District of Columbia and six foreign countries were represented. This enrollment showed nearly 43 per cent. increase over the previous session in 1908. The number of states represented is very significant of the fact that the American Agricultural Colleges as a whole are coming to realize the benefit of the sessions of the Graduate School to their instructional and experimental staffs and to American Agriculture at large.

The faculty was composed of experts from the United States Department of Agriculture, Agricultural Colleges of the United States and Canada, Biological Departments of several universities, the Carnegie Institution at Washington and from two foreign countries; Dr. J. C. Ewart of the University of Edinburgh, delivered five lectures on Animal Breeding and Dr. Von Tschermak, of the Royal Imperial Agricultural College of Austria, delivered five lectures on Plant Breeding.

Discussions of the latest theories and investigations relating to agricultural development were interesting and very resultful. Men in attendance at this session of the Graduate School have become better acquainted with and have a broader knowledge of the progress of agricultural investigation than ever before. Investigators from the north, south, east and west are now much more united in the problems of agriculture.

W. H. P.

SCIENTIFIC NOTES AND NEWS

DR. JOHN F. ANDERSON has been made director of the Hygienic Laboratory of the U. S. Public Health and Marine Hospital Service to fill the vacancy caused by the removal of Dr. M. J. Rosenau to Harvard University.

PROFESSOR WILLIAM H. WALKER, head of the research laboratory of applied chemistry of the Massachusetts Institute of Technology, has been elected president of the Electrochemical Society.

FOREIGN members of the Royal Society have been elected as follows: Dr. Svante Arrhenius, Dr. Jean Baptiste Édouard Bornet, Dr. Paul Ehrlich, Professor Vito Volterra and Dr. August Weismann.

SIR E. RAY LANKESTER has been elected a foreign associate to the Paris Academy of Sciences to fill the vacancy caused by the death of Robert Koch.

PROFESSOR FILEHNE, the Breslau pharmacologist, has been elected a foreign member of the Paris Academy of Medicine.

THE Steiner prize of the Berlin Academy of Sciences, which is of the value of $1,500, has been awarded to M. Gaston Darboux, of Paris, for his publications in geometry.

THE Astley Cooper Prize has been awarded by the Guys Hospital School to Professor E. Starling, F.R.S.

DR. KARL VON DER MÜHLL, professor of mathematical physics at Basle, has been given the doctorate of laws by that university.

PROFESSOR HENOCH, who for many years was at the head of the department of children's diseases at the Berlin Charité, celebrated the completion of his ninetieth year on July 16.

MR. JOHN RAMSBOTTOM has been appointed assistant in the department of botany of the British Museum of Natural History, where he will devote himself to the fungi.

MESSRS. G. O. SMITH, Waldemar Lindgren, George F. Becker, S. F. Emmons and Whitman Cross will attend the eleventh International Geological Congress at Stockholm from August 18 to 25 as representatives of the U. S. Geological Survey.

AMONG the foreign guests at the recent meeting of the British Medical Association were two Americans, Dr. George Crile, of Western Reserve University, and Dr. R. Tait MacKenzie, of the University of Pennsylvania.

DR. ROSCOE POUND, professor of law in the University of Chicago, known also to students of botany for his contributions to that science, has been selected to deliver the address at the summer convocation of the university. This will mark the close of Dr. Pound's work at Chicago, as he has accepted the offer of a professorship in Harvard University.

At the summer meeting of the Vermont Botanical Club held at Woodstock, Vermont, Dr. N. L. Britton, director of the New York Botanical Garden, delivered a public lecture in the Woodstock Opera House on the evening of July 5, illustrated by colored lantern-slides of wild flowers from the Van Brunt collection of the garden.

At the meeting of the Berlin Academy of Sciences on June 30, commemorative addresses were made on Friedrich Kohlrausch, by Professor Rubens; on Hans Landolt, by Professor van't Hoff, and on Robert Koch, by Professor Rubner.

The Rev. Robert Harley, F.R.S., a congregational clergyman, well known for his important contributions to mathematics and symbolic logic, died on July 26, in his eighty-third year.

The death is announced of Mr. J. Ellard Gore, well known for his numerous publications presenting the facts of astronomy in popular form.

