(ii) Account must be taken, however, of the *internal* radiation from the radioactive strontium which is beginning to accumulate in bone. At its present level, no detectable increase in the incidence of ill effects is to be expected. Nevertheless, recognizing all the inadequacy of our present knowlege, we cannot ignore the possibility that, if the rate of firing increases and particularly if greater numbers of thermonuclear weapons are used, we could within the lifetime of some now living, be approaching levels at which ill effects might be produced in a small number of the population.

5) *Recommendations regarding specific uses of radiation.* (i) All sources of radiation, both medical and industrial, should be under close inspection, in order to insure that the high standards of protection now attainable against the absorption of ionizing radiations, and against radioactive materials, are generally observed. Those using radiations should be instructed in the precautions to be taken, and no unnecessary or unauthorized person should be allowed to engage in such occupations. A personal record, not only of doses of radiation received during occupation but also of exposures from all other sources, such as medical diagnostic radiology, should be kept for all persons whose occupation exposes them to additional sources of radiation. (ii) Present practice in medical diagnostic radiology should be reviewed, with the object of clarifying the indications for the different special types of examination now being carried out and defining more closely, both in relation to the patient and to the operators, the conditions which should be observed in their performance. (iii) The uses of radiotherapy in nonmalignant conditions should be critically examined. (iv) The small amounts of irradiation from miscellaneous sources, such as x-ray machines used for shoe-fitting, luminous watches and clocks, and television apparatus, should be reduced as far as possible.

6) *Collection of vital statistics.* As an essential basis for future studies of the genetic effects of radiation, further data are required on the genetic structure of human populations; to this end, there is an urgent need for the collection of more detailed information, when births, marriages, and deaths are registered.

Anticlotting Drug

A new drug, polybrene, to counteract the anticlotting effect of heparin is reported by three Northwestern surgeons, Frederick W. Preston, Robert Hohf, and Otto Trippel, in the current issue of the *Quarterly Bulletin* of Northwestern University Medical School. The new drug was found to be "a suitable antiheparin drug for clinical use."

In a study of 33 patients, it was found that "polybrene promptly neutralized the anticoagulant effect of heparin." Heparin, which normally occurs in the body, prevents blood from clotting. When the heparin mechanism is disturbed, abnormal bleeding occurs, as in hemorrhage after birth, in leukemia, and in bleeding under the skin that causes bruiselike purple patches. In such cases antiheparin agents such as polybrene are useful in neutralizing heparin and, thus, permitting the blood to clot and the bleeding to stop.

Polybrene is similar to two other antiheparin drugs, protamine sulfate and toluidine blue, but "polybrene is more potent than either. It is stable and may be stored for long periods of time." Polybrene "must be given intravenously, slowly, and in dilute solution to prevent toxic effects."

Reactors for Denmark and the Netherlands

The U.S. Atomic Energy Commission has announced that the United States Government will contribute $350,000 toward the cost of a nuclear research reactor project to be undertaken by the Netherlands Centre and a similar amount for a similar project to be conducted by the Danish Atomic Energy Commission.

The American Car and Foundry Industries, Inc., of New York has been selected by the Netherlands to design, engineer, and construct the reactor. The buildings will be designed and constructed by a Netherlands firm. The project will be administered by the Netherlands Reactor Centre, a foundation established within the Netherlands Government in July 1955.

Cost of the reactor is estimated at $2 million or more, and cost of the entire project may run to $3 million. The schedule calls for completion of construction in 21 months following establishment of general specifications for the reactor and its associated equipment and buildings.

The reactor is to be a modified pool type similar to the new Oak Ridge (Tenn.) research reactor now under construction. It will be cooled and moderated with ordinary water and fueled with uranium containing approximately 5.7 kilograms of uranium-235.

The reactor will be used for research in agriculture, medicine, physics, and chemistry and to train people in the design and operational technology of both research and power reactors. Supporting facilities planned by the Netherlands include research laboratories and "hot" caves for handling radioactive material.

The Foster-Wheeler Corporation of New York will design and construct the mechanical components of the Danish reactor. Assembly and installation will be done by Danish firms in cooperation with Foster-Wheeler.

The Danes are planning a nuclear research center on a peninsula near Roskilde, some 20 miles west of Copenhagen. All laboratories and other facilities will be designed and built by Danish companies. The entire project will be operated by the Danish Atomic Energy Commission.

The reactor will be fueled with uranium containing approximately 5.7 kilograms of uranium-235 to be made available to Denmark by the United States. It will be cooled and moderated with ordinary water and will be similar to the Livermore (Calif.) pool-type reactor being constructed for the U.S. Atomic Energy Commission by the Foster-Wheeler firm. Initial cost of the reactor and its associated facilities is estimated to be approximately $1.4 million.

Two members of the Danish scientific staff to be assigned to the center are currently studying at the International School of Nuclear Science and Engineering near Chicago, Ill., which is operated for the U.S. Atomic Energy Commission by Argonne National Laboratory. Another staff member has had 6 months' experience in reactor technology at Brookhaven National Laboratory.

The Danish Atomic Energy Commission has plans to use the reactor for research and training in reactor physics, solid-state physics, metallurgy, reactor technology, radiochemistry, and production of radioisotopes for use in medicine, industry, and agriculture.

Priorities for Polio Vaccine

The U.S. Public Health Service recently recommended that state health agencies extend priority age groups for poliomyelitis vaccine to include all people under 20 and pregnant women as soon as the supply of vaccine warrants such action.

This announcement reiterates a recommendation made by the National Advisory Committee on Poliomyelitis Vaccine last April. The committee at that time recommended that states concentrate their polio program on children under 15 and pregnant women until maximum coverage of this group had been achieved. The Public Health Service, in accepting the committee's recommendation, said that the states should immediately broaden their priority group when this goal was reached.

In announcing the recommendation, Leonard A. Scheele, surgeon general, said: "To date, more than 72 million