

zoological and chemical sections), Professor A. D. Waller, Sir John Biles, Dr. A. C. Had-don and Mr. A. D. Hall (president of the agricultural section) it is very strongly representative of the main body.

The rest of the party, the main body, will pick up the advance party at Perth about August 7 and will sail with them for Adelaide. If it had not been for the death of Sir W. H. White, who was to have been president at Birmingham last year, Sir Oliver Lodge would have been the president for the Australian meeting; and Australia has been eager to welcome him in his presidential capacity. Consequently he has been asked to deliver an address, and has consented. At Adelaide he will speak at an evening meeting on "The Ether of Space," and this valedictory discourse will embody his conclusions as to the objective reality of this concept, and his criticisms of the new mechanics by which an attempt is being made to replace it. Dr. W. J. Sollas, of Oxford, will deliver the other evening discourse on "Ancient Races and Their Modern Representatives"—of whom he believes the extinct Tasmanians to have been the most primitive—and Sir Charles Lucas and Mr. A. D. Hall will address their sections of geography and of agriculture.

From Adelaide, after a stay of four days, the association will go on to Melbourne, which with Sydney will be the auditorium of the larger part of the addresses, papers and discussions. Following the precedent of South Africa, the presidential address of Professor Bateson will be divided into two parts. The address in Melbourne will discuss the problem of evolution in the light of Mendelian discoveries. Professor Bateson will especially attempt a consideration of the nature of variation, showing the extreme difficulty of any longer maintaining the received doctrines on these subjects. At Sydney he will proceed further to show the application of the results of Mendelian analysis to man, pleading for simpler views of life and death and for a fuller recognition of biological knowledge in regard to conduct and the ordering of social structures.

The president's address will be delivered on the evening of August 14, and on that morning and on two other days the sections of mathematics, chemistry, zoology, economics and physiology will meet. When the association is adjourned and meets again in Sydney (August 20) the second part of the presidential address will be delivered and the remaining sections of geology, engineering, anthropology, botany and education will assemble. In another week the members move on again to Brisbane, where the sections of physiology and agriculture reassemble and where an address will be delivered by Professor W. E. Brown on "Cosmical Physics." These addresses and evening lectures are a special characteristic of the meeting, and among those who deliver them will be Sir E. A. Schafer on "The Origin of Life," Sir E. Rutherford, Professor Elliot Smith, Professor N. E. Armstrong, Professor E. B. Poulton, Professor G. W. Howe, Professor H. H. Turner, Professor B. Moore and Dr. Rosenhain.

After leaving Sydney some of the members of the association will visit New Zealand, and others will go to Tasmania. After the concluding meeting at Brisbane some will return directly home, but a number, splitting into larger or smaller parties, will continue the program of excursions which are so liberally provided for in the program of the month's meeting. One party, for example, will travel across North Queensland, others will visit New Guinea, where the commonwealth government has placed a yacht at the disposal of a specific anthropological investigation; and there are many other excursions for those who have time to make them before returning home by way of New Guinea and Java.

SCIENTIFIC NOTES AND NEWS

WITH the close of the present term at the Massachusetts Institute of Technology, Professor Robert H. Richards will retire from the active work of teaching which he has followed for forty-six years. He is made professor emeritus and receives the benefits of the Carnegie Foundation. Professor Richards has

been identified with the institute since its beginning, he was a student in the first class and a graduate in the first group to receive the B.S., following which he became assistant—1868–1871—and then in 1871 took the chair of mineralogy, in the department that afterwards developed into that of mining engineering and metallurgy.

PROFESSOR JOHN PERRY has recently retired from the staff of the Imperial College of Science and Technology, and a fund is being raised for the purpose of giving expression to the appreciation of his services to the teaching of mathematics and to engineering education.

THE astronomer royal, Mr. Frank Watson Dyson, has been elected Halley lecturer at the University of Oxford for next year.

LORD LAMINGTON has accepted the office of president of the Research Defence Society, in the room of the late Sir David Gill.

THE honorary degree of doctor of engineering has been conferred upon Commerzienrat Carl Paul Goerz, the head of the Goerz Optical Works, by the Technical High School in Charlottenburg.

DR. SMITH ELY JELLIFFE, of New York City, has been elected a corresponding member of the Paris Neurological Society.

PROFESSOR GEORGE C. WHIPPLE, of Harvard University, has been chosen as one of three American engineers to act with three Canadian engineers to advise with the International Joint Commission on matters pertaining to the pollution of the Great Lakes. Professor Whipple has also been chosen a member of a commission consisting of five sanitary engineers to advise the commissioner of health of New York State on matters pertaining to the location of tuberculosis hospitals on catchment areas used for public water supplies.

DR. C. E. MENDENHALL, professor of physics at the University of Wisconsin; Dr. Knight Dunlap, associate professor of psychology at the Johns Hopkins University and Dr. W. E. Burge, assistant professor and acting head of the department of physiology at the University of Illinois, have accepted invitations to

carry on research work during the coming summer in Nela Research Laboratory (formerly known as Physical Laboratory, National Electric Lamp Association). Dr. Willibald Weniger, of the Oregon Agricultural College, has also been secured for special research work during the summer and Mr. A. F. Wagner, of Purdue University, has been appointed to a temporary assistantship in the laboratory for a part of the vacation period.

AN exhibition of photographs by Mr. A. Radclyffe Dugmore, the African traveler and author of works on photographing big game in their native haunts, is being held at the house of the Royal Photographic Society, London.

PROFESSOR MARSHALL H. SAVILLE, of Columbia University, has sailed for Colombia, to make archeological explorations there and in Ecuador.

DR. J. N. ROSE, research associate in the Carnegie Institution of Washington, left New York on June 10 for the west coast of South America, where he goes under the auspices of the Carnegie Institution of Washington and the New York Botanical Garden, for the purpose of making a special study of the Cacti of the deserts of Peru, Chile, Argentina and Bolivia. He expects to send large collections of living plants to the New York Botanical Garden. He will be absent from Washington between four and six months.

PROFESSOR ALBERT JOHANNSEN, of the University of Chicago, has sailed for Europe to spend the summer in the mineralogical laboratories of Germany and Austria.

SIR ERNEST SHACKLETON with nine members of his expedition have visited Norway to test provisions and motor-sledges for his forthcoming Antarctic expedition.

AT Cornell University officers of Sigma Xi have been elected for the ensuing year as follows: *President*, Professor A. W. Browne, department of chemistry; *Vice-president*, Professor J. G. Needham, department of biology; *Counsellor*, Professor D. S. Kimball, Sibley College; *Recording Secretary*, Professor F. K. Richtmyer, department of physics; *Corre-*

sponding Secretary, Professor James McMahon, department of mathematics; Treasurer, Professor W. A. Riley, department of biology; Program Committee, Professor H. N. Ogden, civil engineering; Professor H. S. Jacoby, civil engineering; Professor A. W. Gilbert, department of plant breeding, and Professor A. W. Browne, *ex-officio*.

PROFESSOR W. M. DAVIS gave a lecture in the Town Hall at Suva, Fiji, on April 30, on "The Origin of the Coral Reefs of Fiji," in which he presented the chief results of his seven weeks' visit to those islands as a part of his Shaler Memorial study of coral reefs in the South Pacific. On May first he left for New Zealand.

ON May 25 Professor M. A. Rosanoff, of Clark University, presented before the research staff of the Mellon Institute, University of Pittsburgh, a theory of the mechanism of sugar inversion by acids.

DR. AMOS LAWRENCE MASON, senior physician of the Boston City Hospital and formerly associate professor of clinical medicine at the Harvard Medical School, has died at the age of seventy-two years.

THE death is announced of Miss Ida Freund, late lecturer in chemistry at Newnham College, Cambridge.

MR. WILLIAM WEST, lecturer at the Bradford Technical College, known for his contributions to botany, died on May 14, aged sixty-eight years.

Le Figaro for May 9 contains an announcement of the death of the noted French mathematician Jules Molk, who is especially well known to American mathematicians as the principal editor of the French edition of the large mathematical encyclopedia, which is now being published jointly by Gauthier-Villars of Paris and B. G. Teubner of Leipzig.

THE U. S. Civil Service Commission announces an examination for assistant biochemist in the U. S. Public Health Service, for duty in the field, at \$2,000 a year, and for assistant mining engineer, in the Bureau of Mines, for service in the field, in relation to

coal mining or metal mining, at salaries ranging from \$1,800 to \$2,400.

