

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 Athabaskan, 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. Archaeological 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-

ulty of the School of Medicine gave a surprise luncheon at the Cleveland Club in honor of Professor Karsner.

THE annual award of the Pittsburgh section of the American Chemical Society has been made to George Hubbard Clapp. The award, an aluminum plaque suitably inscribed, which will be presented at a meeting of the society on February 16, is made "in recognition of outstanding service to chemistry in the Pittsburgh District." Mr. Clapp, who recently celebrated his eightieth birthday, is a member of the Board of Directors of the Aluminum Company of America, president of the Board of Trustees of the University of Pittsburgh, a life member of the board of the Carnegie Institute of Technology and chairman of the Museum Committee.

THE annual Lawrence Sperry Award given by the Institute of Aeronautical Science "to the young man making the greatest contribution to the advancement of aeronautics during the year" has been given to Russell Conwell Newhouse, of Orange, N. J., a member of the technical staff of the Bell Telephone Laboratories, New York City. The award is made for the development of the terrain clearance indicator, a device which indicates the altitude of an airplane over the terrain immediately below, whether it be water, land or buildings. The award with a check for \$250 will be presented to Mr. Newhouse at the honors night dinner of the institute on January 27.

A GOETHE MEDAL has been awarded to Dr. Eugen Korschelt, professor of zoology and comparative anatomy at the University at Marburg.

THE Laura Leonard Prize of the German Society for the Study of Colloid Chemistry has been awarded to Professor M. Samec, of Ljubljana, Yugoslavia, for his work on the colloidal chemistry of starch.

DR. JULIAN PARK, dean of the College of Arts and Sciences of the University of Buffalo, has returned from France, where he received on December 3 the degree of *docteur honoris causa* from the University of Dijon.

DR. RAYMOND PEARL, professor of biology in the School of Hygiene and Public Health at the Johns Hopkins University, was elected at the Detroit meeting president of the American Statistical Association.

THE Berlin Society for Anthropology, Ethnology and Pre-history, of which Dr. Franz Boas, emeritus professor of anthropology at Columbia University, was a corresponding member, has discontinued his membership "on account of reliably reported hostility to present Germany."

At a meeting of the History of Science Society held in Chicago on December 29 and 30, the following officers were elected for the year 1939: *President*, Henry

E. Sigerist, Baltimore; *Vice-presidents*, Richard H. Shryock, Philadelphia, and Louis C. Karpinski, Chicago; *Secretary-Treasurer*, Henry R. Viets, Boston; *Council*, F. R. Moulton, Washington; Hans Fischer, Zurich; C. L. G. Pratt, Oxford; Kenneth J. Franklin, Oxford; Erik Waller, Lidkoping, Sweden.

THE Torrey Botanical Club held its annual meeting and banquet at the Faculty Club, Columbia University, on January 3. The following officers were elected: *President*, A. H. Graves; *First Vice-president*, G. T. Hastings; *Second Vice-president*, Miss Cornelia L. Carey; *Treasurer*, H. N. Moldenke; *Corresponding Secretary*, J. S. Karling; *Recording Secretary*, Miss C. Chandler; *Editor*, R. P. Wodehouse, and *Business Manager*, M. Levine.

DR. WILLIAM S. McELLROY has been elected dean of the School of Medicine of the University of Pittsburgh. He has been acting dean of the school since the death of Dean Raleigh Russell Huggins in February, 1938.

DR. HARRY W. CRANE, professor of psychology at the University of North Carolina, has resigned as director of the Division of Mental Hygiene of the North Carolina State Board of Charities and Public Welfare, a position that he has held part-time since 1921, in order to accept the post, also part-time, of psychological consultant to the Health Center of the university.

DR. HERBERT B. WILCOX, professor of diseases of children at the College of Physicians and Surgeons of Columbia University, has been appointed director of the New York Academy of Medicine to succeed Dr. John A. Hartwell, who has resigned. The change will take place on April 1.

DR. ERROL IVOR WHITE has been appointed deputy keeper in the Department of Geology of the British Museum (Natural History), and Frederick Allan Bannister has been appointed deputy keeper in the Department of Mineralogy. A. G. Gabriel, technical assistant in entomology, has been promoted to assistant keeper. William B. Fagg has been appointed assistant keeper in the Department of Ethnography.

