

3. Education and experience..... 15

For the position of ethnologist in the Bureau of American Ethnology, at a salary of \$1,500, an examination will be held as follows :

1. Essay on ethnologic and archeologic subject..... 20
2. Experience in ethnologic work (a) in the field ;
(b) in writing, teaching, etc 20
3. Original publications on ethnologic and archeologic subjects..... 20
4. The geographic, ethnologic, and archeologic features of Arizona and New Mexico..... 30
5. Literature of ethnology and archeology of southwestern United States..... 10

SCIENTIFIC NOTES AND NEWS.

A MEETING was held at Cambridge University on April 27th to arrange for some acknowledgment of the services to science and the University of Professor G. D. Liveing. Professor Liveing is now seventy-three years of age. In 1852 he organized the chemical laboratory at Cambridge which was the first scientific laboratory in the University.

DR. EDMUND B. WILSON, professor of zoology at Columbia University, and Dr. J. Playfair McMurrich, professor of anatomy at the University of Michigan, are among the Americans who will attend the International Zoological Congress to be held in Berlin from the 12th to 19th of August.

THE U. S. Biological Survey has been engaged for several years in studying the geographic distribution of animals and plants in Texas, with a view to the preparation of maps showing the limitations of the life zones and faunal areas in that State. Mr. Vernon Bailey, chief field naturalist of the Biological Survey, has charge of this work and has recently gone to southwestern Texas to begin field operations for the season of 1901. He is assisted by Mr. H. C. Oberholzer.

DR. D. A. CARMICHAEL, recently appointed federal quarantine officer in San Francisco, has arrived in that city. He has presumably been given this appointment on account of his success in suppressing the plague in Honolulu.

DR. GEORGE BLUMER, of the Bender Laboratory at Albany, has been appointed director of the Bureau of Bacteriology and Pathology, newly established by New York State.

PROFESSOR H. POTONIE and Dr. Aug. Denckmann have been appointed geologists in the Geological Bureau at Berlin.

MR. EVELYN BALDWIN, who is shortly to lead the North Polar expedition equipped by Mr. Ziegler, has gone to Norway and Denmark in connection with his preparations. He will shortly go to Dundee to join the steamer *America* which he recently acquired for the expedition.

MR. W. H. C. PYNCHON has given a course of six lectures at Trinity College upon the 'Geology of the Connecticut Valley Lowland.'

MISS C. M. DERICK, lecturer in botany at McGill University, has been granted a year's leave of absence, and will study botany under Strasburger at Bonn.

DR. THOMAS CONRAD PORTER, since 1866 professor at Lafayette College, died on April 27th, at the age of seventy-nine years. Dr. Porter at first taught the natural sciences at Lafayette College, while later his work was confined more especially to botany. He was made emeritus professor four years ago, but remained dean of the Pardee Scientific School. He was the author of a 'Botany of Pennsylvania,' 'A Synopsis of the Flora of Colorado' and other works. He was a man of great learning, belonging to the older school of naturalists, and, although he left very valuable collections and notes, it is to be feared that a vast fund of valuable information is lost by his death.

THE death is announced, at the age of 82 years, of Mr. James Douglas Reid, who was interested in the construction of the early telegraph lines in this country. He was the author of a book entitled 'The Telegraph in America,' and for a while conducted a journal devoted to telegraphy.

WE regret also to record the death at the age of 82 years, of F. K. M. Feofilaktow, lately professor of geology in the University at Kiev, of Dr. Adolph Hirsch, professor of astronomy in the University of Neuchatel and director of the observatory, and of Dr. S. Lamanski, the physicist of St. Petersburg.

THE International Association of Academies

will hold its next meeting in London in 1904. It does not seem possible to obtain information in regard to the recent meeting until the *Comptes rendus* are published.

THE Thirty-ninth Congress of the Sociétés Savantes met at Nancy last month with about two hundred and fifty delegates in attendance.

A CONFERENCE of State University presidents will be held at the University of Illinois on May 1st and 2d. The following presidents are expected to attend the meeting: James H. Baker, of the University of Colorado; Joseph Swain, of the University of Indiana; George E. McLean, of the University of Iowa; Acting Chancellor W. C. Spangler, of the University of Kansas; James B. Angell, of the University of Michigan; Cyrus Northrop, of the University of Minnesota; R. H. Jesse, of the University of Missouri; Chancellor E. B. Andrews, of the University of Nebraska; W. C. Thompson, of the University of Ohio; W. E. Stone, of Purdue University, and Acting President E. S. Birge, of the University of Wisconsin.