The first International Congress of Entomology met in Brussels from August 1 to 6, under the presidency of M. Schollaert, the Belgian minister of agriculture. Among the lectures and addresses of general interest announced on the program are the following: W. Bateson, "Mendelism"; R. Blanchard, "Medical Entomology"; O. Cruz, "Prophylaxis of Yellow Fever at Rio de Janeiro"; F. A. Dixey, "Mimicry"; A. Forel, "The Distribution and Phylogeny of Ants"; G. B. Grassi, "The Transmission of Diseases by Insects"; A. Handlirsch, "Fossil Insects"; R. Heymons, "The Ontogeny of Insects"; W. J. Holland, "The Preservation of Types"; J. Kundel d'Herculais, "Locust-Plagues"; E. Wassman, "Ants."

At the meeting of the Association of German Scientific Men and Physicians, to be held at Königsberg beginning on September 18, the addresses at the general sessions are as follows: "Epistemology and Science," Professor Külpe, of Bonn; "Puberty and the School," Professor Craemer, of Göttingen; "The Localization of Brain Function," Professor von Monakow, of Zürich; "The Attitude of the Newer Physics to the Mechanical View of Nature," Professor Planck, of Berlin. In connection with the meeting there will be an excursion, starting from Swinemünde on September 5, going on to Wisby, Stockholm, Helsingfors, Wyborg, St. Petersburg and Riga, and ending at Pillau on September 18.

A fire, which started in a shoe store in Washington, on July 21, threatened to destroy the valuable library of the U. S. Geological Survey, which occupies the upper part of the building. The following statement has been issued by Dr. G. O. Smith, director of the Survey: "The fire originated in and was largely confined to the first floor, occupied by other tenants. It gives emphasis, however, to the wisdom of congress in authorizing at its last session the preparation of plans for a government building that will not only be better adapted to the peculiar needs of this scientific and map-making bureau, but will insure the safety of the public records, that have been five times endangered by fire destruction since 1903. The fire originated in one of the several stores over which the survey watch force have no control, but in a few moments the flames had burst through into the survey laboratory situated directly above. The loss of government property is thought to be less than $1,000, but an incalculable loss might easily have been incurred in this library, which is unique in its collection of geologic literature, containing as it does more than 65,000 volumes, as well as 85,000 pamphlets and 35,000 maps, and constituting the most complete collection of geological works and maps in this country, if not in the world. The destruction of these by fire would have deprived not only the geologists of the survey, but the scientists of America, of a reference collection that could not be duplicated. Indeed, in spite of the quick response of the fire department, if the watch force and some of the members of the survey, who were in the building, had not promptly used hand extinguishers, the damage to books and maps must have been considerable."

IN the August number of the *Astrophysical Journal* Professors Kapteyn and Frost give a determination of the velocity of the solar system through space as derived from the radical velocities of the Orion stars. There appears to be a difference of ten kilometers per second between the results obtained by the stars near the Apex and those near the Antapex. Kapteyn now finds not far from each of these two regions an extensive group of Orion stars having common proper motion. The difference just mentioned is probably to be explained by this fact. A discussion of these groups will follow in one of the next numbers of the *Astrophysical Journal.*

THE *Journal* of the New York Botanical Garden states that Dr. W. A. Murrill, assistant director, recently returned from Virginia with a collection of poisonous fungi, which will be chiefly used for chemical analysis. Returning, he found evidences of the chestnut canker not far from Baltimore, Md., and diseased trees became more abundant northward. At Belair, Md., seventy-five miles south of Philadelphia, and at Northeast, Md., the effects of the canker were very noticeable, most of the chestnut trees being dead or in a dying condition. At Red Bank, N. J., where the first chestnut trees were observed near the coast, the disease had become very serious and was noticed from this point all the way to New York City, especially near South Amboy, N. J., where whole forests were either killed or badly affected. Throughout the whole of Staten Island, not a single healthy chestnut tree was observed.

THE annual meeting of the general committee of the Imperial Cancer Research Fund was held at the Royal College of Surgeons, London, on July 20, Mr. A. J. Balfour being in the chair. We learn from the report in *Nature* that Sir William Church presented the annual report, and gave an exposition of its most salient features. The Duke of Bedford, who has been a strong financial supporter of the fund from its foundation, was elected president. Mr. A. J. Balfour moved a vote of thanks to the members of the various committees, and to Dr. Bashford and his staff. Mr. Balfour's remarks were mainly directed to the laymen, and have received such wide publicity in the daily papers that we need not quote them in full, well as they will bear quoting. Mr. Balfour emphasized the progress made since he presided in July, 1903, and directed attention to the caution characterizing the statements emanating from the laboratory, urging the need for patience upon the public, the members of which are not always able to comprehend that the slow progress made by scientific methods is the only progress that can legitimately be expected.