DR. SYLVANUS GRISWOLD MORLEY, of the Carnegie Institution of Washington, sailed on January 9 for Yucatan. This is his thirty-second annual visit. Members of the party include Frans Blom, director of the Middle American Research Institute of Tulane University, and Gerhard Kramer, associate in architecture.

DR. STANHOPE BAYNE-JONES, dean of the School of Medicine of Yale University, recently spent a few days as guest of the faculty of the School of Tropical Medicine at San Juan, Puerto Rico. While in San Juan he gave a lecture on "Recent Advances in Cancer Research."

DR. BRONISLAW MALINOWSKI, professor of anthropology at the University of London, is spending the winter in Tucson, Arizona.

PROFESSOR O. A. BROWN, of the department of electrical engineering of the Iowa State College, has leave of absence to accept a position with the United States Government as associate electrical engineer. He will work at Washington on problems of agricultural engineering.

DR. HOSMER W. STONE, assistant professor of chemistry at the University of California at Los Angeles, has been invited to continue his research on oxidation reduction indicators at the University of Copenhagen. He plans to sail during the first week of February and to return to California in December.

PROFESSOR LAMERT S. CORBETT, dean of men and head of the department of animal industry at the University of Maine, has been granted for reasons of health leave of absence during the present half year.

DR. STACY R. METTIER, associate professor of medicine in the University of California Medical School, has six months leave of absence and has sailed for England, where he will study hematology and the leukemias, under the auspices of the Nuffield Foundation, with Professor L. J. Witts, head of the department of medicine at the University of Oxford.

THE Phi Sigma lecture was given on January 15 at Marquette University, Milwaukee, by the Rev. A. M. Schwitalla, professor of biology and dean of the Medical School at St. Louis University. His subject was: "The Importance of the Cell Theory and Its Application to Modern Biological and Medical Problems."

CLIFFORD C. GREGG, director of the Field Museum, Chicago, spoke at the ceremonies marking the opening of a new wing in the Museum of Science of the St. Paul Institute on December 1. His topic was: "The Place of the Local Museum in Its Community."

DR. JAMES BONNER, of the California Institute of Technology, recently addressed the Utah Chapter of Sigma Xi in Salt Lake City on "Recent Developments in the Study of Plant Growth."

DR. WALTER C. ALVAREZ, of the Mayo Foundation, delivered the third of the laity lectures of the New York Academy of Medicine on January 12. He spoke on "The Emergence of Modern Medicine from Ancient Folkways."

DR. WILLIAM H. HOBBS, professor emeritus of geology, University of Michigan, gave a lecture before the Lancaster Branch of the American Association for the Advancement of Science on January 19. The lecture, which gave an account of his three expeditions to Greenland, was entitled "Exploring about the North Pole of the Winds."

DR. EMMETT B. CARMICHAEL, professor of physiological chemistry, School of Medicine, University of Alabama, was the principal speaker on December 9 at the installation of the Mississippi Beta chapter of Alpha Epsilon Delta, national honorary premedical fraternity, at the University of Mississippi, and of the Mississippi Gamma chapter at Mississippi State College on December 10. Drs. W. F. Hand, Clay Lyle and J. W. Ward, of the college faculty, were initiated as honorary members of the Mississippi Gamma chapter. Dr. Ray J. Nichols, professor of biology, is faculty adviser of the chapter at the University of Mississippi.

THE two hundred and twenty-sixth regular meeting of the American Physical Society will be held in New York City on Thursday, Friday and Saturday, February 23, 24 and 25, 1939, as a joint meeting with the Optical Society of America and the Inter-Society Color Council. The sessions of the Inter-Society Color Council will be held on Thursday, February 23, at 480 Lexington Avenue, and those of the American Physical Society and the Optical Society of America on Friday and Saturday, February 24 and 25, will be held at Columbia University in the Pupin Physics Laboratories. A special symposium on television will be held probably on Saturday morning. Invited papers will be presented by V. K. Zworykin and Philo T. Farnsworth. It will be concluded with a demonstration of television reception which will be presented by A. F. Van Dyck. There will be a morning business session of the Color Council, an afternoon technical session on "color tolerance" sponsored jointly by the American Psychological Association, an evening popular session and a "Parade of Color," to consist of recent or interesting color developments in the fields covered by the various member bodies of the council.

THE spring meeting of the Electrochemical Society will be held at Columbus, Ohio, from April 26 to 29. Headquarters will be the Deshler-Wallick Hotel. Professor James R. Withrow, of the Ohio State University, is chairman of the local committee. The two main sessions of this meeting will be devoted to organic electrochemistry, under the chairmanship of Sherlock Swann, Jr., and refractories, under the direction of L. J. Trostel.