A METRIC Association is being organized in Canada, the object of which is to prepare the people for the adoption of the metric system.

THE French Association of Anatomists held its third meeting at Lyons in April under the presidency of M. Renaut. There were about fifty students of anatomy in attendance, including a number of foreigners. The next meeting of the Association will be held at Montpellier in 1902 under the presidency of M. Sabatier.

THE committee of the British National Physical Laboratory announces that it is prepared to receive applications for appointments as members of the staff of this laboratory, the buildings of which will be in the grounds of Bushey-house, Teddington. It will appoint a superintendent of the engineering department, with a salary of £400 per annum; one or two assistants in the physics department, with salaries of from £200 to £250 per annum; and one assistant in the physics department to take charge of such chemical investigations as may be required, with a salary of £200 per annum. The committee is also prepared to receive applications for a small number of junior assistantships, at salaries of from £100 to £150 per

annum. Applications, accompanied by a limited number of testimonials, should be made, not later than May 24th, to the director, National Physical Laboratory, Old Deer Park, Richmond, Surrey.

PREPARATIONS are being made by the Division of Forestry of the Department of Agriculture to remove from its present crowded quarters to offices on the sixth, seventh and eighth floors of the Atlantic building. Under the reorganization plan of the Department of Agriculture, authorized by the last Congress, the Forestry Division will, on July 1st, become a bureau of the Department.

THE American Museum of Natural History, New York, has acquired a valuable collection of Peruvian antiquities, including Indian pottery, musical instruments, stone implements, gold and silver vessels, and the like.

THE New York Academy of Medicine has been given a fund of \$10,000 by Mrs. S. B. Gibbs and Miss G. B. Gibbs for the establishment of the Edward N. Gibbs memorial prize fund.

M. SANTOS-DUMONT, to whom the prize of the Paris Aeronautical Club was awarded in 1900, has returned the money to the Club to be used as the foundation for a new prize. The amount is 100,000 fr., and the income is to be given to the members of the Club who can make a circuit of the Eiffel Tower and return to the point of departure at St. Cloud.

A TELEGRAM has been received at the Harvard College Observatory, dated May 2d, from its station at Arequipa, stating that a very bright comet was seen at eleven hours thirty-five minutes (Greenwich mean time) in R. A. $3^h 30^m$ and Dec.— 1° . This is presumably the comet announced by Dr. Gill, April 24, 1901. It seems to be no longer visible in the northern hemisphere.

THE *Electrical World* states that the Administration of Posts and Telegraphs contemplates the introduction of wireless telegraphy in Spain on a large scale. It is rumored that Marconi will soon go to Madrid to arrange matters with the Government. The Balearic and Canary Islands are first to be connected by this system, which will then be extended from these islands

to the Continent. Several places on the coast of Morocco, such as Ceuta, etc., will be connected with Algeiras and Tarifa.

MR. H. E. BIERLY, professor of biology in the State College at Tallahassee, Fla., succeeded during the last meeting of the State Teachers' Association in having child-study made a special department of the Association, and was elected director. During the last month the women's clubs, mothers' clubs and kindergarten associations in the State have been taking up the subject under his direction. The State superintendent of public instruction recommends the work officially. All the colleges, normal schools, etc., in the State are giving their hearty support to the movement and are very much interested in the subject.

THE Paris correspondent of the New York *Evening Post* writes as follows regarding an address made by Professor Bernheim, at the congress of French learned societies held recently at Nancy :

The venerable Professor Bernheim, the founder of the famous school of Nancy, which still holds out against Charcot and the Salpêtrière, made an impassioned declaration of his beliefs and principles. He utterly denies the hypnotic character of the phenomena observed in the patients of the Salpêtrière, whom he declares to be mere hysterical personages. He developed at length his theory of the universal suggestibility of all men ; he denied once more the existence of anything like a magnetic fluid, under whatever name. There is a radical defect in experiments concerning thought transference, which he says ought rather to be spoken of as treason than as a veritable transference of brain influence. There was some bravery in this renewed declaration of opinion on the part of one who has already suffered excommunication from the most recent science.

Just what is meant by the last sentence is not clear, but it is apparently intended to indicate that Professor Bernheim's science is antiquated because he does not believe in the vagaries of the Salpêtrière or in telepathy. It is difficult to understand why a journal as carefully edited as the New York *Evening Post* should not submit its scientific news to an expert for revision.

THE London *Times* states that an apparatus, invented by Mr. Poulsen, of Copenhagen, for recording telephonic messages is now being

shown in London. The invention, which can be used in substitution for, or in cooperation with, any ordinary telephone receiver, consists essentially of a long steel wire or ribbon, which passes rather rapidly before the poles of a small electromagnet. This electromagnet, which is wound with very many turns of exceedingly fine wire, is inserted in the telephone circuit by the current in which it is magnetized. The steel wire is of course also magnetized, and the essence of the machine lies in the fact the magnetization induced in the successive portions of the wire varies in agreement with the undulations of the electric current in the telephone circuit, produced by the voice of the speaker. To read the message it is only necessary to pass the steel wire in the same direction past the poles of the same or a similar electromagnet, when the same undulations will be set up in the current passing through its coils and consequently the same sounds reproduced in the attached receiver. In the instruments in London these reproduced sounds are remarkably true and pure. It is said that the same message may be reproduced from what may be called the sensitized ribbon an indefinite number of times, but, if it is desired to remove the record, that can be simply effected by subjecting the wire to a constant magnetizing force, such as is obtained by passing an unvarying current through the electromagnet. In one form of the machine ordinary pianoforte wire is employed, and is wound helically round a brass cylinder rotated by a electric motor. In another, which is adapted for longer messages, thin steel ribbon is wound on and unwound from two rolls alternately. The curious thing here is that, although no magnetic screen or insulator is interposed between the successive layers of ribbon, the magnetization produced in every portion of them is preserved unaltered. In a third form, a continuous steel band is stretched between two revolving pulleys ; at one point is placed the electromagnet connected with the transmitting telephone, and beside it is any number, limited only by considerations of space, of electromagnets connected with receiving telephones, each of which in turn receives the message impressed on the ribbon. After the ribbon has passed all these electromagnets it is sub-

jected to the influence of several permanent magnets by which it is, so to speak, wiped clean and prepared to receive another series of magnetic impressions.

M. DARBOUX, in welcoming the delegates to the International Association of Academies at the recent Paris meeting, according to the report in the London *Times*, attributed the original idea of association for scientific research to Lord Bacon, recalling the curious conception of the College of the Six Days' Work or the House of Solomon, which, however, was never realized. To-day, such was the range of scientific activity, no such scheme could ever be realized, and only the common agreement and reciprocal support of the nations could suffice even to undertake the solutions of the problems which were now imposed in all their multiplicity on the attention of the world. Such agreement had been secured for a certain number of special questions, such as the International Bureau of Weights and Measures, the International Geodetic Association, the Association for the Map of the Heavens and, notably, the international catalogue of scientific literature, due entirely to the initiative of the Royal Society. M. Darboux then continued: This international cooperation, which has always proved its value in all the cases where it has been found indispensable, will be assured in a lasting, normal and universal way by the formation of our Society. The task that we have undertaken may appear difficult, but it has become absolutely necessary, and the spirit actuating us ought to give us the assurance that we shall succeed by our united efforts in overcoming all difficulties. In constituting under a visible and permanent form this universal academy, which had been conceived and prepared by Leibnitz, many of whose other dreams, moreover, have been realized or are being realized, our Association will render to civilization and science a service of which it is impossible to exaggerate the importance. Thanks to it, the man of science devoting his life to the most delicate or the most abstract researches will cease to feel himself isolated, while still preserving that independence which is the greatest good and the primary need for the investigator. By uniting in the different academies

all those who are studying the same subjects, by giving them, if they wish it, the opportunity of joining in a common work, by drawing the attention of the governments to all the schemes the speedy realization of which is necessary or desirable, by indicating to them also the means of executing these schemes in the most favorable conditions and with the greatest possible saving, and by proposing and preparing through the common understanding of *savants* in the domain of theory the agreements of peoples on the basis of practice and facts, our Association is destined to become rapidly one of the most powerful instruments of concord and of progress. It is with this firm conviction that I declare open the first general assembly of the International Association of Learned Societies.

At a meeting of the Geological Society of London, on March 6th, Professor George Frederick Wright, of Oberlin College, presented a communication entitled, 'Recent Geological Changes in Northern and Central Asia,' the paper being the outcome of a journey made by the author in company with Mr. Frederick B. Wright in 1900-1901. He said that in North America an area of about 4,000,000 square miles was brought under the direct influence of glacial ice during the Glacial Epoch. The result of six weeks spent in Japan was to show that there are no signs of general glaciation in Nippon or Yesso. Neither is there any sign of glaciation along the border of the Mongolian Plateau, where the general elevation is 5,000 feet, but the whole region is covered with loess. This has usually accumulated like immense snow-drifts on the south-eastern or lee side of the mountains, and in it houses and villages are excavated. In the mountainous region, strata of gravel and pebbles are so frequent in the loess, that it is necessary to invoke both wind and water in order to explain fully the origin of the deposit. At the present time the loess in the interior is being washed away by streams much faster than it is being deposited by the wind. The journey across Manchuria from Port Arthur along the Lao-Ho and Sungari rivers was through valleys choked with alluvium, and there was no evidence that the drainage of the Amur had ever been reversed by ice, like that

of the St. Lawrence; nor was there any other evidence of glaciation. The lower course of the Amur indicates subsidence. Again, there are no signs of glaciation on the Vitim Plateau. Lake Baikal appears to be of recent origin; it is 4,500 feet deep and has not been filled by the great quantities of sediment brought down by the Selenga and other rivers. Although glaciers could frequently be seen on the mountains which border the Central Asiatic Plateau to the northwest, there was no evidence that the glaciers had ever deployed on the plain. The loess-region of Turkestan, and indeed the whole area from the Sea of Aral to the Black Sea, appears to have been recently elevated, in some places as much as 3,000 feet. Desiccation took place at the same time, so that the larger lakes are only brackish or still fresh. Direct evidence of this in the form of deposits is given. The author thinks it likely that the absence of glaciation in northern Asia may have been due to the rainlessness of the region and that, while America was elevated, Asia was depressed during the Glacial Epoch.

THE Brussels Academy of Sciences announces, as we learn from *Nature*, the following prize subjects for 1901: New researches upon the compounds formed by the halogens between themselves (800 francs); the determination of the form of the principal terms introduced into the formulæ of nutation in obliquity and longitude by the elasticity of the earth's crust (800 francs); historical and critical discussion of Weber's experiments on unipolar induction, and new experiments bearing upon the laws and interpretation of this physical fact (300 francs); a contribution to the study of mixed forms with a number of series of variables, and the application of the results to the geometry of space (600 francs); history of researches on the variation of latitude, and a discussion of the interpretations of this phenomenon (600 francs); investigations of the physiological rôle of albuminoid substances in the nutrition of animals or plants (800 francs); new researches on the organization and development of *Phoronis*, and the relations existing between the animals *Rhadopleura* and *Cephalodiscus*, and the class to which the name Enteropneusta has been applied (1,000 francs); descrip-

tion of simple substances, sulphates and binary compounds of Belgian soil (800 francs); researches on the influence of external factors on karyokinesis and cellular divisions in plants (800 francs).

WE learn from the *Lancet* that on April 10th the committee of the Marine Biological Station at Millport received representatives from various educational bodies at the Station, with a view to extend a knowledge of the educational resources at their command. Dr. J. F. Gemmill, the president, gave a sketch of the new teaching arrangements, which include a course of lectures on marine zoology and botany, with practical demonstrations on Saturdays from April 27th to June 15th, inclusive, the introductory lecture to be delivered by Sir John Murray, K.C.B., F.R.S. The visitors were afterwards conducted over the laboratories, tank-room and museum by Dr. James Rankin, and then proceeded on a dredging excursion on the steam-launch *Mermaid*, recently presented to the institution. It is hoped that the new teaching arrangements will encourage the practical study of natural history among board school and other teachers, upwards of 40 of whom have already entered their names for the new classes. The science students in the University of Glasgow also find the station an admirable center for practical work, and the younger dons in the science faculty are energetically assisting in its development.

