PROFESSOR JOHANNSEN'S COLUMBIA LECTURES

Professor Johannsen's lectures on the modern principles of heredity at Columbia University, briefly announced in a previous issue of Science, will deal with the following topics:

October 13—"The Problem of Personal Characters." Old Conceptions of Heredity; Transmission of Personal Characters; Variation and Phenotypes; Selection; Galton's Law of Regression; The Study of Pure Lines; Explanation of Galton's Regression; Criticisms of the Transmission Conception; The Genotype Conception; Personal Characters Irrelevant; Constancy of Genotypical Elements; Modern Definition of Heredity.

October 20—"The Problem of Unit Factors." Homozygotes and Heterozygotes; Hybridization; Mendelism; Segregation and Combination of Genotypical Elements; Genetic Constructions; Personal Characters as Reactions of Genotypical Elements; Complicated Cases.

October 27—"Problems of Correlation and Sex." Exceptions to Mendelian Behavior; Blending Characters; Repulsion and Coupling of Genotypical Elements; Sex-limited Inheritance; Cytological Questions.

November 3—"The Problem of New Biotypes." Mutations; External Factors acting upon Genotypical Elements; Mutations and Mendelism; Acquired Personal Characters; Criticisms of Lamarckian Views; Facts and Speculations; Morphological Views *versus* Chemical Views in Genetics; Summary.

These lectures are given under the auspices of the departments of botany and zoology and will constitute the twelfth series of Columbia biological lectures. They will be given in Room 305, Schermerhorn Hall, at 4:10 P.M., and are open to the public.

SCIENTIFIC NOTES AND NEWS

By invitation of the trustees of the New York Public Library the autumn meeting of the National Academy of Sciences will be held in its new building, Forty-second Street and Fifth Avenue, beginning on Tuesday, November 21. The first business meeting of the academy will be held on Tuesday morning at eleven o'clock and the first open scientific session will be at two o'clock in the afternoon. Titles of papers should be sent to Dr. John S. Billings, secretary of the local committee, New York Public Library.

Owing to the epidemic of cholera, the various international congresses, geographical, agriculture and tuberculosis, will not meet in Rome this autumn. They have been postponed until the spring of 1912, the exact date not yet being determined.

Among the degrees given by the University of Vermont on the occasion of the installation of President G. P. Benton were doctorates of laws on Dr. Henry S. Pritchett, president of the Carnegie Foundation; Dr. E. F. Nichols, president of Dartmouth College, and Dr. Harvey W. Wiley, chief of the Bureau of Chemistry.

Professor A. A. Michelson, head of the department of physics, at the University of Chicago, has returned from the University of Göttingen, where he has been exchange professor during the summer semester.

Dr. C. Willard Hayes, chief geologist of the U. S. Geological Survey, has retired to engage in technological work in Mexico.

Dr. Edward Renouf, collegiate professor of chemistry at the Johns Hopkins University since 1890, has retired from active service.

Dr. Franz Mertens, professor of mathematics at Vienna, has retired from the active duties of his chair.

Associates of the Harvard University Museum for five years from September 1, 1911, have been appointed as follows: Robert Tracy Jackson, S.D. (paleontology); Frank Springer, Ph.B. (paleontology); Frank Shipley Collins, A.M. (botany); Edward Phelps Allis, Jr., LL.D. (zoology); Arthur Cleveland Bent, A.B. (ornithology); William Barnes, S.B., M.D. (entomology); Frederick Blanchard (entomology); Andrew Gray Weeks, A.B. (entomology).

Dr. L. R. Geissler, of Cornell University, has been appointed associate psychologist in the physical laboratory of the National Electric Lamp Association, Cleveland, O.

Professor Luigi Carnera, director of the International Latitude Stations at Carloforte and Oncativo, has been appointed professor of

astronomy and geodesy in the Instituto Idografico della R. Marina at Genoa.

DR. EMIL HEINRICHER, professor of botany at Innsbruck, has been elected a corresponding member of the Vienna Academy of Sciences.

DR. RICHARD C. MACLAURIN, president of the Massachusetts Institute of Technology; Professor Arthur A. Noyes, of the department of chemistry; Professor Charles R. Cross, of the department of physics; Professor C. M. Spofford, of the department of civil engineering; Professor C. H. Peabody, of the department of naval architecture, and Professor Dougald C. Jackson, of the department of electrical engineering, have returned from visits made abroad during the present summer to inspect foreign schools of technology and laboratories, in view of the new buildings to be erected by the Massachusetts Institute of Technology.

