to Iowa in 1854. There the family lived on the prairie and Thomas, the oldest of the children, worked all week for neighbors and came home on Sunday for religious worship and training. He was at Monmouth College from 1865 to 1869, studying mainly Latin, Greek, Hebrew, French and Bible. He took only one year of science (botany and physiology). He received the following degrees—A.B., Monmouth, 1869; A.M., 1873; LL.D., 1914; Ph.D., Lennox College, 1895; LL.D., Coe College, 1915. In 1891 he studied in Strasburger's laboratory at the University of Bonn, and also visited Pasteur's laboratory at the Institute in Paris.

He was professor of mathematics and modern languages at Lennox College (Hopkinton, Iowa) from 1870 to 1878. At the State University of Iowa he was assistant professor of natural science from 1878 to 1884, professor of botany from 1884 to 1914, and president from 1914 to 1916. He was president emeritus of this university from 1916 to the time of his death. He lived in Seattle from 1924 to the time of his death on March 27, 1934. For several years previous to 1924 he had divided his time between Iowa City and Seattle.

In science his contributions began with his trips over the prairies of Iowa on foot and by team with his lifelong friend, Thomas Calvin, for the study of geology and botany, and were continued in his trips to the southwestern and northwestern United States and also to Mexico and Europe. Outstanding accomplishments of his scientific career were his field collection of Cycads, his special study of slime moulds, and his establishment of the Lakeside Laboratory at Lake Okoboji, Iowa. In June, 1934, the University of Iowa commemorated his service there by naming the natural science building Macbride Hall.

Among his professional publications are numerous chapters in the Reports of the Iowa Geological Survey, papers in the Proceedings of the Iowa Academy of Science, his "Text-book of Botany," the three editions of his "North American Slime-Moulds," and "The Myxomycetes"; a descriptive "List of the Known Species with Special Reference to those Occurring in North America." The last, in collaboration with Dr. G. W. Martin, was published after Dr. Macbride's death. Other tangible results of his work are his collections of plants distributed to various herbaria, the fossil Cycads which he discovered in the Black Hills of the Dakotas and distributed to the British Museum and other institutions, and the teaching and research facilities available at the Macbride Lakeside Laboratory on the shore of Lake Okoboji in northern Iowa.

Many of his public addresses were published, and he wrote, by request, many newspaper articles dealing with the state of Iowa and its university. Two volumes of his addresses (1916 and 1925) were published under the title "On the Campus." His sympathetic interpretation of the life and ideals of the early pioneers of Iowa found expression in his volume "In Cabins and Sod Houses" (1928). He also published notes on his experiences at Bonn and various travel notes.

It was my privilege to know Dr. Macbride over a long period of years, and I owe much to the influence of his charming personality, the breadth of his scholarship, his love of nature, his skilful teaching and his enthusiasm for research. It was he who, in my freshman year, first gave me an insight into the field of botanical science, and it was he who, in the years when he was growing old beautifully in Seattle, was still a valued friend and counselor.

GEO. B. RIGG

SCIENTIFIC EVENTS

TELEVISION IN GREAT BRITAIN

THE London *Times* reports that a television advisory committee has been appointed by the postmaster-general to cooperate with the British Broadcasting Company in the inauguration of public television service.

The question of a suitable site for the London station is an important one. To ensure a sufficiently large area of service it is essential that the sending aerial of the station should be on an elevated site, since, in the case of the ultra-short waves to be used, it is necessary to have a substantially uninterrupted path between the sender and receiver. It is also desirable that the sending station should be in the center of a densely populated area.

One of the best sites is at the top of the Crystal Palace Tower, which has been used since June, 1934, for experimental and developmental work, and is now fitted with the required studios and laboratories. Vision signals are now sent out on a wave-length of 7 meters, while the accompanying sound is radiated on 8.5 meters, and demonstrations of satisfactory reception of both vision and sound have been given at places as far as twenty-five miles from the Crystal Palace.

Two new Baird home televisors have been demonstrated on the Crystal Palace signals. One model showed a brilliant black and white picture 8 inches by 6 inches in size, while the *de luxe* model gave a picture of 12 inches by 9 inches, suitable for an audience of thirty people.

Baird Television, Inc., has also demonstrated the

transmission of scenes by the intermediate film process. By means of it a talking film of an event is recorded and subsequently used for vision and sound transmission. The developing, fixing and washing of the film are carried out so expeditiously that there is a delay of only 30 seconds between the film recording and the television transmission.

