may obtain some relief." They added that X-rays have been in use only fifty years and that "certainly

many mistakes were made" in the first thirty years.

Dr. William F. Bale, one of the nation's leading authorities on this subject, admitted at the conference that there is grave danger involved in the future development of the power for peacetime uses, unless the recently appointed commission headed by David E. Lilienthal and other authorities are able to evolve a method of effectively curbing the spread of radioactivity. He pointed out that only comparatively small quantities of radioactivity resulted from the naval experiments at Bikini and from the wartime bombing of Hiroshima; yet we are informed that this same small quantity of radioactivity caused widespread death and destruction.

Dr. Goodpasture has expressed the belief that the conference has helped materially in spreading the information now available to medical science on the application of isotopes in combatting various types of disease. He pointed out that, as more and more doctors become familiar with the handling and use of isotopes, this relatively new medical weapon can make an outstanding contribution to medical progress.

The complete program together with a brief biographical statement concerning the principal speakers appears on this page.

Notes on the Speakers

DR. P. C. AEBERSOLD, Chief, Isotopes Division, Clinton Laboratories; A.B., Stanford; Ph.D. (1938) California; member early group in cyclotron development; among the first in the production and application of induced radioisotopes administered to humans; since 1942, has engaged in the co-ordination of technical phases Manhattan Project and was alternate group leader of the Health Group for the New Mexico Atom Bomb test; since 1946, has coordinated a program at Oak Ridge for the national distribution of radioactive isotopes.

DR. WM. F. BALE, Associate Professor of Radiology and Assistant Director of the Rochester Manhattan District; A.B., Cornell Ph.D., Rochester (1936); has done extensive research in the X-ray diffraction of tooth and bone tissue; primarily responsible for the development of the dipping type counter tube for determining radioactivity of solutions; was largely responsible for the co-ordination of radioactive tracer research conducted at Rochester; since the beginning of the war he has been connected with the Manhattan District, carrying on exhaustive studies in the field of uranium toxicology.