175 cu. ft. (5 cu. m.) per minute, a duct into room 2 supplies 500 cu. ft. (14 cu. m.) per minute, and approximately 300 cu. ft. (8.5 cu. m.) is drawn into room 3 from the corridor through a grill in the door. Exhaust air from the area is drawn out by an exhaust fan mounted on the roof above the laboratory, and is finally discharged from a vertical lead-coated copper duct which extends 4 ft. (122 cm.) beyond the top of the adjoining infirmary building. Air enters the exhaust system through a duct located in room 1 at the rate of about 200 cu. ft. (5.5 cu. m.) per minute and through a duct from the plenum above the chemical hood in room 2 at approximately 800 cu. ft. (22.5 cu. m.) per minute. In each of these ducts, the air is first drawn through a preliminary filter (type G, A.A.F.). After the ducts merge, the air is passed through a Chemical Warfare Filter type 6 before entering the exhaust fan and vertical shaft. The exhaust air from the animal room (room 1) is maintained at a slightly higher rate than the intake in order to cause a slight inward seepage around the door and thus reduce the possibility of odor and contamination backflowing into the laboratory area. Depending on the level to which the hood windows are opened, the air passage through the chemical hood is adequate to maintain a linear velocity ranging from a minimum of 100 ft. (30.5 m.) per minute to a maximum of 800 feet (244 m.) per minute. No direct connection of room 3 and the exhaust system is provided, in order that a heavy flow of air can be maintained from the grill in the corridor door across the room, through the passageway between rooms 2 and 3 and then into the hood. In this way, it is possible to prevent any air-borne contamination originating in room 1 or 2 from reaching room 3, where the radiosensitive scalers are located.

CHEMICAL HOOD

In work involving high level activity one is faced with a choice between very elaborate, expensive and presumably permanent hoods or hoods constructed from simple, inexpensive and hence easily disposable material. For our work we chose to try an intermediate design, namely, a semipermanent double hood, shown in figure 2. Made to specification from wood (birch) and lined with removable lino-bestos,® the working area in each side is 33 in. (84 cm.) wide and 30 in. (76 cm.) deep. The hood windows are provided with stops at the bottom to prevent complete closure and thus allow a constant flow of 800 cubic feet (22.5 cu. m.) of air per minute. The air is drawn out of a plenum at the top of each half of the hood through a 10 in. (25.5 cm.) diameter collar which is connected to the air ducts described above in connection with the ventilation system.

At present, shipments of the concentrated isotopes from Oak Ridge, Tenn. are being received in the biophysics department of the Harvard Medical School, where a more elaborate concrete chemical hood is installed and serves our own and other departments of the Harvard Medical Area. This hood has been described in detail elsewhere.[1] For each experiment, an appropriate dilution of the isotope is prepared in the more elaborate concrete hood and taken in a conveniently handled lead container to the hood of our radioactive unit in the School of Dental Medicine. Here a larger lead box—8 by 16 by 14 in. (approximately 20 by 40.5 by 35.5 cm.) with ⅛ in. (3 mm.) thick sides—has been installed within the hood for further storage of smaller quantities of isotopes and of radioactive animal tissues in process of preparation.

OPERATING TABLE, BENCHES AND BALANCE CASE

The stainless steel operating table seen in figure 2 was designed for this particular laboratory. The back of the table is 12 in. (30.5 cm.) high to prevent splashing of the tile wall. The table top is 17 in. (43 cm.) wide, 47 in. (119 cm.) long and around 1 in. (2.5 cm.) deep and is pitched sufficiently to drain into the oblong sink. Hot and cold water are supplied through a curved mixing faucet as well as through a flexible tube with a spray attachment. At each corner the table top is provided with stainless steel loops for immobilizing the anesthesized animals. All corners and edges are welded together, ground and polished to form uniformly smooth joints and surfaces. This table serves several purposes: administration of radioisotopes, examination and autopsy of animals, and performance of acute experiments.

1. Solomon, A. K., and Foster, C. A.: A Hood for Work with Radioactive Isotopes, Analyt. Chem. **21**:304, 1949.