The Marconi-E.M.I. Television Company, who, with Baird Television are to be invited to supply television senders for the new London station, have television receiving sets ready for the market, but point out that radio sound broadcasting will dominate the programs for many years and that television will not in any way interfere with the developments in radio sound broadcasting with its ever-increasing entertainment value.

EXHIBIT OF MINERALS AT THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA

FIFTY minerals, prepared by Miss Mary Allison Reed, of the staff of the Academy of Natural Sciences of Philadelphia, have been placed on exhibition in the mineral hall of the natural history museum.

The minerals, which are displayed on a black felt-covered panel around a road-map which shows the source of the specimens, have been gathered in quarries and mines near Philadelphia and from the rocks exposed along the Wissahickon and nearby streams. Ten localities, typical of those with similar underlying rocks but most prolific of their type, are represented in the collection.

The localities and the minerals are as follows:

(1) French Creek iron mines, 8 miles southwest of Pottstown: pyrite, chalcopyrite, calcite, apophyllite, magnetite, byssolite.
(2) Perkiomenville, Kibblehouse crushed stone quarries: calcite, stilbite, chabazite, natrolite, heulandite, epidote, garnet.
(3) Wheatley lead and zinc mines, 2 miles south of Phoenixville: quartz, calcite, ankerite, galena, sphalerite, fluorite, cerussite, anglesite.
(4) Railroad cut west of Henderson Station (near Bridgeport): quartz crystals, limonite.
(5) Soapstone quarries below Miquon (Lafayette): serpentine, chlorite, dolomite, talc, hornblende, magnetite.
(6) Rocks along Wissahickon, 500 feet north of Devil's Pool: anthophyllite, cyanite, garnet, staurolite.
(7) Vanartsdalen's quarry, 2 miles north of Neshaminy Falls: blue quartz, pyroxene, orthoclase, amphibole, wernerite, wollastonite, graphite, zircon, titanite, apatite, pyrrhotite.
(8) Brinton's quarries, 3 miles south of West Chester: serpentine, albite, magnesite, magnetite, asbestos, clinochlore, jefferisite.
(9) Rocks in creek and hillside of Mineral Hill, west of Ridley Creek (Media): serpentine, deweylite, sunstone, moonstone, amazonstone, chromite, enstatite, actinolite.
(10) Leiper's quarry, Crum Creek near Swarthmore: quartz, microcline (feldspar), muscovite and biotite (micas), beryl, tourmaline, garnet.

AWARDS OF THE AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS

THE American Institute of Mining and Metallurgical Engineers held its annual meeting in New York on February 19 and 20. The Howe Memorial lecture was given by Earl C. Smith, chief metallurgist of the Republic Iron and Steel Company, who discussed the effect of the application of petrography on the production of steel.

An international symposium on geophysics included papers by Rudolph Krahmann and Leopold Reinecke, of Johannesburg, J. G. Sineriz, of the Spanish Geological Survey, and Howard I. Smith, of the United States Geological Survey.

Medals for distinguished work in mining and metallurgy were presented. James MacNaughton, president and general manager of the Calumet and Hecla Consolidated Copper Company, received the William Lawrence Saunders Gold Medal for his work in the field of copper mining.

The James Douglas Medal for distinguished achievement in non-ferrous metallurgy was awarded to George C. Stone, author of numerous papers on this subject and an authority on the extraction of zinc.

The J. E. Johnson, Jr., Award was given to Francis M. Rich, of the Republic Steel Corporation, Youngstown, Ohio, for his work in the development of blast furnace operation under conditions of slow blowing.

Thomas Arthur Rickard, of Victoria, B. C., Canada, received a certificate of honorary membership in recognition "of his outstanding achievement as a proponent and preceptor of advance standards in technical concept and writing, and his brilliant contributions to the literature of geology, mining and metallurgy, as editor, journalist and author."

Six men who have been members of the institute for fifty years received the insignia of the institute's Legion of Honor. They were: Arthur S. Dwight, Arthur L. Walker, H. L. Hollis, L. W. McKay, C. Snelling Robinson and H. H. Webb.

Howard N. Eavenson, retiring president of the institute, presided. Dr. Henry A. Buehler, director of the Missouri State Bureau of Geology and Mines, was elected to succeed him. Other officers elected were: *Vice-presidents,* John M. Lovejoy and Paul D. Merica; *directors,* Dr. Charles K. Leith, Edwin E. Ellis, Wilber Judson, Wilfred Sykes and R. M. Roosevelt.