WE learn from the *Journal* of the American Medical Association that the New York Post-Graduate Medical School and Hospital is preparing to send out an expedition next spring for the purpose of studying tropical diseases. A special fund of $15,000 for this purpose has been given by Col. Robert M. Thompson, of New York, and John H. McFadden, of Philadelphia. Capt. Joseph F. Siler, M.C., U. S. A., lecturer on tropical diseases, will have charge of the expedition.

PROFESSOR A. W. JOHNSTON, of the department of geology of the University of Minnesota, spent the summer in a section of northern British Columbia within the arctic circle heretofore unexplored.

PROFESSOR EDWARD LEE HANCOCK, professor of applied mechanics in the Worcester Polytechnic Institute, died on October 1, at the age of thirty-eight years.

THE Rev. Mariam Balcells, member of the Jesuit order, professor of mathematics at Boston College for the past two years, previously director of the department of solar physics at the Observatorio del Ebro, Tortosa, Spain, died on October 2, at the age of forty-seven years.

DR. N. V. USSING, professor of mineralogy in the University of Copenhagen, has died at the age of forty-seven years.

M. GIROD, professor of botany at the University of Claremont, has died at the age of fifty-six years.

THE death is also announced of Dr. Karl Waitz, professor of physics and astronomy at Tübingen.

THE Bureau of Mines will hold a national mine safety demonstration at Pittsburgh on October 30 and 31. The program is as follows:

October 30—9:00 A.M. to 12:00 M.: Demonstration and explosions; exhibit of explosives, safety lamps, fuel testing, etc., at the Bureau of Mines buildings, in the Arsenal Grounds, Fortieth and Butler Streets, Pittsburgh, Pa. 2:30 P.M. to 5:00 P.M.: Demonstrations and explosions in the Bureau of Mines Experimental Mine near Bruceton, ten miles south of Pittsburgh, Pa., reached by Baltimore and Ohio R. R. train, leaving Pittsburgh at 2:00 P.M., eastern time.

October 31—9:00 A.M. to 10:30 A.M.: First aid exhibit. 10:30 A.M. to 11:30 A.M.: Explosion, rescue work and mine gas. 11:30 A.M. to 12:00 M.: Presentation of prizes by President Taft. 12:30 P.M.: Luncheon to President Taft at the Hotel Schenley. 2:00 P.M. to 5:00 P.M.: President Taft will review river pageant. 7:30 P.M.: Dinner to President Taft at the Hotel Schenley.

A REUTER message from Adelaide states that Mr. Brown, the South Australian government geologist, reports that the uranium ores recently discovered in the northern portion of South Australia possess great importance.

THE world's production of quicksilver last year was 3,747 short tons, of which the United States produced 773 short tons. Quicksilver is usually quoted in "flasks," a flask containing 75 pounds. The American production therefore represents 20,601 flasks. Of this amount California furnished 17,211 flasks. In 1850 the quicksilver production of that state was 7,723 flasks, but California's greatest production was in 1881, when the yield was 60,851 flasks. In 1910 only two countries produced more quicksilver than the United States —Italy 882 tons and Spain 1,102 tons. These

and other statistics are given in an advance chapter on quicksilver from "Mineral Resources of the United States," 1910, by H. D. McCaskey, of the United States Geological Survey.

During the past few years various expeditions from the University of Chicago have secured from the fossil fields of northern Texas the largest and best collection of Permian vertebrate fossils in the world. The past summer an expedition from the university, under the direction of Professor S. W. Williston, has explored the Permian deposits of northwestern New Mexico with valuable results. These Permian deposits, of small extent, in Rio Arriba County, were discoverd more than thirty years ago, but have been neglected by explorers ever since, and their precise location even was unknown to geologists. As a result of Professor Williston's excavations, numerous fossils have been shipped to the university, many of which are unknown to science. This collection includes six or seven new genera of reptiles and amphibians, one of which is represented by one of the most perfect skeletons, about six feet in length, ever found in any deposit in America. This skeleton will be mounted in Walker Museum the coming year by Mr. Paul Miller, who collected its parts. The scientific results of the expedition will shortly be published in detail.

