

of delivery of goods in the different ways. It will include all questions which concern electric trucks, including the influence of the different kinds of city pavements on cost of delivering goods, and the effects of different routings of the vehicles. The investigation will be partly theoretical, but it will be planned to determine practically what it ordinarily costs to deliver goods under city conditions. This part of the investigation will be accompanied by actual observations extended over a period of many months. At least a year will be occupied in this work, and Mr. H. F. Thomson has been appointed research associate to carry on the work under the direction of Professor Pender.

#### UNIVERSITY AND EDUCATIONAL NEWS

THE physical laboratory at Göttingen has received gifts of \$125,000 from Herr Krupp von Bohlen-Halbach and \$40,000 from Herr von Boettinger.

WE learn from the *Experiment Station Record* that the legislature has renewed for another period of five years the mill tax for the erection of buildings for the Iowa College and Station. It is estimated that over \$1,000,000 will be available for this purpose during the next six years. A library to cost \$225,000 and a stock-judging pavilion to cost \$20,000 are among the buildings definitely authorized. Special appropriations were also made of \$60,000 for equipment of the domestic technology building, gymnasium and veterinary hospital, \$6,000 for improvement of the grounds, \$43,000 for the heating plant, \$50,000 for general instruction, \$18,000 for extension work, \$15,000 for the station and \$5,000 each for the engineering experiment station, the roads work and the two-year course.

THE state board of education of Utah has provided that every accredited high school in the state must teach agriculture in order to participate in the maintenance fund provided for high schools.

THE University of Athens will celebrate its seventy-fifth anniversary on March 25, 1912,

at which time the International Congress of Orientalists will meet in the city.

THE Consul General of Buenos Aires reports that a school of aviculture is to be established at La Plata as an annex to the zoological garden, to give instruction in poultry and bee keeping and in the rearing of rabbits and pigeons, the latter for consumption and as carriers.

THE committee appointed recently by the board of regents of the University of Michigan to consider and report upon the organization of the Graduate School has been constituted as follows: President Hutchins, Regents Sawyer, Beal and Hubbard, Professor John O. Reed, dean of the faculty of literature, science and the arts; Dr. Victor C. Vaughan, dean of the faculty of medicine; Professor Fred N. Scott, chairman of the administrative council of the graduate school (at present a committee of the faculty of literature, science and the arts); Professor Alexander Ziwet, president of the Research Club; Professor R. M. Wenley, head of the department of philosophy. The committee will not convene till October.

THE following appointments have been made in the medical department of Leland Stanford Junior University: Dr. Thos. Addis, Carnegie research scholar and fellow of the Royal College of Physicians of Edinburgh, to the position of assistant professor of medicine to have charge of the work in clinical chemistry; Dr. Jas. Eaves, of Edinburgh and of Guy's Hospital, London, instructor in surgery to have charge of surgical pathology. The following assistants were appointed to the medical dispensary: Dr. Geo. Lyman, Dr. W. H. Banks, Dr. W. R. P. Clark, Dr. Walter Schaller, Dr. P. H. Luttrell, and in the surgical dispensary Drs. W. W. Winterberg and I. W. Thorne. Provision has also been made for the appointment of an academic professor of obstetrics and gynecology.

MR. D. B. ROSENKRANTS, recently of Upper Iowa University, has been appointed instructor in botany at the North Carolina College of Agriculture and Mechanic Arts.

THE Vienna correspondent of the *Journal* of the American Medical Association writes that at present there are two medical posts vacant in Austria: one at the clinic for internal medicine in Innsbruck, from which Ortner was called to Vienna to succeed von Strümpell, and the other at the pharmacologic institute of the German university in Prague. The latter has become vacant through Professor Pohl's acceptance of an appointment at Breslau. The following scientists have been recommended in the order named for the vacant post: for Innsbruck, Professor Pfeiffer from Graz, well known for his researches on serology, hematology and diseases of the lungs; Docent Dr. Schmidt (Vienna) and Professor von Tabora from Strasburg and also Professor Walks from Prague; for the pharmacologic institute, Professor Cloetta from Zurich, Professor Wiechowski, who is at present an assistant of Horst-Meyer in Vienna, and Professor Jodlbauer in Munich.

MR. HERBERT BOLTON, F.G.S., curator of the Bristol Museum of Natural History, has been appointed reader in paleontology in the University of Bristol.

DR. SAMUEL OPPENHEIM, of Prague, has been elected professor of astronomy in the University of Berlin.

#### DISCUSSION AND CORRESPONDENCE

##### CONCERNING THE "NEMATOCYSTS OF MICROSTOMA"

PROFESSOR GLASER in *SCIENCE* of July 14, 1911, has criticized my recent paper on "Nematocysts of *Microstoma*."<sup>1</sup> In the first place he indicates that I have made a quotation from his paper and given credit for it to Boulenger. This was a piece of carelessness on my part. That it was an inadvertence is shown in that the page numbers given refer to Glaser's article, to which I meant to give credit. I greatly regret that this blunder has been made and I am grateful to Professor Glaser for calling my attention to it.

<sup>1</sup> *Biological Bulletin*, Vol. XX., No. 5.

My critic continues by saying, "Professor Kepner states that the cnidophages of æolids deliver their nematocysts to the cnidocyst, whereas the endodermal cells of *Microstoma* deliver their nematocysts to the mesoderm. Unfortunately for the analogy, both Grosvenor and I have shown that the cnidophages after engulfing a certain number of nettles, metamorphose directly into cnidocysts."<sup>2</sup> I had attempted to make no *analogy* in this case nor was I concerned with the manner in which the cnidocyst was formed. I had attempted to make a *comparison*. The cnidophages of æolids by metamorphosing to form the cnidocysts do not involve the mesodermal cells and thus may be *compared* with the endodermal cells of *Microstoma* which deliver the nematocysts to the mesoderm.

Professor Glaser in the third place criticizes me for quoting Grosvenor in support of the idea that the nematocysts of æolids are of defensive value, and at the same time overlooking the work of Cuenot and Glaser which showed that the "defensive value of the nettles is slight if not negligible." I had not overlooked this work of Cuenot and Glaser on the nematocysts of æolids. Despite this negative evidence I am constrained to believe that the nematocysts of *Microstoma* are of defensive value.

Finally my critic states that I have raised the question whether æolids have acquired their method of dealing with nematocysts of coelenterates through flatworm ancestry. This question was suggested. Professor Glaser, however, is unfair to me in not stating that I had placed by the side of this the alternative question whether we had here cases of parallel development. Two questions, not one, were thus raised by me, and I feel quite unready to defend either hypothesis.

Giving credit to whom credit is due, the fact remains that the endodermal cells of *Microstoma* collect the nematocysts of *Hydra* to deliver them to mesodermal cells. Certain mesodermal cells transport these nematocysts to and orient them at the ectoderm.

This intricate process has no meaning un-

<sup>2</sup> *SCIENCE*, Vol. XXXIV., July 14, 1911, pp. 51-2.