

blood bankers are free to select the data which best support their respective philosophies.

For a business which at first sight would seem to be dictated by a few simple exigencies, blood banking has been characterized by a remarkable diversity in philosophy and organization. The science and practice of blood collection, processing, and transfusion has only grown up in the last 30 years. Prior to World War II the nation relied on voluntary donations, collected at hospitals when the need arose. The nation's first civilian blood bank was established in 1937 at Cook County Hospital in Chicago. Needs for blood during the war stimulated research, and by 1943 an anticoagulant had been developed which permitted fresh blood to be stored for up to 21 days. Around the same time techniques for separating red blood cells from plasma were developed, thus opening up the field of component therapy.

The present blood banking complex began taking shape in the late 1940's with the advent of a national Red Cross blood program and the formation of the American Association of Blood Banks (AABB).

The Red Cross, which gets all its blood from volunteer donors, set up its nationwide civilian program in 1947 with an eye to becoming the national blood collection and distribution organization. It now has 59 regional centers in 42 states and collects about half of the national total of 7 to 8 million pints.

The AABB, a trade association, was set up partly to protect the interests of the hundreds of hospital blood banks then in existence from the incursions of the Red Cross. Its membership now includes some 1400 nonprofit institutions that rely on both paid and nonpaid donors and a few commercial or profit-making banks (although it no longer accepts commercial memberships), but it is dominated by the hospital banks.

The AABB also runs a National Clearinghouse Program, set up in its present form in 1955, which operates on a system of individual and group blood credits. Last year the clearinghouse pushed around about 0.5 million units of blood, either through transfer of credits or transfers of blood.

While the Red Cross and the AABB have attempted to cooperate with each other increasingly in recent years (the Red Cross participates in the clearinghouse), their relation has been marked by competition and mutual suspicion.

While both organizations believe in voluntarism, the Red Cross operates on the belief that blood and blood products should have no monetary value attached to them. Thus it charges participating hospitals only the costs involved in processing—a word which covers salaries, overhead, blood typing, testing, cross-matching (matching donated blood with that of the recipient), and fractionation.

The AABB believes that the only way to encourage donations is to levy a replacement fee—usually around \$25—over and above the processing fee. The money is returned if the blood recipient can round up donors to replace the units he has received. This is the most clear-cut area of disagreement, but the fact that the Red Cross deals only in collection, processing, and distribution, while the AABB (because of its hospital orientation) is concerned with transfusion and the maintaining of balanced supplies, means that their philosophical differences run deep.

Also peopling the blood landscape are an unknown number of commercial blood banks, which operate for profit and pay donors \$5 to \$10 a pint. These are the ones that have developed an unsavory reputation, although they probably collect less than 5 percent of the national blood supply and are not all in league with skid-row donors. Commercial blood banks appear to be somewhat on the decline, except in the plasmapheresis business which, as one blood banker puts it, "is the truly messy corner of the blood bank system."

Plasmapheresis is the process whereby whole blood is drawn from the donor (almost invariably a "professional"), the red cells are extracted and reinjected into the donor, and the plasma is retained. This procedure permits a donor to give blood as often as four times a week (whole-blood donors are required to put 8 weeks between visits), and a sizable number of people earn their living this way. Component therapy has rapidly become a big part of the blood business in the last decade, and now about 25 percent of the blood drawn annually is broken down into its components—red cells, white cells, platelets, and plasma. Drug firms further separate the plasma into such fractions as gamma globulin, fibrinogen (a clotting factor), cryoprecipitate (for treatment of hemophiliacs), plasma protein fraction, and serum albumin. Many drug firms run profitable plasmapheresis centers, and hepatitis virus is not impaired

NEWS & NOTES

● **TELESCOPE SITE FIXED:** The National Science Foundation has selected a 3000-acre desert site in New Mexico as the location for its \$76-million Very Large Array (VLA) telescope, the world's most sensitive and accurate radio telescope. The VLA will comprise 27 dish-shaped telescopes, each 82 feet in diameter, which can be moved along a Y-shaped track with 13-mile-long prongs. The telescope, 50 miles west of Socorro, will be able to pick up signals from this and other galaxies and is expected to add to knowledge on the laws of gravity, physical processes in interstellar gases, and the origin and evolution of the universe. After a 7-year search, the site was chosen on the basis of its high altitude, southern location, flatness, and the absence of man-made interference from noise and vibration.

● **ENVIRONMENTAL SUMMER:** Some 1300 college students will conduct independent research on the problems of the environment this summer with the aid of \$1.9 million in grants from the National Science Foundation. Among the projects afoot are a study on how to overcome misperceptions that occur in interracial communication, a look into architectural preservation policies in Chicago, and a study of the economic and sociological impact of the San Jacinto fault.

● **MAN AND TECHNOLOGY:** A group of European and American scientists have joined Alvin Toffler, author of *Future Shock*, to form an international society to assess the social, political, economic, and environmental effects of technology. The International Society for Technology Assessment will be headquartered at The Hague and will have offices in Washington, D.C. Its main activities will be the publication of *Technology Assessment*, a new periodical, and the arrangement of biennial international conferences, the first of which is to be held next March at The Hague.

● **ACADEMIC ISSUE:** No subject is too large for the academic mind or, for that matter, too piddling. Listed among the new publications of the National Academy of Sciences is a work entitled *Hydrodynamics of Micturition*, a contribution to knowledge that may be purchased for \$28.50 from Charles C. Thomas of Springfield, Illinois.