A conference of the International Aviation Map Commission took place recently in Brussels under the presidency of Prince Roland Bonaparte. In the proceedings of the conference as reported in the *British Geographical Journal,* a distinction was made between questions ripe for discussion and those of a more problematical character; definitely formulated votes being adopted only in the case of the former. They arose for the most part directly out of the discussions of the conference, while the more theoretical matters were the subject of lectures by specialists. The recommendations adopted had to do with (1) scale; (2) subdivision of the map and boundaries of the several sheets; (3) the numbering and naming of the sheets; (4) the orthography of geographical names. An important decision was reached in the adoption of the scale of 1:200,000, while it was also agreed that the separate sheets should each embrace the field of one degree. The initial meridian to be that of Greenwich, the descriptive text in the language of the nation concerned. A single sheet of the International millionth map would correspond to 25 sheets of the new aviation map, but considerable objection was made to the employment of the former for the purpose of giving a general view of the area in question. As regards the method of representing the surface, the only recommendation that found acceptance (out of some twenty-five different suggestions) was that on the occasion of the next great overland aviation contest, a variety of such systems might with advantage be tested. Exception was taken by the English representative to overloading the map with conventional signs in red; stress was, however, laid on the desirability of a uniform representation of electrical power stations by series of red crosses. The question of the representation of relief was also held to be not yet ripe for decision. On this subject a paper was read by Dr. K. Peucker, one of the Austrian representatives, who insisted on the need of a special method of representation fitted to bring out visibly to the eye the extent of the difference in altitude, so that the aviator might be able to grasp the exact measure of the obstacles to free progression. In accordance with this view, it has been decided by the German Association of Aviators to construct a specimen-map of a portion of the Rhine basin on the color-plastic system. The recommendations of the conference, as also the results of experiments in the desired directions, are to be laid before the International Aviation Congress at Rome in October. Special mention should be made of an address by Professor Berget before a general meeting of the Belgian Aero Club on the subject of topography and aeronautics. The lecturer brought out on the one hand the reasons which lead aeronauts to make a new claim on cartography, and on the other, the extent to which aviation may help to raise cartography to a higher level.

OVER $3,000,000 worth of abrasive materials were produced in the United States last year. All branches of the abrasive industry showed notable growth except the millstone and the grindstone industries, according to W. C. Phalen, of the United States Geological Survey, in an advance chapter from Mineral Resources of the United States, 1910. The total estimated value of all the abrasive materials consumed in this country last year was $4,234,662, of which $3,010,835 worth were of domestic production. Abrasive materials may be divided into two classes—natural and artificial. The production of artificial abrasives has shown great increase since they were first made, less than 15 years ago, and at the present time it exceeds that of the natural abrasives. During 1910 natural abrasives valued at $1,406,805 were produced in 21 states. Of these materials, grindstones and pulp stones led with a production valued at $796,294. The production of burrstones and millstones in the United States in 1910 was valued at $28,217. The production of oilstones and scythe stones amounted to $228,694, compared with $214,019 in 1909. Garnet is one of the very hard minerals, and is extensively used as an abrasive. The production of abrasive garnet in 1910 amounted to 3,814 short tons, valued at $113,574. This was an increase of 842 tons, or 28 per cent., in quantity, and of $11,259, or 11 per cent., in value. In the class of artificial abrasives are included carborundum, alundum and crushed steel. The production of artificial abrasives in 1910 showed an increase of 2,559,000 pounds in quantity and of $238,210 in value, as compared with 1909.

UNIVERSITY AND EDUCATIONAL NEWS

THE class of 1886 has presented to Harvard University $100,000, the income of which is to be used for the benefit of the college. From Mr. William J. Riley, of Boston, the university has received $25,000 for the establishment of scholarships in memory of his nephew Clemen Harlow Condell.

DR. GUY POTTER BENTON was installed as president of the University of Vermont on October 6. In the morning there were addresses from representatives of various institutions; in the afternoon the governor of Vermont administered the oath of office and Dr. Benton gave the inaugural address. In the evening there was a corporation dinner and on the preceding day an educational conference was held.

MESSRS. J. B. DUKE and B. N. DUKE have made further gifts amounting to $228,000 to Trinity College.

THE installation of Dr. Elmer Ellsworth Brown as chancellor of New York University will take place on Thursday, November 9. Presidents Lowell of Harvard, Hadley of Yale, Butler of Columbia, Schurman of Cornell and Finley of the New York City College will be among the speakers.

PROFESSOR JAMES WILLIAM TOUMEY, who has acted as head of the Yale Forest School during the absence of Professor Graves, has been elected director for the year 1911–12.

WILLIAM H. EMMONS, associate professor of economic geology and mineralogy at the University of Chicago, and geologist for the United States Geological Survey, has been appointed head of the department of geology at the University of Minnesota.

A. C. TROWBRIDGE, instructor in geology at the University of Chicago and assistant geologist of the Illinois Geological Survey, has been appointed professor of geology at the State University of Iowa.

As a result of the resignations of Professor R. A. Harper, Dr. W. G. Marquette, assistant professor, and A. B. Stout, instructor, in the botany department of the University of Wisconsin, who have accepted places at Columbia University, the regents of the state university have appointed E. M. Gilbert, assistant professor of botany; W. N. Steil, E. T. Bartholemew and Alban Stewart, instructors in botany, and A. G. Johnson, assistant in botany.

AT the University of Wisconsin E. Baumgartner has been appointed instructor in anatomy and Assistant Professor Bennett M. Allen