of Metals, University of Chicago; Samuel S. Wilks, professor of mathematical statistics, Princeton University; and E. Bright Wilson, Jr., department of chemistry, Harvard University.

Research Corporation Award

Won by Libby for Dating Technique

Willard F. Libby, professor of chemistry in the University of Chicago's Institute for Nuclear Studies, received the 1951 Research Corporation Award at ceremonies held in New York City on February 26th in recognition of his work in developing a method and apparatus for determining the ages of archaeologically interesting objects by measuring the residual carbon radioactivity of the specimen. The award, consisting of a plaque, a citation, and $2500, was presented by Joseph W. Barker, president and chairman of the board of Research Corporation, during a dinner at the Waldorf-Astoria attended by some 150 scientists and educators. Karl T. Compton, chairman of the corporation of the Massachusetts Institute of Technology, served as toastmaster. The dinner also celebrated the fortieth anniversary of the founding of Research Corporation, a non-profit foundation established in 1912 by Frederick Cottrell which distributes its total net income as grants in aid of research to colleges, universities, and scientific institutions.

The radiocarbon dating method was first proposed by Libby about five years ago when he suggested that the carbon contained in living matter might include a small proportion of carbon-14, having a normal half life of more than five thousand years, which had been formed by cosmic ray bombardment of atmospheric nitrogen and absorbed by plants as carbon dioxide in the photosynthesis process. The carbon-14, converted by the plant into edible carbohydrates and eaten by animals, would then in part return to the atmosphere through respiration, and in the course of time an equilibrium concentration of the radioisotope would be established for all living matter. Experimental confirmation of this hypothesis was in fact obtained by analysis of new wood from various parts of the world, the result being that within the limits of experimental error each sample showed a constant level of radioactivity. Further tests of the method have been made with ancient specimens, the ages of which had otherwise been established, with results that have been shown to be in striking agreement with well-founded archaeological data.

Once the plant or animal dies, the radiocarbon content is no longer replenished and drops below the normal equilibrium concentration for living matter as carbon-14 decays back into nitrogen-14 by beta-ray emission. The radiation of the carbon-14 can be measured by means of a Geiger counter, providing that both counter and specimen are well shielded to eliminate the normal radioactivity which exists as a background in the atmosphere. Libby's apparatus consists essentially of an outer shielding of eight inches of iron, a group of several anti-coincidence counters to intercept as much as possible of the background radioactivity that has penetrated the iron casing, and a special screen wall counter in which the sample itself becomes a part of the counter wall so that the comparatively weak radiation from the radiocarbon need not pass through any intervening shielding.

Radiocarbon dating laboratories have been established at Columbia and Yale Universities, the Universities of Chicago and Michigan, and most recently at the University of Pennsylvania. Each has chosen a different region of study, and the programs of the various laboratories have been considered as cooperative enterprises bringing together the skills of physicists, chemists, biologists, archaeologists, anthropologists, and historians. Results obtained with the dating technique have already established the time of the Ice Age as being 10,000 years instead of 25,000 years ago, dated the world's oldest known village, confirmed the date of one

W. F. Libby, right, shown as he received the 1951 Research Corporation Award in recognition of his work in developing a method for dating archaeological objects. The presentation was made by Joseph W. Barker, left, president and board chairman of Research Corporation, during the dinner marking the foundation's 40th anniversary. MIT Chairman K. T. Compton, second from left, served as toastmaster, and S. K. Allison, director of the Institute for Nuclear Studies at Chicago, received copies of Dr. Libby's plaque and citation on behalf of the University of Chicago.

of the oldest known Biblical manuscripts, and contributed important dates to the history of the first men in America.

The first complete description of techniques used in the method is contained in a book on the subject written by Libby, according to the University of Chicago. The new volume, *Radiocarbon Dating*, was published on February 25th by the University of Chicago Press.

Education

Shift Reported from Arts to Sciences

The New York Times, in a report written by Benjamin Fine on March 9, has indicated that results of its survey of enrollments in one hundred representative colleges and universities in the United States suggest a gradual swing away from the liberal arts and humanities and a corresponding emphasis upon the natural sciences and on technical and professional subjects in general. In comparison with enrollments ten years ago, it was stated, proportionately fewer students are now in the liberal arts than in the technical and professional fields. Foreign languages, English, and history were reported to be the fields to have suffered the most, while the greatest gain, it was suggested, has occurred in the medical and related sciences.

Estimated drops in enrollment in 1952–53 indicated by the survey amount to about nineteen percent in the humanities, social studies, and liberal arts, and to only about five percent in the sciences. If this estimate is correct, the report points out, it will mean that the number of faculty members in the liberal arts will again be decreased more than in other departments.

A number of prominent educators from various parts of the country were reported in the *Times* story to have urged the importance of the humanities and liberal arts for students regardless of the particular fields of specialization they may wish to follow. One, W. B. Alexander, vice president of Antioch College, was quoted as having remarked that "scientists and technicians without a liberal education, turned out in too great numbers, may be positively dangerous in the long run, because wise use of our technological and scientific apparatus depends on a broad and informed view of history and culture."

Air Force Research

New Office of Scientific Research Formed

The Air Research and Development Command of the U. S. Air Force announced in January the establishment in Baltimore of its Office of Scientific Research, which will work with educational and industrial organizations, initiating and administering a program of research through contracts, especially in broad fields of interest to the Air Force. Graduate study and research in such fields as physics, fluid mechanics, chemistry, and mathematics will be sponsored under the new office, and the use of graduate skills in carrying out the research contracts will be encouraged, according to the Air Force statement. Establishment of the new organization, the announcement said, "marks an increased emphasis by the Air Force in basic research performed in the nation as well as within the Air Force, and in furthering understanding of the value of basic research to the Air Force mission."

Morris E. Leeds

Morris E. Leeds

Morris E. Leeds, founder and chairman of the Board of Leeds & Northrup Co., Inc., Philadelphia, makers of electrical instruments and automatic controls, died on February 8th at Lake Wales, Florida, after having been ill for several weeks. He was eighty-two years of age. Born in Philadelphia, Mr. Leeds graduated from Haverford College in 1888 with the degree of Bachelor of Science and shortly thereafter joined James W. Queen & Co., then the leading American scientific instrument company. He studied for one year at the University of Berlin and visited a number of the leading German instrument firms, and within a few years after returning to the U. S. he founded his own instrument company in Philadelphia, later going into partnership with Edwin F. Northrup, a research physicist. Mr. Leeds helped to create a trade organization, the Scientific Apparatus Makers of America, and served as its president from 1920 to 1926. During this period he was active in the project whereby the scope of the official publication of the Optical Society of America was enlarged to include papers on all types of scientific instrumentation, its title being changed to the *Journal of the Optical Society of America and Review of Scientific Instruments*. Mr. Leeds served as consulting business manager of the journal from 1922 until 1937. The *Review* has appeared as a separate publication since 1930. Mr. Leeds was a member of the American Physical Society and numerous other professional scientific and technical organizations. He was deeply involved during much of his career with education matters and served for ten years as president of the Philadelphia Board of Education and for seventeen years as president of the board and of the corporation of Haverford College.