

tation; (6) biology, agriculture and related sciences; (7) private, public and international law; (8) economics and sociology; (9) education.

A PUBLIC Health Congress, organized by the Royal Institute of Public Health, will be held from June 4 to 9, at Bordeaux, under the presidency of Lord Burnham. The presidents of sections include Sir Humphrey Rolleston, Sir Ronald Ross and Sir John Bland-Sutton.

THE United States Civil Service Commission announces the following open competitive examination: Physicist, \$3,800 to \$3,600 a year; associate physicist, \$3,000 to \$3,600 a year; assistant physicist, \$2,400 to \$3,000 a year. Applications will be rated as received until July 1. The examinations are to fill vacancies in the Bureau of Standards, Department of Commerce, and vacancies in positions requiring similar qualifications, at the entrance salaries stated above. Competitors will be rated on the following optional subjects: Heat, electricity, mechanics, optics, radio, physical metallurgy and any specialized work in the field of physics not included in any of the above. The work of the Bureau of Standards includes many branches of physics, chemistry, engineering and technology, such as mechanics, heat, optics, electricity, sound, metrology, metallurgy, radio, electronics, engineering (gas, electrical, mechanical, etc.), and offers valuable experience in these professions, combining as it does theoretical, experimental and practical work. The duties of these positions are in connection with original investigations in some field of the bureau's work. Competitors will not be required to report for examination at any place, but will be rated on their general education and experience, special education and training in physics and mathematics, and writings to be filed with the application.

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## UNIVERSITY AND EDUCATIONAL NOTES

BROWN UNIVERSITY receives a bequest of \$250,000 by the will of the late John B. Hegeman, former president of the Metropolitan Life Insurance Company, for the erection of a hall of residence for students.

PROPOSALS for linking up Sheffield University with technical schools in the iron and coal districts round the city were adopted at a recent meeting of the council of the university. Two schools, Barnsley Technical School and Scunthorpe Central and Evening Technical School, are affected for the present, and it will be possible for students in engineering,

metallurgy and mining there to begin training for degrees or associateships, under the recognition of the university.

AT Yale University Dr. J. Crosby Chapman has been promoted to a full professorship of educational psychology and Dr. Raymond Garrison Hussey has been advanced to an associate professorship of pathology.

WILLIAM S. FOSTER, A.B., Ph.D. (Cornell), who has been at the University of Minnesota since 1919, has been promoted to a professorship of educational psychology.

L. GRANT HECTOR has been appointed assistant professor of physics at the University of Buffalo. Mr. Hector is completing his work for the doctor's degree at Columbia University this year.

F. E. FARNSWORTH, Ph.D. (Wisconsin), has been elected to an associate professorship at the University of Maine. Mr. Farnsworth has been an instructor at the University of Pittsburgh, and during the past two years has been National Research Fellow at the University of Wisconsin.

DR. REYNOLD A. SPAETH, associate professor of physiology at the School of Hygiene and Public Health, Johns Hopkins University, has accepted a three year appointment from the Rockefeller Foundation as visiting professor of physiology at the reorganized Medical School of Chulalongkorn University in Bangkok, Siam. Dr. Spaeth and his family expect to arrive in Bangkok in November, but instruction will not begin until May, 1925.

PROFESSOR HANS SPEMANN, of the University of Freiburg, has been called to the chair of zoology and comparative anatomy in the University of Munich, as successor to Richard Hertwig.

PROFESSOR MARTIN GILDEMEISTER, of Berlin, has been called to the chair of physiology in the University of Leipzig to succeed the late Professor S. Garten.

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## DISCUSSION AND CORRESPONDENCE

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### LEIDY AND MARSH

WHILE reading Professor Osborn's memorial address, "Joseph Leidy, Founder of Vertebrate Paleontology in America,"<sup>1</sup> I was greatly astonished to see that he doubts "if you will find in the writings of . . . Professor Marsh a single allusion to the work of Leidy." Further, that in the rivalry between Cope and Marsh, "Leidy was totally forgotten." Remembering the warm words Marsh spoke to me

<sup>1</sup> Science, February 22, 1924, p. 175.

of Leidy, while I was at Yale in 1892, I felt that this statement was indeed "subject to verification," as its author later remarks.

