

to be practically *nil*, we may hope that perhaps this difficulty is eliminated.

RODNEY H. TRUE.

BUREAU OF PLANT INDUSTRY,
DEPARTMENT OF AGRICULTURE.

GRADUATE SCHOOL OF AGRICULTURE.

THE Graduate School of Agriculture, the first of its kind in the United States, began a four weeks' session at Ohio State University, Columbus, Ohio, July 7. About 70 students from 25 States are in attendance, of whom nearly 50 are officers of agricultural colleges and experiment stations. The faculty consists of about 30 leading teachers and investigators in agricultural science. Advanced courses are given in agronomy, breeding of plants and animals, zootechny and dairying. At the inaugural exercises held on the evening of July 7 addresses were delivered by Hon. James Wilson, Secretary of Agriculture; Hon. Wm. M. Liggett, dean of the College of Agriculture of the University of Minnesota; Dr. H. C. White, president of Georgia State College of Agriculture and Mechanic Arts; Dr. A. C. True, director of U. S. Office of Experiment Stations and dean of the Graduate School of Agriculture; and President W. O. Thompson, of Ohio State University. In his address explaining the objects and aims of this school the dean showed that the rapid development of agricultural education and research in this country in recent years had created a demand for well-trained teachers and investigators which the agricultural colleges as at present organized could not meet. Especially had the latest development in the direction of the division of the general subject of agriculture into specialties created a necessity for university instruction in agriculture. "One aim of this graduate school is to provide a certain measure of this advanced and special instruction and thereby to illustrate some of the lines along which our universities need to establish advanced courses of instruction in agricultural specialties." The school may also serve a useful purpose in bringing to its students up-to-date information on various agricultural subjects and in pointing out ways in which the methods of teaching and investi-

gating agricultural subjects may be improved, and the apparatus and illustrative material for instruction and research in these subjects may be increased in variety and effectiveness. The school serves to solidify and amplify the organization of agricultural education and research on the basis of agriculture itself, considered as both a science and an art. "The signs all indicate," said Dr. True, "that we are on the edge of a widespread movement to organize agricultural education in this country on a much broader basis in order that it may permeate the mass of our rural population. The people are looking to the agricultural colleges to lead in this movement. In a large way it may be said that the hoped-for leaders in this new enterprise are here assembled. Surely our councils will have been futile if they do not give an impetus and direction to the plans for popular agricultural education now being formulated. The people are already offering our higher institutions for agricultural education and research relatively large sums of money and are evidently intending to give them more. If we can find a way here to make the work of our agricultural colleges, experiment stations and Department of Agriculture in any respects more effective and satisfactory, we shall surely reap ample reward in increased material support for our instruction and researches and stronger popular confidence in our usefulness as instruments of agricultural advancement."

Considering the character of the faculty and students of this school important results may be expected from the inauguration of this new enterprise in agricultural education.

SCIENTIFIC NOTES AND NEWS.

THE Albert medal of the Society of Arts, London, has for the present year been awarded to Professor Alexander Graham Bell, for his invention of the telephone.

PRESIDENT ELIOT, of Harvard University, was elected president of the National Educational Association at the recent Minneapolis meeting.

THE eminent astronomer, Professor Giovanni Schiaparelli, has been elected an associ-

ate of the French Academy of Sciences in the room of the late Baron Nordenskiöld.

THE full list of coronation honors as far as they concern men of science is given in *Nature* as follows: Among the new Privy Councillors are Lord Kelvin and Lord Lister. The new Baronets include Sir Andrew Noble, K.C.B., Sir Francis Laking and Sir Frederick Treves. The honor of Knighthood has been conferred upon Dr. J. W. Collins, F.R.C.S., Mr. A. Cooper, F.R.C.S., Mr. H. Croom, president of the Royal College of Surgeons (Edinburgh); Dr. T. Fraser, F.R.S., president of the Royal College of Physicians of Edinburgh; Mr. Victor Horsley, F.R.S., Mr. H. G. Howse, president of the Royal College of Surgeons; Principal Oliver Lodge, F.R.S., Professor W. Macewen, F.R.S., Principal Rücker, F.R.S., and Mr. J. Thornycroft, F.R.S. In the Order of the Bath (Civil Division) Sir William Church, Bart., president of the Royal College of Physicians, and Professor W. Ramsay, F.R.S., have been appointed Knight Commanders, Major Ronald Ross, F.R.S., and Professor A. M. Worthington, F.R.S., have been appointed Companions of the same Order. In the Military Division of the Order of the Bath, Admiral Sir Erasmus Ommanney, F.R.S., has been appointed Knight Commander. The Kaiser-I-Hind medal for public service in India has been granted to Mr. Edgar Thurston, superintendent, Government Central Museum, Madras. Finally, the new Order of Merit includes in its list of twelve original members the names of four distinguished men of science, namely, Lord Rayleigh, Lord Kelvin, Lord Lister and Sir William Huggins.