ON the afternoon of May 23, a conference was held at the Brooklyn Botanic Garden between the garden staff and the high school teachers of biology of Greater New York, as represented by the New York Association of Biology Teachers. The purpose of the conference was to offer an opportunity for the members of the association to become better acquainted with the aims, equipment and work of the garden, and to enable the latter to secure from the teachers practical suggestions as to how the garden may render the largest service to the teaching of botany in New York City and vicinity. The program was as follows:

What the garden can offer the schools.

The director of the garden.

The curator of public instruction.

The instructor.

High school classes at the garden.

The teachers of classes that have used the garden.

Suggestions from teachers.

Open discussion led by the president of the New York Association of Biology Teachers.

Following the conference there was an inspection of the first section of the laboratory building and the first two sections of the conservatories. The second section of the conservatories devoted to tropical economic plants was opened to visitors for the first time on this occasion and will hereafter be open to the public daily.

THE Harpswell Laboratory will be open for its fifteenth season from June 21 to the middle of September. It is intended to offer to investigators an opportunity to study a more northern fauna and flora than any other station in the United States. Though the laboratory is small, it has a good equipment, sufficient for any ordinary investigations. Its location, at South Harpswell, Me., on the shore of Casco Bay, assures abundant material for various lines of biological investigation, as well as a most comfortable summer climate and fine natural scenery. During the past some seventy higher institutions of learning have

been represented by workers there and a considerable amount of material has been published, based wholly or in part of investigations carried on there. This year it will be under the control of Drs. Neal and Kingsley, who have carried it on for several years, and all inquiries concerning rooms and other accommodations should be directed to Dr. H. V. Neal, Tufts College, Mass., until June 17; after that date to him at South Harpswell, Me. The laboratory, at most, can accommodate but fifteen workers at a time, and already considerable part of its space is engaged for at least a part of the summer.

It is announced that the biological laboratory of the United States Bureau of Fisheries at Fairport, Iowa, will be opened for investigators on June 15, and is expected to remain in active operation until about September 1. Those desiring to have the use of tables and other facilities for investigation may communicate with the commissioner of fisheries, Washington, D. C., or with the director of the Fairport station, Fairport, Iowa. The station is well equipped with laboratory and collecting apparatus, as well as with ponds and tanks, and supplies of river water and filtered water.

WILHELM ENGELMANN, of Leipzig and Berlin, announces the publication of the *Internationale Zeitschrift für physikalisch-chemische Biologie*. The editor is Dr. J. Traube, of Charlottenburg, with the assistance of Professor H. J. Hamburger, of Gröningen, Dr. V. Henri, of Paris, and Dr. J. Loeb, of the Rockefeller Institute for Medical Research, New York. The periodical will appear at irregular intervals, six parts forming a volume. It is hoped that about three volumes will be issued in the course of the year.

DR. VON LE COQ, the distinguished explorer, has promised, as we learn from the *London Times*, to lecture on his recent tour in Chinese Turkestan before the Royal Asiatic Society in the autumn. Writing from Berlin a few days ago he states that the results of his last journey have been very satisfactory, both in quality and quantity. His collections fill 152 cases. He worked mainly at Kucha and at Tumshug,

near Maralbashi. At Maralbashi he found a number of true Gandhara sculptures, some being exact counterparts of sculptures in slate in existing collections. But the finds, instead of being carved from Himalayan slate, were moulded in clay and plaster, some of the moulds being found alongside. Many of the "sculptures" were still covered with paint and gold leaf. He also discovered manuscripts, the first, it is believed, ever found at Tumshug. Some of these were in Sanskrit, and others, perfectly preserved, in an Iranian language. Other finds were a small but fine cornice, decorated in pure Sassanian style, and a number of heads of Sassanian knights; some good bronzes and statuettes in wood.