THE University of Leeds, formerly the Yorkshire College of Science, and subsequently the Yorkshire College, has, says the London *Times,* in its history of thirty-six years, been largely indebted for its growth and development to the Clothworkers' Company of the City of London. The textile industries department was the first of the technical departments established. Its initiation was due to the Clothworkers' Company and to a small number of Leeds and Yorkshire manufacturers, who recognized the importance and value of courses of study in textile industries. Since 1874 the textile industries department has received large grants and endowments from the Clothworkers' Company. On capital account the company has up to the end of the present session contributed £70,000 and an annual maintenance subsidy of £4,000, and it has now added £5,000 to its capital gifts to extend the spinning section for the purpose of introducing, experimentally, into the curriculum of study the continental system of worsted-yarn manufacture.

A SCHOOL of aviation is to be established near London in memory of the late Mr. C. S. Rolls. *Nature* states that a sub-committee of the Aerial League has had the scheme under consideration, and its cost for the first year is likely to be £2,500. The primary aim of the school will be to provide training in aeroplane manufacture and flight, and to obtain a class of men grounded in the subject from beginning to end, including such laboratory and

theoretical work as funds and the gifts of apparatus may permit. The laboratory will be open for the use of students from technical institutions already providing elementary classes in the theory of flight, and also for public demonstrations in order to spread an interest in aeronautical science. Men who have undergone courses of training in engineering schools, and competent engineers and mechanics, will be eligible as students. The practical work of students will be directed to securing machines offering greater stability and trustworthiness, lower power and fuel consumption, diminished capital cost and expense of maintenance, and a higher factor of safety than the apparatus now used. In order that an early start may be made, two machines are to be bought at once, and the students will build all further machines, and also those of selected inventors whose ideas are judged to be worthy of construction and practical trial. The funds will be administered by an independent committee of management, including practical men of science. Mr. Patrick Y. Alexander has offered to equip the proposed laboratory with the necessary practical apparatus. The new institution will probably be called the Rolls Memorial School.

THE approaching exhaustion of the world's richer known lead-producing districts gives special interest to the study of any possible source of lead in countries where increasing prices or improved methods may soon make even low-grade deposits valuable. Accordingly the United States Geological Survey has published a report by L. J. Pepperberg on the little-known lead field of the Bearpaw Mountains, in Montana. This report will be contained in the Survey's Bulletin 430, giving the results of some work done by the survey's geologists in 1909, but has also been issued separately in an advance chapter on lead and zinc. The region considered was long ago prospected for gold and silver, but no valuable mineral deposits were found until about 1888, when work was begun on a vein of argentiferous galena near Lloyd. A claim on this vein was patented in 1892, but work was suspended because it proved to be unprofitable. Since that time several other claims have been patented and some work has been done, though no ore has yet been produced. The rocks in this region are widely mineralized. The ores were probably deposited by hot waters ascending from great depths. Later, during the long-continued wearing down of the Bearpaw Mountains by erosion and weathering, the metallic minerals were dissolved, carried down again into the rocks by rain water, and redeposited in concentrated form within moderate distances of the surface. The ore contains a little gold, 40 or 50 ounces of silver to the ton and 50 or 60 per cent. of lead and is easily crushed and concentrated. More thorough prospecting in this region may develop ore bodies of greater value.

UNIVERSITY AND EDUCATIONAL NEWS

BY the will of the late Mrs. Frances Irving Weston, of Boston, the Massachusetts Institute of Technology is given $10,000 for two scholarships.

BY the will of Mr. Henry Dixon, London University receives £10,000, the income of which is to be used for scientific investigation.

DR. FREDERICK W. CARPENTER, of the University of Illinois, will spend the coming academic year in Europe on scientific work. His place at the university has been filled by appointment as *ad interim* instructor, of Mr. William F. Allen, who has been for several years in charge of the biological laboratory maintained by the University of California, at Pacific Grove.

DR. ADDISON W. MOORE, professor of philosophy in the University of Chicago, will spend the winter and spring at Stanford University, to fill the vacancy caused by the absence of Dr. George H. Sabine.

DR. EDWARD F. MALONE, of the Wistar Institute of Anatomy, has been appointed assistant professor of anatomy in the department of the University of Cincinnati of which Professor H. McE. Knower was recently appointed head.