It is still in an experimental stage, but its use by the Census Office and the Bureau of Education is expected to develop any defects or weaknesses in it, and lead to the adoption of a form that will meet the conditions existing in the various cities of the country.

Another forward step has been taken as regards the prompt issuance of the Annual Report of the Commissioner of Education. On certain conditions, which can undoubtedly be met, the public printer has agreed to furnish bound copies of Volume 1 of the Annual Report for 1909 on December 1 of this year, and volume 2 on March 1 of the year 1910. In view of this arrangement, it may now be confidently expected that the first volume, containing general surveys, directories, etc., will be in the hands of readers before the convening of those educational associations which meet during the holiday season; and the second volume, containing the statistical tables, will be received prior to the Easter vacation meetings.

ELMER ELLSWORTH BROWN,
Commissioner

WASHINGTON, D. C.,
August 9, 1909

SCIENTIFIC NOTES AND NEWS

AT a meeting of the Board of Geological Survey of Michigan in Detroit on August 9, Professor R. C. Allen, of the University of Michigan, was elected state geologist to succeed A. C. Lane, whose resignation to accept a chair in Tufts College we announced a month or two ago. Professor Allen had received the endorsement of five out of six of the board of scientific advisers.

AT the celebration of the fifth centenary of the University of Leipzig a large number of honorary degrees were conferred, including a doctorate of medicine on Professor E. B. Wilson, of Columbia University, and a doctorate of philosophy on Professor Jacques Loeb, of the University of California.

AT its recent celebration the University of Geneva conferred one hundred and fifty honorary doctorates. Among the men of science included were Lord Lister, Professor Haeckel, Professor Ostwald and Professor Engler.

DR. H. W. WILEY, chief of the Bureau of Chemistry, has had conferred on him the Cross of the Legion of Honor by the French government.

DR. J. C. KAPTEYN, director of the observatory at Groningen, has been elected a corresponding member of the Paris Academy of Sciences.

THE Baly medal, awarded by the Royal College of Physicians of London every alternate year for distinguished services to physiology, has been awarded to Dr. Emil Fischer, professor of chemistry in the University of Berlin; and the Moxon medal, awarded every third year for distinguished services to clinical medicine, has been awarded to Sir W. R. Gowers, F.R.S.

THE Berlin Academy of Sciences has awarded its Leibnitz medal in gold to M. Ernest Solvay, of Brussels, and to Dr. C. von Böttinger, of Eberfeldt.

THE Santaro prize of $2,000 of the Accademia dei Lincei of Rome has been awarded to Professor Quirino Majoranna for his researches in wireless telegraphy.

DR. ISADOR ROSENTHAL, professor of physiology at Erlangen, has celebrated the fiftieth anniversary of his doctorate.

THE following professors have retired from active service: Dr. Georg Gerland, professor of geography at Strasburg; Dr. Friedrich Prim, professor of mathematics at Würzburg, and Dr. Anton Grünwald, professor of mathematics at Prague.

DR. WALTER LEHMANN, of Berlin, has been appointed curator in the Munich Ethnographical Museum.

DR. BREINL, of the Liverpool School of Tropical Medicine, has been appointed director of the newly-founded School of Tropical Medicine in Western Australia.

DR. J. FRANKLIN MEYER, formerly professor of physics at the Pennsylvania State College, State College, Pa., has resigned his professorship to accept a position with the Westinghouse Lamp Company, Bloomfield, N. J., in charge of the physical research.

The Experiment Station Record states that John B. Thompson, for several years connected with the Bureau of Agriculture of the Philippine Islands, has been appointed special agent in charge of the Guam Station, with H. L. V. Costenoble as assistant. Considerable material has been received for the erection of the station buildings. Experimental plantings of forage and other crops from seed secured from the mainland and Hawaii have been begun by the station, and seeds have also been distributed to farmers and others for trial.

WILLIAM BLUM, Ph.D. (Pennsylvania), late assistant professor of chemistry at the University of Utah, becomes assistant chemist in the Bureau of Standards, assuming office on September 1.

PRESIDENT IRA REMSEN, of the Johns Hopkins University, is in California engaged in studying the question whether the "sulphuring" process renders fruit unwholesome.

PROFESSOR F. B. CROCKER, of the electrical engineering department of Columbia University, has leave of absence and starting in October will make a trip around the world.

DR. M. C. SMITH, of Lynn, Mass., sailed on July 23 for Europe to attend the fifth International Dental Congress, of which he is an honorary president, to be held in Berlin the last week in August, and the International Medical Congress at Budapest.

THE University of Tubingen has celebrated the centenary of the birth of the celebrated geologist, Friedrich August Quenstedt.

THE University of Rochester, Rochester, N. Y., has received under the provisions of the will of the late Rear Admiral William Harkness, professor of mathematics, U.S.N., almost his entire large and valuable collection of astronomical and scientific instruments, and a considerable part of his library. The instruments, including an Alvan Clark telescope, comprised the equipment for a private observatory he intended to erect. The devise of books included over 1,600 volumes, and about 7,000 unbound periodicals and pamphlets. The university has placed the works on astronomy and physics in a separate section of its library, as the basis of a scientific department, to be known as the Harkness Scientific Library.

DR. MILLIKEN STALKER, for many years head of the department of veterinary science of Iowa College, has died at the age of sixty-seven years.

DR. O. FRÖLOCH, who took an important part in the development of electrical machinery in Germany and as lecturer at the Charlottenburg Technical School, has died at the age of sixty-six years.

DR. JOHANNA MESTORF, until recently director of the Museum for National Antiquities at Kiel, has died at the age of eighty years.

THE deaths are also announced of Dr. A. Fraser, professor of anatomy in the Royal College of Surgeons, Dublin, and of Dr. W. Ritz, docent for physics at Göttingen.

THE tenth annual meeting of the Astronomical and Astrophysical Society of America opened at the Yerkes Observatory, Williams Bay, Wisconsin, on Wednesday evening, August 18.

THE Society for Horticultural Science will hold its annual meeting at St. Catharines, Ontario, Canada, on Monday, September 13, immediately preceding the meetings of the American Pomological Society, which occurs on September 14, 15 and 16. The Welland Hotel will be headquarters for the society. The program will be one of the best which the society has ever had. Dr. L. H. Bailey, of Cornell University, will discuss "The Field of Research Work in Horticulture." Dr. E. W. Allen, of the Office of Experiment Stations, Washington, D. C., will discuss "The Adams Fund in its Relation to Investigations in Horticulture." Dr. H. J. Webber, of Cornell University, will outline the work being carried on there under the Adams Fund Act and Professor S. B. Green, of St. Anthony Park, Minnesota, will outline the work being done under this act at the University of Minnesota. There will be several other papers, but these have not been definitely arranged for at this time.

A Bristol County Academy of Sciences, situated at Taunton, has been organized and incorporated under the laws of Massachusetts. It is proposed to establish a museum with collections selected especially to illustrate the local fauna and flora, to establish a library and reading room, to conduct a laboratory if possible, to maintain a bureau of information, to provide lectures and to issue publications. The president is Mr. Henry F. Bassett, the secretary Mr. A. Cleveland Bent and the curator Mr. Frederic H. Carpenter.

The attendance at the New York Aquarium during July was 528,266, an average of 17,040 per day. The total attendance for 1909 to August 2 has been 2,006,919.

The University of Utah archeological expedition that is making excavations and studies in the San Juan country reports that it has secured a large quantity of material and has been successful in its investigations. Byron Cummings, dean of the school of arts and sciences, is in charge of the expedition. During the coming year he will pursue archeological studies in New York and in Europe.

The junior class in mining engineering of the Case School of Applied Science spent the month of June studying the mines, mills and geology of the Black Hills, near Deadwood, Lead and Terry. The students were accompanied by Dr. A. W. Smith, professor of metallurgy, Dr. Frank R. Van Horn, professor of geology and mineralogy, and Mr. R. R. Abbott, instructor in mining engineering. During July, Professor Van Horn, with a few of the party, spent over two weeks in the Yellowstone National Park, entering by way of the Cody, Wyoming, road over the Sylvan Pass, and returning through Gardiner, Montana.

We learn from the London *Times* that the collection of fossil Brachiopod shells made by the late Mr. John Francis Walker, F.G.S., of York, has lately been presented to the British Museum (Natural History) by his executors. It represents the life-work of Mr. Walker, who formed it with the special intention of illustrating the nature of animal species and the laws governing the change of one species into another. He chose Brachiopods for his purpose on account of their abundance in the rocks of all geological ages, and arranged them in groups to exhibit their variations round certain apparently central forms. The collection consists of several thousand specimens chiefly from the English Jurassic and Cretaceous formations, and will be kept for the most part in the original cabinets in the Department of Geology, near the well-known Davidson collection. Some of the more important specimens, especially those described by Davidson, will shortly be exhibited in the public gallery. The case containing the okapis has been enriched by the addition of the skeleton of the animal whose mounted skin, presented by Major Powell-Cotton, is also shown. The two other specimens are the original female, presented some years ago by Sir Harry Johnston, and a male presented by Captain Boyd Alexander. In the upper gallery a very fine specimen of the Tibetan langur (*Rhinopithecus roxellanæ*) has just been put out. This curious monkey, distinguished at once by its "tip-tilted" nose, was discovered by Père David and described by Milne-Edwards. Near the entrance to this gallery is a young flying lemur (*Galeopithecus volans*) mounted on a tree stem to show its protective coloration. To the fish and reptile gallery the leathery turtle (*Dermochelys coriacea*), taken at Pwllheli last summer, has been added. It was impossible to preserve the animal, so that only the carapace and skeleton are shown.

On July 21 Lord Monk Bretton, as reported in *Nature*, asked in the House of Lords what steps had been taken to define the spheres of the Boards of Agriculture and Education, respectively, in the matter of agricultural education. At the same time he referred to the memorandum recently issued by the Board of Education, which implied that a sum of £21,000, in part at any rate, is available for agricultural education. He stated that he has been in communication with the university authorities and others, and can find no evidence that the money is used for this purpose. Similarly, the Treasury grants and the block-

grant system of the Board of Education have not helped agricultural education; money from the latter source, indeed, goes to the relief of the rates. British agriculture, he pointed out, receives much less money than the amount granted in foreign countries, a result due to the absence of agreement and coordination between the Board of Education and the Board of Agriculture. Earl Carrington, in reply, stated that an understanding had that morning been arrived at by the two boards as to the general lines of their future policy. There will be direct cooperation in regard to educational work, and in particular with the view of improving and extending specialized agricultural instruction. An inter-departmental committee of officers of the two boards will consider the questions that may arise as to the correlation of work and of grants. Everything is working harmoniously between the two departments. Lord Belper strongly urged that any arrangement between the two boards should follow the recommendation of the Agricultural Education Committee that agricultural education provided by colleges, farm institutes and winter schools should be under the direction of the Board of Agriculture, while agricultural instruction given at evening classes connected with elementary schools should be under the Board of Education. The Marquis of Lansdowne emphasized the great importance of the subject. Quoting Sir Horace Plunkett's dictum, that what is wanted in these days is not merely economic holdings, but an economic system and an economic man to carry it out, he went on to say that we can not get the economic man to carry out the economic system unless the government takes some pains to give him a proper education.

FROM her state forests France derives an annual income of approximately five million dollars, or $1.75 per acre. Eighteen per cent. of the entire area of the country, or 23,500,000 acres is forest land. Approximately six million acres are managed by the state, the annual cost of management being ninety-five cents per acre. The great achievement of France in forestry has been the establishment of protective forests where much destruction has been caused by floods. Toward the close of the eighteenth century about 2,500,000 acres comprised in the Department of the Landes were little more than shifting sand dunes and disease-breeding marshes. This section is now one of the richest, most productive and healthful in France. This change has been brought about by the intelligent cultivation of pine forests. Immense forests now cover the country, the sand dunes and marshes have long since disappeared, and the wood, charcoal, turpentine, rosin and kindred industries have brought prosperity to the department, which was formerly the most barren and miasmatic in France. The climate is now mild and balmy, the great change being wrought by the forests. The thin layer of clay beneath the sandy surface, formerly impervious to water, has been so pierced by the roots of the pine that there is now thorough drainage to the spongy earth below. The manufacture of rosin, tar, turpentine, pitch, pyroligneous acid and wood vinegar is conducted about the same as in Georgia and the Carolinas. The trees destined for "short life" are bled as soon as they are big enough to stand bleeding, when they have a circumference of a foot or fifteen inches, the sapping of young trees being the only production of a new forest for a time, and when the "thinning out" time comes they are "bled to death," and the timber used largely for pit props, the English demand guaranteeing a steady and profitable market. The "standing trees," those giving promise of most vigor, are never tapped until they are about three feet in circumference. When these have reached the age of fifty or sixty years they are cut down, and utilized for telegraph poles and railway ties. To prevent the spread of forest fires, wide trenches are dug about limited areas, and the space kept clear.

THE Society of Anthropology, Paris, has celebrated, in the great amphitheater of the College of Medicine, the fiftieth anniversary of its foundation. M. Bayet, director of higher education at the Ministry of Public Instruction, presided, and a great number of

delegates from France and foreign societies were present.

UNIVERSITY AND EDUCATIONAL NEWS

WE learn from the *Experiment Station Record* that the legislature of Minnesota has passed an act providing state aid for ten high schools or consolidated rural schools which maintain agricultural and industrial departments. The state will pay two thirds of the expense to maintain these departments provided that each school employs trained instructors in agriculture, manual training, and domestic science, possesses not less than 5 acres of land suitable for school gardens and experimental and demonstration purposes, and that the total expenditure for each school does not exceed $2,500. The ten schools selected are the high schools at Albert Lea, Alexandria, Canby, Glencoe, Hinckley, Red Wing and Wells, the high schools and associated rural schools at Cokato and McIntosh and the consolidated school at Lewiston. The act also provides that not to exceed ten schools may be added to the list during each succeeding biennium.

THE assembly of Iceland has decided to establish a university at Reikjavik, with four faculties and sixteen professors and lecturers.

THE number of students in the universities of the German empire has this summer reached 51,700, an increase of about 3,000 over last winter and of 4,000 over the summer of 1908. There has been a large increase in the faculties of medicine and philosophy and a decrease in the faculty of law.

G. W. STEWART, A.B. (DePauw, '98), Ph.D. (Cornell, '01), has been elected professor of physics and head of the department at the State University of Iowa, to fill the vacancy caused by the removal of Professor Karl E. Guthe to the University of Michigan.

AT the University of Wisconsin, Mr. E. E. Eldridge, of New York, a graduate of Cornell University, has been appointed assistant in bacteriology. Mr. Albert I. Stevenson, Massachusetts Institute of Technology, has been made chemist in the State Hygienic Laboratory connected with the university. In the engineering college faculty Mr. Charles G. Buritt, '09, Mauston, has been appointed instructor in railway engineering, and W. C. Muhlstein, '09, Grand Rapids, assistant in the same department. J. A. Cutler, '09, Dodgeville, is instructor in topographical engineering. George B. Blake, '08, Huron, S. D., and S. S. Hovey, a graduate of Iowa State College, are new assistants in electrical engineering. B. S. Wood, who was formerly instructor in wood work, is now instructor of pattern work.

THE following changes in the faculty of the University of Utah are announced: Frank A. McJunkin, M.D. (Michigan), now instructor in bacteriology at the University of Michigan, succeeds Ross. Anderson, M.D., as professor of bacteriology and pathology and becomes state bacteriologist and pathologist; R. B. Ketchum, C.E. (Illinois), at present chief engineer of the Kansas and Colorado Railroad Co., becomes assistant professor of civil engineering; A. A. Knowlton, A.B. (Bates), A.M. (Northwestern), now associate professor of physics at Armour Institute, succeeds L. W. Hartman, Ph.D., as associate professor of physics; Wm. H. Chamberlin, A.B. (Utah), A.M. (California), becomes lecturer in philosophy, and Kenneth Williams, B.S. (Pennsylvania), now chemist for the Tintic Smelter, becomes instructor in chemistry.

DR. I. M. LEWIS, instructor in botany in New Hampshire College, has been appointed instructor in botany in the University of Texas.

THE Belfast University commissioners have made the following appointments in the Queen's University, Belfast: *Professorships*—Botany: Mr. D. T. Gwynne-Vaughan, M.A. Cantab., formerly lecturer in botany, Glasgow University and Birkbeck College, London. *Lectureships*—Organic chemistry: Mr. A. W. Stewart, D.Sc. Glasgow, lecturer in stereochemistry and assistant to Professor Sir W. Ramsay, University College, London. Physics: Mr. Robert Jack, M.A., D.Sc., Ph.D. Glasgow and Göttingen. Bio-chemistry: Mr. J. A. Milroy, M.A., M.D. Edinburgh, demonstrator of physiology, Queen's College, Belfast. Geology and geography: Mr. A. R. Dwerry-