THE national forest reservation commission has approved the purchase of the Pisgah Forest from the estate of the late George W. Vanderbilt, at an average price of five dollars an acre. The tract consists of 86,700 acres and the total cost is therefore \$433,500. The price paid is less than the average for other tracts already acquired, although the Pisgah Forest has been developed by its former owner into one of the best forest properties in the country. This is the second time that the commission has had the purchase of this tract under consideration. Once before, during Mr. Vanderbilt's lifetime, the question of its purchase was taken up, but the commission did not deem it advisable to purchase it at that time. The tract includes portions of Transylvania, Henderson, Buncombe and Hayward counties, in North Carolina. It covers the entire eastern slope and portions of the northern and western slopes of the Pisgah range, one of the most prominent of the southern Appalachians. Its forests influence for the most part tributaries of the French Broad River which unites with the Holstein River at Knoxville, Tennessee, to form the Tennessee River. In accordance with Mrs. Vanderbilt's desire, the national forest reservation commission will retain the name of "Pisgah Forest"; in fact, the general area, in which this forest is located and in which other purchases may be made, is already designated as the "Pisgah Area." It is proposed

also to make it a game refuge for the preservation of the fauna of the eastern mountains. It is particularly well suited to this purpose since it is already well stocked with game and fish, including deer, turkey and pheasant; and in the streams rainbow trout and brook trout, with which they have been systematically stocked from year to year. With this purchase, and with others just approved, the total area approved for purchase under the Weeks law in the eastern mountains is 1,077,000 acres.

FACTS regarding our forest resources, their value and their waste, are condensed in an eight-page illustrated circular of the American forestry association just issued. The lumber industry is said to employ 735,000 people, to whom are paid annually \$367,000,000 in wages, the worth of products being \$1,250,000,000. The forests of the country cover 550,000,000 acres. An average of 70 human lives are sacrificed annually in forest fires, says the circular, and a loss occurs of \$25,000,000. Damage from insects and tree diseases, which follow fire, costs each year \$50,000,000. The cost of destruction resulting from floods is not estimated, but is given as "countless millions." But the circular expresses hope more than pessimism. As well as the colored pictures showing the forest fire, the effects of the fire, and the damage caused by floods, it shows also forests planted and grown under intensive management, and the national forest ranger scouting for fires on the mountain lookout station. The effective patrol here referred to has reduced "forest fire losses to as low as one tenth of one cent an acre." It is pointed out that by planting forests an annual income could be derived in the country of \$65,000,000; and by preservative treatment upon timber each year \$100,000,000 could be saved.

THERE has recently been established in Nela Research Laboratory (formerly known as Physical Laboratory, National Electric Lamp Association) a section of applied science in addition to the section of pure science which was established over five years ago. The section of applied science will be separate and

distinct from the section of pure science and will not restrict or in any way affect the established work in pure science. A research fellowship in ophthalmology in Nela Research Laboratory has been established for the year 1914-15. The fellowship carries with it an honorarium of \$700 and is open to men sufficiently advanced in specialized medical training to carry on an independent investigation of some problem having to do with the effects of light and attendant radiation on the eye.

WE learn from *Nature* that the movement inaugurated a few months ago to develop as completely as possible the educational side of the cinematograph made definite headway on Wednesday, May 20, when the Educational Kinematograph Association was formed at a meeting in London. Among those who have joined the council of this body are Sir H. A. Miers, Rt. Hon. Sir Horace Plunkett, Dr. C. W. Kimmins, Professor R. A. Gregory, Professor J. W. Gregory, Mr. C. Bathurst, M.P., Dr. Lyttelton, Mr. A. P. Graves, Professor Darroch, Sir Edward Anwyl, Sir Harry R. Reichel, Sir Bertram Windle, Sir Albert Rollit and General Sir R. Baden Powell. At the meeting a report was presented by the secretary, Mr. Morley Dainow, on behalf of the provisional committee, suggesting that the work of the association should be to encourage the best types of cinematograph production and develop a completely educational plan for their use. The report was adopted, subject to revision by a subcommittee. The following officers were elected vice-presidents: Sir Wm. Chance, Dr. Kimmins, Colonel Sir J. R. D. Smith, Sir Albert Rollit. An executive committee representative of educational and social welfare associations was also appointed, and Mr. Morley was elected secretary.

UNIVERSITY AND EDUCATIONAL NEWS

MR. ANDREW CARNEGIE has added, presumably from the income of the Carnegie corporation, \$2,000,000 to the endowment of the Carnegie Institute of Pittsburgh, to be equally divided between the institute and the school