

also notices), such as 'socius,' 'organic' and 'reflective' sympathy, are used with no intimation of their origin.

'My terms,' Professor Baldwin calls 'socius,' 'organic' and 'reflective sympathy.' We do not suppose that he claims to have coined the word 'socius,' while the specific concept to which Professor Giddings has attached it, if we understand his language, he repudiates. The terms 'organic' and 'reflective' sympathy might conceivably be claimed as inventions in technical nomenclature. But on page 220 of Professor Baldwin's 'Social and Ethical Interpretations' we find the following quit claim:

"Psychologists are generally agreed in finding a distinction necessary between 'organic' and 'reflective' sympathy, similar to the distinction which has been made in considering modesty."

But terms are, of course, minor matters. Let us turn at once to the pure essence of Appendix D. Here it is:

"Whenever the situation depicted by Adam Smith's 'Illustration' was realized—cases involving the sight of both an aggressor and an addressee with their respective claims upon the onlooker B for sympathy—the creature whose shape, movements, postures, cries, etc., *were like those of B* would be the one which would supply B's copy-system and the one with which his cooperations would arise; that is *the animal of the same kind*. So subjective sympathy would at once be a 'consciousness of kind' and the objective reactions would be indicative of 'kind.'"

The quality of Professor Giddings' dishonesty is now revealed. In a review of Professor Baldwin's book Professor Giddings has put in 'his way' certain things that Professor Baldwin had put in 'his way' in Appendix D, and Professor Baldwin's way—in Appendix D—consists in putting quotation marks about Giddings' way.

In conclusion I would repeat with Professor Small 'there is glory enough to go round.' This means that it is not necessary to vilify other scientists' efforts and work in order to raise the value of one's own contributions. If Professor Baldwin would only remember what

he owes to M. Tarde he would certainly hesitate to accuse others of plagiarism.

NEW YORK CITY.

GUSTAVO TOSTI.

CARNEGIE INSTITUTION.

THE Advisory Committee in Astronomy will be glad to receive information or suggestions, regarding investigations in astronomy which should be aided by the Carnegie Institution. It is advisable that applications should be made as soon as possible. They may be addressed to the Chairman of the Committee, Cambridge, Mass.

EDWARD C. PICKERING, *Chairman*.

LEWIS BOSS.

GEORGE E. HALE, *Secretary*.

S. P. LANGLEY.

SIMON NEWCOMB.

CAMBRIDGE, March 29, 1902.

#### SHORTER ARTICLES.

##### DISCHARGE FROM HOT PLATINUM WIRES.

DURING the past year I have been investigating the discharge from a hot platinum wire, and the results of this work may, perhaps, be of interest to others. An article has been recently published by Rutherford\* on the same subject, in which he determined the velocity of the positive ions and showed that at higher temperatures their average velocity was less than at lower. My own work was intended to compare the velocities of the positive and negative ions and to explain as far as possible the decrease in the velocity at higher temperatures.

By a method similar to one which I had previously used in studying the discharge from a flame† it was shown that the average velocity of the positive ions is greater than that of the negative. By a method similar to one used by Zeleny‡ it was shown that the most rapidly moving positive ions have a greater velocity than the most rapidly moving negative ones. By a modification of this method it was shown that the most slowly moving positive ions given off at lower temperature move comparatively rapidly, but that at higher temperatures some are sent off which

\* SCIENCE, 14, 590, and *Phys. Rev.*, 13, 321.

† *Phys. Rev.*, 12, 65.

‡ *Phil. Trans. Roy. Soc. Lond.*, 195, 193.

are fully as slow as any of the negative ones.

At higher temperatures the air is ionized to more than molecular distances from the wire.

When the air was enclosed within a tube the rate of discharge became very small. Apparently particles are driven off from the wire at the higher temperatures which are suspended in the air within the tube. These collect on the ions and greatly retard their velocity. These particles do not aid in the discharge, but materially diminish it. Their presence may also be shown by their acting as nuclei in the condensation of water vapor.

These particles are found to be attracted more by the negative ions drawn from a flame than by the positive. It is, therefore, probable that they cause the negative ions in the discharge from the wires to have a smaller velocity than the positive.

Their presence is also shown when the wire is heated in hydrogen, although to a smaller extent. It therefore seems probable that they are particles of platinum, and not of an oxide of platinum.

When the wire is first heated in a vacuum, the discharge is much larger than at any time afterwards. Heating the wire in hydrogen largely restores to it the power of producing discharge. At least some of the discharge would therefore appear to be caused by occluded hydrogen.

The rate of discharge in a vacuum is much larger than in air, but it was found to be impracticable to find the velocity of the ions in a vacuum.

A complete account of the work will be given soon in the *Physical Review*.

C. D. CHILD.

#### PALEONTOLOGICAL NOTES.

##### NORTH AMERICAN ELEPHANTIDS.

ANY one who has had occasion to study either the elephants or mastodons of North America needs not to be told that the species of each are very indefinitely known and, for the most part, very imperfectly characterized. Most of the species are based on teeth, one or two on a single tooth, or at the best the

description includes fragments of the jaw. Specimens which have been gradually accumulating in the U. S. National Museum make it possible to at least commence the revision of the species of our elephants, while the material that has been gathered by the field parties of the American Museum of Natural History will throw much more light on the subject.

Of true elephants there appear to be three good species, *Elephas primigenius*, *E. columbi* and *E. imperator*. The first-named, the northern mammoth, a species of moderate size, having teeth with narrow enamel bands, seems to have ranged from Alaska southeasterly to about the latitude of Washington, D. C.

A line drawn from Washington to St. Louis and thence northwestward to Victoria, B. C., would roughly mark the southern boundary of its habitat. To the south of this line, extending to Florida and to the city of Mexico, is found *Elephas columbi*, a much larger animal on the average than the northern species, having teeth with coarser enamel bands. There seems to be an overlapping of the two species, especially in the northwestern United States, as noted by Professor Cope, and along this line it is difficult at times, if not impossible, to tell from which of the two species individual teeth have come. Fully grown examples of this species must have attained a height of thirteen feet.

*Elephas imperator* was based by Leidy on an imperfect upper molar from the valley of the Niobrara distinguished by its great size and extreme coarseness of structure. This specimen long remained unique and was finally considered by Leidy to be the same as *E. americanus* or, more correctly, *E. columbi*, since the former name is unusable, being a synonym. Last fall, however, Mr. W. H. Holmes obtained in Indian Territory a considerable number of teeth of both *Elephas* and *Mastodon* from the same spot, comprising molars of *M. americanus*, *E. columbi* and some referable to Leidy's *E. imperator*. Teeth of this species may be distinguished from similar teeth of *E. columbi* by their coarse structure, the large amount of cement and the small number of enamel plates. Thus