West, Florida, at $1,800 a year, and the other at Beaufort, N. C., at $1,500 a year, each with a possible bonus of $20 a month. Competitors are not required to report for examination at any place, but will be rated on physical ability, education and experience. Further information may be obtained by application to the Civil Service Commission, Washington, D. C.

Natural History, the journal of the American Museum of Natural History, says the largest and most mysterious land animal known in the world to-day has been named *Baluchitherium osborni* by its discoverer, C. Forster Cooper, now curator in the University Museum of Zoology, Cambridge, England. The animal is like neither an elephant, nor a rhinoceros, nor a titanothere, nor a moropus. Mr. Cooper writes that the ankle bone is certainly that of a perissodactyl and seems nearer to the rhinoceros than anything else. A giant primitive rhinoceros tooth, ten centimeters across, has been found, which indicates the presence of rhinoceroses of gigantic size in the Bugti beds of Baluchistan in Oligocene times, which was a strange faunal period. The *Baluchitherium,* if a rhinoceros, certainly had a very long neck, more like that of a gigantic giraffe than that of a horse. Two of the anterior vertebræ of this monster have recently been received in the American Museum and have been compared with all our large land animals, living and extinct, with no result. These neck vertebræ dwarf those of all the largest land animals. The Bugti beds, which have been explored by Cooper and by Pilgrim, also yield a hornless rhinoceros, *Paraceratherium,* in which the lower incisor teeth are turned downward; a hippopotamus that is typical except that it lacks front teeth; and a beautiful anthracothere called *Gelasmodon.* This gives us a glimpse into the still unknown mammalian life of southwest India.

UNIVERSITY AND EDUCATIONAL NEWS

PLANS are now being prepared for a new building for the department of chemistry of Yale University, which has hitherto carried on its work partly in the Kent Chemical Laboratory and partly in the Sheffield Chemical Laboratory. According to present plans, the new building will be located on the Pierson-Sage Square, just north of the Sloane Physics Laboratory. It will have a total floor area of 100,000 square feet; and, in addition to the usual laboratories and recitation rooms, will include an ample number of rooms for research work.

DR. GEORGE BLUMER, who resigned last spring from the deanship of the Yale Medical School, will serve for this year as clinical professor of medicine. Dr. Wilder Tileston will be associated with him with the same title, and Dr. Edward H. Hume, the dean of the medical school of Yale-in-China, who is on leave of absence in this country, will serve as visiting professor of medicine.

DR. G. H. WOOLLETT, of the University of Minnesota, has been elected associate professor of chemistry at the University of Mississippi. Dr. Woollett was formerly connected with the University of Mississippi. Dr. Victor A. Coulter, who served as a gas officer in France, has been elected assistant professor of chemistry in the same institution.

AFTER serving for twenty-five years as head of the department of horticulture and entomology, and eleven years as head of the department of entomology, of Purdue University and Experiment Station, Professor James Troop now relinquishes his position in the experiment station and will devote his time to teaching in the school of agriculture. Professor John J. Davis, formerly with the United States Bureau of Entomology is now head of the department at Purdue.

AT the University of Chicago Dr. Lester R. Dragstet has been appointed assistant professor of physiology and William Berry instructor in psychology.

DR. A. B. MACALLUM, administrative chairman of the Research Council of Canada, has been elected to the new chair of biochemistry

in McGill University, Montreal, to date from October 1. Dr. Macallum will continue his work as chairman of the Research Council until a successor has been named.

Mr. Florian A. Cajori, formerly captain in the food section of the Sanitary Corps and on duty in Jugo-Slavia with the American Relief Administration, has completed his graduate work at Yale University and accepted a position as instructor in physiological chemistry at Leland Stanford, Jr., University, in California.

Professor J. T. Wilson, F.R.S., Challis professor of anatomy in the University of Sydney, has been appointed to the chair of anatomy at the University of Cambridge.

Dr. Wilhelm Wein, professor of physics at Würzburg, has been appointed to succeed Professor Wilhelm Röntgen, who recently retired from the chair of physics at the University of Munich.

DISCUSSION AND CORRESPONDENCE

THE SPECTRUM OF MERCURY VAPOR

To the Editor of Science: In your issue of September 10, Professor C. D. Child calls attention to a greenish glow discharge through mercury vapour whose spectrum shows a continuous band throughout the greater part of the visible spectrum, with the ordinary lines superimposed. This summer, in experimenting on the electrodeless discharge of certain vapors, the writer observed a similar appearance. The method used was one previously employed by Kowalski.[1] A small quantity of mercury was introduced into a highly exhausted Pyrex bulb some 12 cm in diameter. The bulb, surrounded by the primary coil of a Tesla high-frequency outfit, was placed in an electric oven and the appearance of the discharge (if any) observed as the temperature was gradually increased.

In common with Kowalski the writer observed two distinct types of discharge. The first, a dazzling white *ring* discharge occurred at temperatures several degrees above and below 90° C., and showed the ordinary bright line spectrum. The second, a diffuse distinctly greenish glow filling the whole bulb, took place at higher temperatures and was visible until a temperature in the neighborhood of 200° C. was reached. The spectrum of this latter type showed a continuous band with superimposed lines, an appearance similar to that described by Professor Child, but *at the higher temperatures only the line 5461* was visible. The writer's observations agree with those of Kowalski, who compares the appearance he observed with an exactly similar one recorded by A. Kalahne.[2]

Professor Child states that the "radiators" giving rise to the continuous band are uncharged, and suggests that the source of this type of radiation has to do with the formation of clusters of two or three atoms which may be formed when mercury vapor is condensing. Professor Kowlaski ascribes the two appearances noted above to two ionization stages ("Ionisierungsstufe"). It would seem that a possible explanation is the following. At the lower temperatures, because of the greater mean free path, even in the case of an electric field of relatively small intensity, sufficient energy is communicated to an atom on collision to produce ionization. During recombination the line spectrum is emitted. At the higher temperatures, because of the relatively small mean free path (the vapor pressure of mercury at 160° is roughly twenty-five times that at 90°), but little energy is communicated on collision and but little, if any, ionization occurs. The line spectrum accordingly is feeble or absent. Some electrons, however, are displaced from their normal orbits, and in their return to their normal positions, radiation is emitted. Normally such a radiation would also give rise to spectral lines, but we may assume that in the case of the mercury atom with its numerous electrons, the frequent atomic impacts occurring at high temperatures alter the natural periods to such an extent that the emission is continuous over a wide range.

The writer has under way an extended study of the electrodeless discharge of certain

[1] J. Kowalski, *Physik. Zeit.*, 15, 225, 1914.

[2] A. Kalahne, *Wied. Ann.*, 65, 815, 1898.