atoms measured with an instrument attached to a sounding balloon. The greatest variation in the sun's total radiation comes in this ultra-violet band. Knowledge of it is expected to prove of value in weather prediction.

Dr. McAlister, of the Division of Radiation and Organisms, discovered a new phenomenon of photosynthesis—an uptake of carbon dioxide by leaves in darkness. This discovery was due to the development of a new instrument for measuring carbon dioxide assimilation—a subject hitherto practically beyond the possibility of investigation.

The addition of nearly a thousand animals was made to the collections of the National Zoological Park through an expedition to the East Indies led by Dr. William M. Mann, director of the park, and financed by the National Geographic Society. The collection included numerous species never before exhibited at the park.

The Bureau of American Ethnology, the branch of the Smithsonian Institution devoted to study of the primitive peoples of the New World, made progress in untangling the complex of Indian languages, especially the extensions of the Athabascan, the tongue spoken by the red men of northwestern Canada. This has an intimate connection with the problem of the peopling of the New World by migrants from Siberia. Archeological work was continued on the site in Colorado where Folsom man, the earliest known inhabitant of this continent, made weapons and tools used in hunting extinct animals that flourished during the closing days of the last ice age.

Important Arabic, Chinese and Persian manuscripts, paintings and art objects were added to the collection of the Freer Gallery of Art; and 312,729 specimens were added to the collections of the National Museum.

AWARD TO PROFESSOR WOOD OF THE RUMFORD MEDAL OF THE ROYAL SOCIETY

THE Rumford Medal of the Royal Society, London, as already announced in SCIENCE, was awarded at the seventy-fifth anniversary meeting of the society on November 17 to Professor Robert Williams Wood, professor of experimental physics at the Johns Hopkins University. The medal has now been received in Baltimore by Dr. Wood, who was unable to attend the ceremony. It weighs fifteen ounces and is about three inches in diameter. On its surface is a profile of Count Rumford. With it was sent a silver replica of the medal.

Accompanying the medal was the following citation of Sir William Bragg, president of the society, which was read at the anniversary meeting:

Professor Robert Williams Wood is awarded the Rumford Medal. The study of physical optics owes much to Professor Wood, who has been one of the leading experimenters in this field for the past 40 years. There is hardly a branch of the subject which he has not enriched by the touch of his genius.

Before the advent of Bohr's quantum theory, when our knowledge of the structure of atoms and molecules was very meager, he had discovered the line and continuous absorption of sodium vapor, the phenomenon of resonance radiation of gases and vapors, and the quenching of this radiation by foreign gases. These discoveries opened up rich fields of research and were of the greatest value to later workers in laying the foundations of the theory of atomic and molecular spectra.

The elucidation of the phenomenon of resonance radiation demanded the utmost experimental skill and resource. Nothing less powerful than an improvised 40-foot focus spectrograph sufficed for his work on the remarkable resonance spectra of molecules! Even now one can not but admire the beautiful and ingenious experiments on the independent excitation of the yellow sodium lines.

In addition to his researches on the resonance radiation of metallic and other vapors, Wood investigated their magnetic rotation and dispersion. His work on the magneto-optics of sodium vapor both in the atomic and molecular state is now classical.

More recent but belonging to the same domain of experiment are the very interesting discoveries of Wood and Ellett on the magneto-optics of resonance radiation.

Wood's mastery of technique is universally acknowledged. He has introduced many ingenious and striking devices to experimental method. These are too numerous to catalogue here, but I would mention specially his method of the production of atomic hydrogen and his observations on the spontaneous incandescence of substances in atomic hydrogen which led to the invention of the atomic hydrogen welding torch by Langmuir; his very efficient and now widely used method of observing Raman Spectra; his échelette grating which has proved to be the grating *par excellence* for the investigation of the near and far infra-red, and his pioneer use of light filters in ultra-violet and infra-red photography.

SCIENTIFIC NOTES AND NEWS

ON the occasion of the sixtieth birthday of Professor Howard T. Karsner, director of the Institute of Pathology and for twenty-five years professor of pathology at Western Reserve University, his associates and former pupils commemorated the event by presenting him with his portrait, painted by Rolf Stoll, head of the department of portraiture of the Cleveland School of Art. The event took place at a tea in honor of Professor and Mrs. Karsner on January 6, at the Institute of Pathology. Preceding the tea, the fac-