It is announced that, through an expedition to Kenai Peninsula by Mr. Andrew J. Stone in the interests of the American Museum of Natural History, the Museum has received some fine specimens of the big Alaskan moose, recently described as *Alces gigas*. This animal is the largest known representative of the deer tribe, and differs from the moose of eastern Canada and Maine in its larger size and darker colors, but especially in the great development of its antlers, which are much larger than those of the eastern moose. Mr. Stone also obtained specimens of two species of bear and the head of a fine caribou. Other recent accessions of note are a collection of mammals from Peru, consisting of about one

hundred and fifty specimens, and representing some twenty-five species, of which quite a number proved new to science and others had been only recently described from specimens received at the British Museum. With this collection was also received a small collection of birds, which contained many species new to the Museum collection and several new to science.

UNIVERSITY AND EDUCATIONAL NEWS.

MR. GEORGE W. CARROLL, of Beaumont, Texas, has given \$60,000 to Baylor University, at Waco, Texas, for a science building.

By the will of Miss Mary Shannon, of Newton, Mass., \$125,000 is distributed among charitable and public institutions. Wellesley College receives \$15,000 and several institutions for the education of negroes receive sums ranging from \$5,000 to \$10,000.

A BUILDING to contain the bacteriological and pathological laboratories is to be erected at the University of Michigan at a cost of \$100,000.

As we have already announced the degree of Bachelor of Arts will hereafter be given at the University of Michigan without any requirement in the classical languages either at entrance or afterwards. It has now been decided that there will be no required subjects in the course, except English in the freshman year. In addition first-year students may select three subjects from the following: Greek, Latin, French, German, history, mathematics, physics, chemistry, biology.

It is expected that Cornell University will this June grant 380 baccalaureate degrees and 74 advanced degrees. They are apportioned as follows: 125 A.B. degrees; 1 B.S.; 44 LL.B.; 16 B.S.A.; 9 D.V.M.; 5 B.S.F.; 6 B.Arch.; 51 C.E.; 123 M.E. (including electrical, marine and railway M.E.); and 21 A.M. degrees; 9 M.S. in Agr.; 4 M.C.E.; 10 M.M.E.; 1 D.Sc.; 29 Ph.D.

THE forty-five graduate students of the New York University, with one exception, have signed the following resolution, and forwarded

it to the chancellor of the University and to the president of the University Council:

Resolved, that we, the undersigned members of the Graduate School of the New York University, sincerely regret the resignation of Professor Edward F. Buchner, Ph.D., Samuel Weir, Ph.D., and Professor Charles H. Judd, Ph.D., whose departure threatens the high standard and continuity of our courses, as well as the usefulness of the Graduate School, and respectfully request the authorities of the University to secure the continued services of those professors. Some of us also hold our Bachelor's and Master's degrees from this and other universities, and we believe that we are competent judges of professional worth, and hereby desire to express our unqualified repudiation of the aspersions cast upon the professional efficiency of Dr. Edward F. Buchner. Many of us have been in his classes, and we have uniformly found Dr. Buchner to possess a rich and rare gift of insight, a profound grasp of philosophical problems, as well as felicitous power of expression and painstaking and sympathetic class-room methods. Believing that this rare gift as a teacher and a scholar makes him an ornament to his profession and a credit to the University, we trust that the University Council will give this resolution full weight in their deliberations.

PROFESSOR E. A. ROSS, of the University of Nebraska, recently of Leland Stanford Junior University, has been appointed a visiting lecturer at Harvard University for next year.

OWING to the recent complications, Dr. Arthur O. Lovejoy, associate professor of philosophy at Stanford University, has resigned.

DR. MAX FARRAND, professor of history at Wesleyan University, has accepted the chair of history in Stanford University.

DR. EDMUND ARTHUR ENGLER, professor of mathematics at Washington University, St. Louis, and dean of the College of Engineering, has been elected president of the Worcester Polytechnic Institute.

MR. J. W. H. POLLARD, Dartmouth '95, has been appointed physical director in Lehigh University.

DR. J. STAFFORD, lately of the University of Toronto, has been appointed lecturer in zoology at McGill University.

DR. J. A. GMEINER has been appointed associate professor of mathematics at the German University of Prague.