THE International Committee upon Atomic Weights, composed of representatives from all the greater chemical organizations of the world, has been reorganized, by a vote of its own membership, into a working committee of three. These are F. W. Clarke, of Washington, chairman; T. E. Thorpe, of London, and Carl Seubert, of Hannover, Germany.

TRINITY COLLEGE has conferred the degree of LL.D. on Professor W. L. Robb, who leaves that institution to take charge of the Depart-

ment of Physics and Electrical Engineering at the Rensselaer Polytechnic Institute.

MR. F. H. NEWELL, chief hydrographer of the U. S. Geological Survey, has gone to the West to supervise surveys in connection with the work in irrigation authorized by Congress. Surveying parties are in the field in California, Oregon, Washington, Montana, Utah, Nevada, Idaho, Arizona and Colorado.

ON July 1, by order of the Secretary of Agriculture, Dr. Ch. Wardell Stiles, who has been serving temporarily as pathologist of the U. S. Bureau of Animal Industry, resumed his regular duties as zoologist of the bureau, and Dr. John R. Mohler, formerly assistant pathologist, has been promoted to the position of pathologist.

PROFESSOR EDWARD S. HOLDEN, U.S.M.A., '70, has accepted the appointment of librarian of the Military Academy at West Point. The library now contains about 45,000 volumes. Congress has provided a much-increased appropriation—\$11,500—for the present fiscal year and its collections are likely to grow rapidly. The interior of the large library building has lately been remodeled at a cost of \$85,000.

THE Executive Commission of the International Congress of Applied Chemistry, which met at Paris in 1900 and is to meet at Berlin next year, has appointed an international committee on analytical methods. The American members of this committee are H. W. Wiley and F. W. Clarke.

AT the general meeting of the Zoological Society of London on June 19 the gold medal of the Society was delivered by His Grace, the Duke of Bedford, K.G., president, to Sir Harry Johnston, G.C.M.G., K.C.B., F.Z.S., in consideration of his great services to zoological science during the various official posts which he had held in Africa and especially in commemoration of his discovery of the Okapi. After the close of the meeting the third of the series of zoological lectures for the present year was delivered by Professor E. Ray Lankester, F.R.S., on 'The Okapi and its Position in the Natural Series.' Professor Lankester's Memoir in the society's quarto 'Transactions,'

which contains a full account of all that is known of 'the new African mammal' up to the present date, is expected to be ready very shortly.

AMONG those who will be carrying on biological work this summer at the U. S. Fish Commission Laboratory at Wood's Hole are Dr. Robert P. Bigelow, Massachusetts Institute of Technology; Professor W. K. Brooks, Johns Hopkins University; Professor Hubert L. Clark, Olivet College; Professor Wesley R. Coe, Yale University; Dr. Ulric Dahlgren, Princeton University; Professor Bashford Dean, Columbia University; Professor F. P. Gorham, Brown University; Professor C. W. Hargitt, Syracuse University; Professor C. Judson Herrick, Denison University; Dr. George T. Moore, U. S. Department of Agriculture; Professor George H. Parker, Harvard University; Miss Harriet Richardson, Columbian University; Professor W. M. Smallwood, Syracuse University; Dr. F. B. Sumner, College of the City of New York; Professor R. W. Tower, Brown University; Dr. Rodney True, U. S. Department of Agriculture, and Dr. Charles B. Wilson, Massachusetts State Normal School.

DR. JOHN DANIEL RUNKLE, professor of mathematics at the Massachusetts Institute of Technology since its foundation and president from 1870 to 1878, died at Southwest Harbor on July 8. He was born in New York State in 1823 and graduated from the Lawrence Scientific School in 1851. He was then engaged on the staff of the 'Nautical Almanac' until the establishment of the Massachusetts Institute in the plans for which he took an active part. In addition to his important work for the institute Dr. Runkle did much to introduce manual training in the schools.

THE death is announced of M. Hervé Faye, the eminent astronomer, at the age of eighty-eight years. He was the oldest member of the Paris Academy of Sciences, having been elected in 1847. M. Faye has been since 1873 professor of astronomy in the Ecole polytechnique.

THE first volume of the International Catalogue of Scientific Literature is reported by

the English papers to have been published. It contains part of the botanical literature for the year 1901.

Nature states that the annual general meeting of the Marine Biological Association of the United Kingdom was held in the rooms of the Royal Society on June 25. The officers and council elected for the year 1902-3 were as follows: President, Professor E. Ray Lankester, F.R.S.; hon. treasurer, Mr. J. A. Travers; hon. secretary, Dr. E. J. Allen; council, Mr. G. P. Bidder, Mr. G. C. Bourne, Mr. Francis Darwin, Professor J. B. Farmer, Dr. G. H. Fowler, Dr. S. F. Harmer, Professor W. A. Herdman, Professor G. B. Howes, Mr. J. J. Lister, Professor E. A. Minchin, Professor C. Stewart, Professor D'Arcy W. Thompson and Dr. R. N. Wolfenden. The following governors are also members of council: Mr. J. P. Thomasson (the prime warden of the Fishmongers' Company), Mr. E. L. Beckwith (Fishmongers' Company), Sir J. Burdon Sanderson, Bart. (University of Oxford), Mr. A. E. Shipley (University of Cambridge), Professor W. F. R. Weldon (British Association for the Advancement of Science).

The Electrical World states that the Imperial German Post Office has just appointed a commission to go to the United States and study American postal, telegraphic and telephone systems. Special attention will be given to the tubular mail service. Germany at present is using only small tubes for individual letters, and contemplates introducing the American system of transmission in bulk by mail to and from the branches of the central post office. The commissioners are Post Councillors Wernecke, of Leipzig, and Braun, of Hamburg. They will be accompanied by a telegraphic engineer and another engineer of Berlin.

THE Committee appointed by the Institution of Electrical Engineers to hold an inquiry on electrical legislation, consisting of Professor J. Perry, F.R.S., president, and Professor W. E. Ayrton, F.R.S., Major P. Cardew, R.E., Lieutenant-Colonel R. E. Crompton, C.E., Mr. S. Z. de Ferranti, Mr. Robert Hammond, Mr. H. Hirst, Mr. J. E. Kingsbury, Mr. W. L.

Madgen, Mr. W. M. Mordey, Mr. R. P. Sellon, Mr. Siemens, Mr. C. P. Sparks, Mr. J. Swinburne, Mr. A. A. Campbell Swinton, and Professor Silvanus P. Thompson, F.R.S., has issued its report. According to an abstract in the *London Times*, the committee met on eleven occasions and heard the evidence of a number of representative experts. The witnesses were practically unanimous in their conviction that electrical enterprise had not attained its due position in England. A joint select committee of the two Houses of Parliament in 1898 reported that the law should be amended as regards the veto exercised by local authorities, but no steps have been taken to give effect to that recommendation. The opinions of the committee are embodied in resolutions to the effect that, notwithstanding that Englishmen have been among the first in inventive genius in electrical science, its development in the United Kingdom is in a backward condition, as compared with other countries; that the cause of such backwardness is especially due to the restrictive character of the legislation governing the initiation and development of electric power and traction undertakings, and the powers of obstruction granted to local authorities; that local boundaries have usually no reference whatever to the needs of the community in regard to electric supply and traction, and that the selection of suitable areas should be dealt with on the basis of economic principles and industrial demands; that the development of electric power and traction undertakings offers the most favorable means of relieving congested centers; that it is expedient in the national interests that the Electric Lighting Acts, 1882-8, the Tramways Act, 1870, and the Standing Orders relating to special Acts for tramways should be amended in so far as they enable local authorities to veto or delay the carrying out of electric supply and traction projects of which the utility can be shown, and that effect should be given to the recommendations of the joint select committee of Parliament, 1898, on 'Electrical Energy—Generating Stations and Supply'; that while this committee fully recognizes the ability of the technical officials of the government de-

partments concerned, it is of opinion that the staffs of those departments, as at present existing, are wholly inadequate having regard to the great industrial interests involved, and that it is essential that these departments should be put into a position enabling them to keep in touch with all developments in engineering matters, both at home and abroad, and that a sufficient sum should be provided annually by government to enable them to employ and pay a proper staff for such purposes; that the adjustment of departmental regulations to engineering development should not be delayed until the industrial interests concerned are seriously hampered, and that, with a view to preventing any such delay, the Institution of Electrical Engineers should be willing to take part in revising such regulations from time to time; that this committee recommends that the institution should memorialize the prime minister to receive a deputation for the purpose of urging the removal of the present disabilities and restrictions which prevent electrical engineering from making the progress that the national interests demand, and attaining at least the same level as in America, Germany and other industrial countries.