That Leidy and Marsh were good friends is apparent, first of all, from the letters written by Leidy to Marsh during the years 1867 to 1890, and now in our museum archives, and equally so from the praise of Leidy that Marsh is known to have spoken at New Haven and elsewhere. Moreover, anyone who will take the time to go through Marsh's many publications will find many references to Leidy and his species, ranging all the way from 1868 to 1893. In none of these cases does he differ much with Leidy, and in one instance, at least, he speaks gratefully of bird material loaned him from the Philadelphia collections. In 1893 he named a new Miocene mammal *Ammodon leidyianum*.

Turning now to more direct references, in his well known vice-presidential address before the American Association for the Advancement of Science at its Nashville meeting in 1877 on the "Introduction and Succession of Vertebrate Life in America," Marsh says: "For our present knowledge of the extinct mammals, birds and reptiles of North America, science is especially indebted to Leidy, whose careful, conscientious work has laid a secure foundation for our vertebrate paleontology." Again, in the presidential address before the same association two years later at the Saratoga meeting ("History and Methods of Paleontological Discovery") we read: "The foundation of our vertebrate paleontology was laid by Leidy, whose contributions have enriched nearly every department of the subject."

Yale's admiration and gratitude for the learning of Philadelphia goes back to the beginning of the last century, when Benjamin Silliman went to that university to get his training in natural history from Professor Adam Seybert. This feeling Marsh inherited, and for the scientific men of the Academy of Natural Science he had only praise, save for the "militant paleontologist" of whom Osborn also speaks.

CHARLES SCHUCHERT

YALE UNIVERSITY

I am very glad indeed that Professor Schuchert is calling attention to the two paragraphs in Professor Marsh's writings in which he paid tributes to Joseph Leidy. My address was delivered under very great pressure, from hurried notes and absolutely extemporaneously. The statement I made was to the best of my memory and belief, but I am glad to qualify it now in the manner indicated by Professor Schuchert. It remains true, however, that the remarkable discoveries by Leidy in the genealogy of the horses, of the camels, of the rhinoceroses, of many other vertebrate

groups, received scant or no recognition from either Marsh or Cope.

I am obliged to differ also from Professor Schuchert in the matter of prior descriptions. It is literally true, as I stated in my address, that the prior descriptions of species, and in many cases of genera, by Leidy were passed over in silence by both of his great successors. I hope at some future time to pay a very full tribute to the work of Marsh, as I have previously done to the work of Leidy and Cope. On this occasion I shall try to summarize Marsh's achievements, which were certainly monumental and deserving of highest recognition.

HENRY FAIRFIELD OSBORN

AMERICAN MUSEUM  
OF NATURAL HISTORY

### THE AUDIBILITY OF SOUNDS

THE note on "The audibility of consonants" in SCIENCE, February 22, 1924, p. xiv, calls to mind some analogous experiments made by the writer in 1905-6, part of a doctor's dissertation. The nonsense vocables used consisted of three syllables, each syllable a consonant followed by a vowel. There were six subjects, the material affording in all 1,296 interpretations of each consonant and 4,104 of each vowel utilized. The misperceptions of the consonants worked with ranged from 34 per cent. to 3 per cent., the order from most to fewest mistakes being *w, v, h, m, th* as in *the*, *l, g, p, b, d, n, r, k, t, f, th* as in *thought*. In respect to the character of the sounds wrongly heard, the tendency was to change the place of articulation rather than the method, thus *p* would be heard as *k* rather than as *f*. There was also some tendency for a person who heard a sound well when it was spoken to hear it erroneously instead of some other sound, and there were individual differences in the sounds so affected.

The vowels experimented with were *a, e, i, o, u*, in their "continental" values. The misperceptions ranged from 15 per cent. in the case of *e* to 3 per cent. in the case of *a*, the order being *e, i, u, o, a*.

F. L. WELLS

### IN SOUTH CAROLINA

CHICORA COLLEGE FOR WOMEN is situated at Columbia, the capital city of South Carolina. It is owned by eight Presbyteries of the Synod of South Carolina, "in connection with the Presbyterian Church in the United States," and is managed by a Board of Trustees representing these various Presbyteries. Its president is Rev. S. C. Byrd, M.A., D.D., who is also professor of Bible and philosophy.

Under date of March 14, 1924, President Byrd sent the following letter to the members of the faculty of the college: