Dr. John Guiteras, who resigned the chair of pathology in the University of Pennsylvania to fill a similar position in the University of Havana, has established there a journal entitled *Revista de Medicina Tropical.*

DISCUSSION AND CORRESPONDENCE.

THREE FORGOTTEN NAMES FOR BIRDS.

In *Museum Leskeanum Regnum animale quod ordine systematico disposuit atque descripsit*, D. L. Gustavus Karsten, Vol. I., Leipzig, are proposed three names for birds which appear to have been overlooked by ornithologists, at least since 1817. The names are *Certhia longicauda*, *Trochilus maximus*, and *Pipra tricolor*, all of Karsten. Viellot (*Nouveau Dictionnaire d'Histoire Naturelle*, * * * Nouv. ed., T. VII. (1817), p. 364) refers to *Trochilus maximus* giving the proper reference to Karsten's work, but curiously enough gives Latham as the authority for the species.

While these names have not been noted in recent works it seems they do not affect any now in use in ornithologic nomenclature. This statement is made on the authority of Mr. Witmer Stone of this Academy.

From a bibliographic standpoint it would be interesting to know whether the *Museum Leskeanum Regnum Animale* (1798) consists of one or two volumes. Most bibliographers, to whom I have referred, say two volumes; but Cuvier (*Le Regne Animal*, nouv. ed., T. III. (1830) gives but one volume. In the library of the Academy of Natural Sciences of Philadelphia there is volume I. only of the work, which is divided into six classes, viz, Mammalia, Aves, Amphibia, Pisces, Insecta, Vermes, the latter including the invertebrates except the insects, from which it will appear evident that nothing remains of Animalia to be treated in another volume. The first 44 pages (classes I.–IV.) of the work are numbered in Roman, and parts V. and VI. are numbered independently, and are in Arabic (pp. 1–320). To this difference in pagination may be due the statement that the work is in two volumes. Or the fact that Classes V., Insecta (pp. 1–136), was published in advance in 1788 with a separate title-page may account for the other volume.

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NOTES ON INORGANIC CHEMISTRY.

There has been a question frequently discussed as to the delicacy of spectroscopic reactions as compared with the sense of smell. Kirchhoff and Bunsen were able by the spectroscope to detect $1/14 \times 10^{-6}$ mg. of sodium; on the other hand, E. Fischer and Penzoldt could recognize the odor of $1/460 \times 10^{-6}$ mg. of mercaptan. It was clear, however, that the figures of Bunsen by no means represented the limit, and Professor F. Emich of the Technische Hochschule of Graz has lately devoted some time to the study of the problem. His results are published in the *Sitzungsberichte* of the Academy of Science of Vienna. His method is to use Geissler tubes with exceedingly fine capillary portion; these are filled with hydrogen under greatly diminished pressure. A slit at right angles to the capillary allows the light from a limited portion of substance to pass, the weight of which is easily calculated. The lowest pressure at which the line H is visible was observed and from this the calculation made. The results obtained in three observations were 1×10^{-12} mg., 7×10^{-14} mg. and 3×10^{-13} mg. It thus appears that, on the average, the quantity of hydrogen recognizable by the spectroscope is ten thousand times less than that of mercaptan by the sense of smell. Emich calls attention to the fact that if, as Hutton affirms, the ordinary hydrogen spectrum is visible only when the gas contains a trace of oxygen, the quantity of oxygen thus detected by the spectroscope becomes far more minute than the figures given for hydrogen.

The subject of the radio-active substances in pitchblende continues to excite the interest of chemists, and much work is being done by the two Curies, Giesel, Debierne, Becquerel, von Lengyel and others. The last number of the *Chemical News* contains a paper by Béla von Lengyel of Budapest, describing his efforts to prepare a radio-active barium synthetically. His process is to fuse together uranyl nitrate with two or three per cent. of barium nitrate, and then fuse the oxides obtained in the electric arc. The fused mass is dissolved in nitric acid, much of the barium nitrate crystallized out, and the remainder of the barium precipitated as the sulfate. The sulfate thus obtained

is found to be radio-active, and from it the chlorid and the carbonate, both also radio-active, have been obtained. Early in his paper von Lengyel says: "It is obviously clear that the question of radium being a chemical element must be answered in the negative as soon as it is found possible to transform ordinary inactive barium into the radio-active variety." In closing he says that his researches "do not nearly suffice to decide the question as to whether radium is an existing chemical element or not, but these facts render doubtful the existence of radium."

FOLLOWING this work comes that of Becquerel, described in the last *Comptes Rendus*, in which similar experiments are repeated from a different standpoint. Uranium chlorid is mixed with barium chlorid, the barium precipitated by sulfuric acid. The barium sulfate thus obtained is more or less radio-active, but the radio-activity of the uranium salt left has diminished correspondingly. These experiments show the futility of trying to determine in this manner, whether the radio-activity resides in the uranium, or is due to an independent substance which is an impurity in the uranium.

J. L. H.

THE UNIVERSITY OF BIRMINGHAM.

THE report of the Executive Committee of the Governors of the University of Birmingham, dated May 31, 1900, relative to the recent development of the work in applied science and engineering and the use of the recent gifts of Mr. Carnegie and others has been printed for distribution to friends of the university and its extended work.

On May 12, 1899, the endowment fund collected by a canvassing committee amounted to £143,000. Mr. Carnegie, through Mr. Joseph Chamberlain, offered to contribute £50,000 for a special science department when a total of £250,000 should be pledged. This condition was fulfilled within a week. On February 28, 1900, the sum had become £326,500, and at the date of the report it was £327,468.

Mr. Carnegie requested Mr. Chamberlain to send a deputation to the United States which should 'report on its return what more is necessary, to give Birmingham a first-class modern scientific college, modeled, as I have said, after Cornell'—intending, presumably, a union of literary with scientific and professional work, as is usual in American State universities, and with a well-developed 'practical' side—'not necessarily big, but perfect of its kind.' Professors Burstall, Renwick and Poynting were accordingly sent. They visited several of the principal eastern colleges of the United States and Canada. They conclude:

"We desire to express our admiration alike for the high ideal of scientific education which is the aim in American universities and for the enthusiasm in all classes which renders it possible to approach so near that ideal. Everywhere we found that the wealthier classes realize the importance of university education and encourage the universities by generous gifts and everywhere, both by teachers and by students, these gifts are being used for higher learning and research."

They "believe that the system of engineering education existing at Cornell and other institutions we have visited and the system of Mining and Metallurgy at Boston and Montreal, all with their four year courses, are admirably planned and carried out." They advise their adoption including laboratories and workshops for instruction which they found "thoroughly practical and on such scale that the knowledge acquired there by the student would be of use in his subsequent professional life."

The proposed scale of salaries is very modest —£750 for professors, £300 to £400 for assistant professors, £150 for 'demonstrators' in science and instructors in shops, and £100 and £70, respectively for minor appointments. The investment of £155,000 is proposed in buildings and equipments for the new Technical College, and anticipates an annual operative expenditure something over £10,000 with a faculty of eighteen in all grades and presumably for a student body of about 200 in all classes. A 'commercial faculty' is proposed, consisting of three officers and involving an expense of £6000 in equipment and £2200 annually in maintenance.

A four-year's course is planned, in which the differentiation between the mechanical and electrical engineers will occur at the end of the