THE annual general meeting of the American Philosophical Society will be held on April 20, 21 and 22, beginning at 10 A. M. on Thursday, April 20.

THE sixth Australasian Medical Congress will meet in Perth, Western Australia, in August, 1940. The main theme of the congress will be "Rheumatic and Allied Disorders."

THE American Physical Society and the American Association of Physics Teachers held their annual

meetings at the National Bureau of Standards in Washington on December 27 to 30. Over 400 persons registered for the meetings, including 315 from out of town. Seventy-nine papers were presented. The address of the retiring president, Dr. Lyman J. Briggs, on "The National Standards of Measurement," was followed by an inspection of these standards in the laboratories of the bureau. The joint dinner was attended by nearly 300 persons and was followed by a lecture by Dr. Harvey Fletcher on "Auditory Patterns," with experimental demonstrations. The next evening Professor P. W. Bridgman addressed the physics teachers on "Society and the Intelligent Physicist." The new officers of the American Physical Society are: John T. Tate, *president*; John Zeleny, *vice-president*; W. L. Severinghaus, *secretary*, and Geo. B. Pegram, *treasurer*.

THE National Advisory Cancer Council has recommended to the Surgeon General a grant of \$11,900 to Cornell University Medical College, New York City, for work during a period of two years by Dr. Dean Burk, under the direction of Dr. Vincent du Vigneaud, professor of biochemistry, on cell metabolism fundamental to cancer, with the understanding that for the purposes of this study Dr. Dean Burk may be appointed a fellow in the National Cancer Institute.

THE Committee on Scientific Research of the American Medical Association invites applications for grants of money to aid in research on problems bearing more or less directly on clinical medicine. Preference is given to requests for moderate amounts to meet specific needs. For application forms and further information, apply to the committee at 535 North Dearborn Street, Chicago, Illinois.

DISCUSSION

BIOLOGICAL RESEARCH FILMS

IN view of the now considerable number of research films that have been produced in various widely distributed laboratories it appears highly desirable that these films be collected at some central point. Not only would such a collection serve to record, index and make available these valuable data, but also it should be useful to encourage and improve the quality of future research films.

It has been suggested that a cross-indexed and abstracted collection of such films relating generally to biological research be established at the Marine Biological Laboratory, Woods Hole, Mass. The plan, as outlined below, has received approval from the director of the laboratory and from the managing editor of the *Biological Bulletin*, providing a sufficient interest is expressed by biological investigators and others who have already made or who plan to use films in their research or teaching.

The collected suggestions of nine investigators who have produced films appear to crystallize around the following three interrelated points: (1) The establishment of a centrally located film library. (2) Appointment of an editorial board of film reviewers. (3) Publication of collected film abstracts in a recognized journal.

(1) The Marine Biological Laboratory as an independent institution, already equipped with an almost unequalled library and being visited by the most representative cross-section of biologists, seems a logical choice for location. As part of the library activities, one print together with a complete negative including titles should be submitted for cataloguing and perma-

nent storage. At first, the author or his department might donate either the master negative or a copy, while the laboratory (if a source of funds can be found) could supply the positive.

(2) To assume responsibility for the plan's operation, it would be necessary for the trustees of the laboratory to appoint a board of review, consisting of three members. Its function would include passing upon the films submitted, rejecting those imperfectly titled, photographed or organized. In this manner the quality of films might be improved from year to year. Preference would be given those films of primary interest to workers in the Marine Biological Laboratory.

(3) To provide a running catalogue of the collection, a one-page abstract of each film accepted would be published annually in a winter issue of the *Biological Bulletin*, under separate heading, such as the *Biological Film Bulletin* or *Film Supplement*. Whenever desirable it is planned to print one or two frames from the film with each abstract. Copies of abstracts would be furnished to authors under the same conditions as hold for papers now published, and eventually the collected abstracts might be published in pamphlet form.

Even should the first years of operation of the above plan result in only few films being placed on record, it is nevertheless hoped that biological research will be substantially aided. It may become desirable to furnish at reasonable cost extra prints (approximately \$15.00 per reel) to institutions and to individuals who request them. However this latter suggestion may considerably increase the sum of three hundred dollars now necessary to start the plan. For the present, rental of the films seems out of the question.

It is earnestly requested that all those interested in