THE United States Geological Survey has resumed field work for the topographic mapping of a portion of Michigan. The special map on which work is now being done will be known as that of the Ann Arbor quadrangle, representing the district surrounding the city of that name. Like other topographic maps issued by the Geological Survey, not only the ordinary features will appear in detail, but also the relief or topography of the country, with elevations above sea level. Topographic features of special interest which will be represented on the Ann Arbor map are the terminal moraine passing through Ann Arbor and the old shore lines of Lake Erie. The professors and students at the university are interested in the work, and it will afford the students an opportunity for field practice. The work is under the supervision of Topographer E. C. Bebb.

THE *British Medical Journal* states that at a meeting of representatives of the German medical press, held not long ago, the follow-

ing regulations for the conduct of scientific controversies were adopted: (1) Every controversy shall be brought to a close by a final reply from the writer who opened the debate; only in exceptional cases shall an opponent be allowed a second reply. (2) A reply may be inserted in small type, and at the end of the journal, even when the article animadverted on was published as an original communication. (3) The editor has the right to send a copy of the criticism to the author of the article attacked, even before its insertion.

UNIVERSITY AND EDUCATIONAL NEWS.

MR. FREDERICK W. VANDERBILT has given to the Sheffield Scientific School of Yale University, of which he is a graduate, a valuable tract of land and will build upon it a dormitory. The value of the gift is not known, but it is reported to be \$500,000.

DR. D. K. PEARSONS has added \$50,000 to the \$200,000 he has already given to Whitman College, Walla Walla, Washington.

THE late Rev. Henry Latham, master of Trinity Hall, Cambridge, has left about \$35,000 to the university to form a fund, from which grants may be made to members of the university who are incapacitated by age or infirmity, and to their widows and families.

THE Public Health Institute, Edinburgh, completed by the liberality of Sir John Usher, has been handed over to the university.

THE Wesleyan University summer school of chemistry and biology has just opened, with an attendance of thirty-six.

THE universities of the Maritime Provinces of Canada are sending a memorial to the executors of Mr. Rhodes's will asking that the conditions of the will be altered so as to give all the provinces of the Dominion an opportunity to compete for the Oxford scholarships. The will provides only for Ontario and Quebec, two out of seven provinces.

THE president of Waynesburg College, Waynesburg, Pa., sends us a note to the effect that at the recent commencement the institution conferred the degree of Ph.D. on President Z. X. Snyder, of the Colorado Normal School. According to 'Who's Who'

President Snyder was given the degree of Ph.D. by Waynesburg College in 1876. It is to be hoped that Waynesburg College will limit the conferring of the degree of Doctor of Philosophy *causa honoris* to President Snyder.

PROFESSOR T. W. GALLOWAY, of Missouri Valley College, has been elected to the chair of biology of the new James Millikin University, at Decatur, Ill., and is succeeded at Missouri Valley College by Dr. Lawrence E. Griffin, assistant in zoology in the Western Reserve University.

F. L. STEVENS, Ph.D. (Chicago), has been advanced from an instructorship to a full professorship in the new department of biology at the College of Agriculture and Mechanic Arts at Raleigh, N. C.

SEVERAL laboratory assistantships in elementary chemistry are available at the University of Illinois, Urbana, Illinois, for the coming school year. The pay for these assistantships is \$300 per year, and the work consists in laboratory instruction in general elementary chemistry; the arrangement being that the assistant shall give one half of his time to the work and devote the other half of his time to research work in some branch of chemistry as arranged with the head of the chemistry department.

IN connection with the grant of £10,000 a year recently voted to the University of London by the London County Council in aid of the work of the Faculties of Arts, Science, Engineering, and Economics, the Senate have made the following appointments: Professor Ramsay, F.R.S., teacher of chemistry at University College; Professor Capper, teacher of mechanical engineering at King's College; Professor Unwin, F.R.S., teacher of civil and mechanical engineering at the Central Technical College, and Dr. J. Norman Collier, F.R.S., professor of organic chemistry at University College.

AT St. John's College, Cambridge, Mr. G. B. Mathews, F.R.S., senior wrangler in 1883, has been reelected to a fellowship and Mr. J. H. Vincent, D.Sc., has been elected to a Hutchinson studentship in physics.