widely used as text and reference books by students in the forest schools and by others interested in forestry.[1] He was responsible for initiating at the School of Forestry a series of scientific bulletins, now comprising thirty-three numbers. Of these he was author or co-author of eight, and seven others were written by graduate students working under his direction. In addition he wrote extensively for the forestry journals and other periodicals. His bibliography covers a wide range of subjects, including articles of a scientific character, discussions of applied silviculture, forest taxation, watershed protection, forest economics and public forest policy.

Professor Toumey was called upon frequently for public addresses and for participation in public enterprises through committees and advisory boards or as an officer in technical and civic associations. In 1929 he was a member of the American delegation to the International Congress of Forest Experiment Stations at Stockholm, Sweden. He was granted the honorary degree of Doctor of Science by Syracuse University in 1920 and the honorary degree of Doctor of Forestry by the Michigan State College in 1927. He was a fellow of the Society of American Foresters, and a member of Sigma Xi, and of a large number of organizations engaged in advancing the interests of forestry and conservation.

In 1897 Professor Toumey married Miss Constantia Blake, of New Haven, who died in 1904, leaving a son, James W. Toumey, now a surgeon in New York. His second marriage was to Miss Nannie Trowbridge, of New Haven, in 1908.

His ashes will be taken to the Keene Forest, to which he was deeply devoted and which will be an appropriate sanctuary for his last resting place.

HENRY S. GRAVES

SCHOOL OF FORESTRY,
YALE UNIVERSITY

SCIENTIFIC EVENTS

BRITISH SOLAR ECLIPSE EXPEDITION TO CANADA

ACCORDING to the astronomical correspondent of the London *Times*, preparations are well advanced for the observation of the total eclipse of the sun on August 31 by an expedition from the Royal Observatory, Greenwich. The eclipse will be visible only from North America and limited regions surrounding that continent, the path from which the sun will be seen totally eclipsed crossing Hudson's Bay, Quebec Province, and the northeastern states, where totality will last about 100 sec. The observers, Dr. John Jackson and Mr. C. R. Davidson, F.R.S., of the Royal Observatory staff, will proceed to a selected station near the town of Parent, in the Province of Quebec, on the Canadian National Railway, to observe the eclipse.

There is to be no attempt to solve the problem of the bending of light-rays as they pass the sun that has formed part of the program on the occasion of some recent eclipses, but the equipment is chosen for making photographic records of the corona that is seen surrounding the sun only during total eclipses, and of its spectrum and of that of the chromosphere or solar atmosphere for which these occasions are specially suitable. Photographs of the corona will be taken with a telescope that has an object-glass 6 inches in diameter and of 45 feet focal length, giving therefore an image of the sun 5 inches in diameter. This will be placed in a fixed horizontal position and fed by a rotating coelostat.

The spectra of the corona and of the chromosphere will be photographed with a telescope with object glass 7 inches in diameter, of 21 feet focal length, producing, therefore, an image of the sun 2.3 inches in diameter. The spectrum will be formed by a prism, whose effective angle is 45 degrees, placed before the object glass. Such photographs result in a series of parallel arcs, which are actually pictures of the edge of the sun formed by light of different wavelengths. It is hoped that these will enable a connection to be traced between the chromosphere and the corona, and a differentiation to be made between the individual rings, or layers, which it is believed make up these solar surroundings.

Apparatus is also being taken with which to photograph the spectrum of the chromosphere and of the corona in its red and infra-red region. This is a grating slit spectrograph, the sun's image being formed on the slit by a mirror 9 inches in diameter and of 10 feet focal length. Another spectrograph of a different type, the spectrum in this case being produced by a prism with refracting angle of 30 degrees, will be used to photograph certain groups of lines due to calcium, and then deduce their absolute relative intensities at different heights in the chromosphere. Use will be made of curved films in some of these operations to secure good definition over a considerable length of the spectrum and advantage will be taken of the new Ilford infra-red sensitive plates.

INVESTIGATION OF COSMIC RADIATION

ACCORDING to information from the Massachusetts Institute of Technology, it will participate this summer in the world-wide survey of cosmic radiation to

[1] *Seeding and Planting.* James William Toumey. John Wiley and Sons, New York, 1916. Revised by J. W. Toumey and C. F. Korstian, 1931.
Foundations of Silviculture. James William Toumey. John Wiley and Sons, New York, 1928.