

other now known. This exploration has uncovered many miles of cave passages, including connections between Crystal Cave and other nearby caves, showing that integration exists in the Flint Ridge cave system.

Passages already surveyed or explored in the system now total 32 miles, making it the largest known. It is anticipated that many more miles will be added to this figure as additional known and yet-to-be-discovered passages are studied. The second largest cave is Hollich in Switzerland.

Since early 1954, systematic exploration has been conducted in Flint Ridge by the project members to compile complete data covering the cave system configuration, underground drainage, and animal life. The work was described at the recent meeting of the AAAS by Roger W. Brucker, David B. Jones, William T. Austin, and Brother G. Nicholas.

News Briefs

■ Radio waves come from at least 1936 heavenly sources, most of which are not identified with any visible object, according to a report to the Royal Astronomical Society by Martin Ryle of the Cavendish Laboratory, Cambridge, England. About 500 sources have been accurately plotted. Some 30 are large, several may be galaxies in collision, and a few are the expanding remnants of supernovas.

■ The volcano Bezmyanny in Kamchatka, U.S.S.R., considered extinct for hundreds of years, erupted on 20 Oct. Director Zladovets of the volcanological laboratory of the Soviet Academy of Sciences said on the Moscow Radio that the cloud of ashes above the crater had swelled to 6 miles in height by the middle of November.

■ A planetarium capable of projecting the motion of 8600 stars and planets was opened on 4 Dec. in Poland's heavy industry city of Stalinogrod. The planetarium, the first in the country, is named after Nicholas Copernicus.

Scientists in the News

WILLIAM F. GIAUQUE, Nobel laureate and professor of chemistry at the University of California, Berkeley, is to receive the Gilbert N. Lewis medal of the California Section of the American Chemical Society. The gold medal is awarded from time to time in recognition of special achievements in theoretical chemistry. This is the third time the medal has been given. It will be presented

to Giaque on 15 Feb. at a special award ceremony.

Giauque was selected especially for his low-temperature work, which also won him the Nobel prize. His method of using a strong magnetic field made it possible to achieve temperatures a few thousandths of a degree above absolute zero.

W. C. NIXON of the Cavendish Laboratory, Cambridge University, Cambridge, England, has arrived at the University of Redlands for a period of 3 months. The National Science Foundation has provided funds to support Nixon's stay as a visiting research associate in x-ray microscopy. He is one of the pioneers in this field.

Nixon will deliver a series of evening lectures on 7, 15, 22, and 25 Feb. During his visit he also will give informal talks and will review the progress of x-ray microscopy research at the university. Information may be obtained from Prof. Albert V. Baez, Physics Department, University of Redlands, Redlands, Calif. Nixon will spend April, May, and June at Stanford University under the same NSF grant.

EDGAR L. PIRET, professor of chemical engineering at the University of Minnesota, has received the William H. Walker award of the American Institute of Chemical Engineers.

ROBERT L. PIGFORD, chairman of the department of chemical engineering at the University of Delaware, was awarded the institute's Professional Progress award.

DAVID TABOR of Cambridge University, Cambridge, England, has arrived at Stanford Research Institute, where he will work for a year in the control systems laboratory on problems of surface physics. He is on leave from his post at Cambridge as assistant director of research in the Laboratory for the Physics and Chemistry of Surfaces.

WALTER G. FRANKENBURG of Lancaster, Pa., has received the Cigar Industry Annual Research award in recognition of his contributions to the development of the basic science and technology of tobacco. Specifically, acknowledgement was expressed to the award winner for his thorough investigations of the chemical processes that occur in the harvested tobacco leaf, including the conversion of nicotine into a series of other substances, and for the successful application of this new knowledge to problems of the cigar industry. The award is sponsored annually by the Cigar Manufacturers Association of America in conjunction with the Cigar Institute of America.

RUSSELL W. MUMFORD, vice president and consulting engineer for American Potash and Chemical Corporation, retired recently after 35 years of service with the company. Mumford's association with the organization began in 1920 when he was named chemical engineer in charge of research and development for the company's main plant at Trona, Calif.

During succeeding years he served as assistant manager of the Trona plant, and in 1929 he became consulting engineer. Mumford was named a vice president of the corporation in 1941 and was elected a director in 1947. He continued as vice president and consulting engineer until his retirement.

HARLOW SHAPLEY, professor of astronomy at Harvard University and former director of the Harvard College Observatory, has been elected an honorary member of the National Academy of Sciences of India.

CHARLES W. MAYO, professor of surgery at the Mayo Foundation, Rochester, Minn., recently received the 1955 award of the American Pharmaceutical Manufacturers Association. He was cited for contributions to medicine and to world understanding through work with the United Nations.

DANIEL D. CUBICCIOTTI, JR., has joined the staff of Stanford Research Institute as a senior scientist in the recently formed department of chemical physics. He was formerly supervisor of inorganic chemistry research with the Atomic International Division of North American Aviation at Downey, Calif. Cubicciotti will be engaged in fundamental studies of fused salt systems and metal-gas reactions at high temperatures, thereby opening up a new field of research at S.R.I.

OTTO STRUVE, chairman of the astronomy department at the University of California, Berkeley, has been awarded the Medaille Jules Cesar Janssen for 1955 by the Institut de France.

WILLIAM SEEMAN, former chief of the clinical psychology department at the Mayo Clinic, has assumed the newly created position of associate professor of medical psychology in the department of psychology, University of Oklahoma School of Medicine.

ARCHIE O. HALLER of the department of rural sociology at the University of Wisconsin, has been named associate professor, sociology and anthropology, at Michigan State University, effective 1 July.