

small discrepancies between the best modern determinations of the constant.

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GRAVITATION AND ELECTRICAL ACTION

IN a recent number of *SCIENCE*¹ Professor F. E. Nipher has pointed out that the force exerted between two isolated solid spheres depends not only upon their mutual gravitational attraction, but also upon the electrostatic charges carried upon their surfaces, and suggests that this fact has been ignored in determinations of the gravitational constant by experimenters from Cavendish to Boys. The fact that the potential of the earth relative to points infinitely remote is not necessarily zero, and the further fact that the earth's surface may at a given time and place be heavily charged owing to volume changes in the atmosphere are urged to show that the spheres employed in the experiments referred to may have carried appreciable charges.

That Professor Nipher's expression for the electrostatic force between two charged spheres is applicable only to the case in which the distance between their centers is great compared with the radius of the larger is perhaps of little importance in view of the fact that the torsional systems in all experiments on the gravitational constant have been effectively shielded from electrostatic action. The important condition is, of course, that displacements of the torsional system shall not alter the electrostatic capacity of the earth, or of the earth-atmosphere condenser, and this condition is satisfied when the system is surrounded by a conducting casing. In Boys' experiment the torsional system was enclosed in a double metal casing and the apparatus was installed in an underground vault.

It does not seem impossible that contact differences of potential between the parts of the torsional system and the casing may have affected results in some of the experiments, although in Boys' experiment the symmetry of the apparatus was such that forces arising from contact differences of potential could

have exerted only inappreciable torques on the suspended system.

There would seem to be little reason for thinking that the gravitational constant is not known to within one part in 3,000, Professor Boys' estimate.

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AMBYSTOMA NOT AMBLYSTOMA

IN view of the recent difficulty I have experienced in trying to have the generic name of the spotted salamander spelled *Ambystoma* as originally written by Tschudi, it seems desirable to call attention to the correct form of the word. In reporting the exhibition of a specimen of this salamander before the Biological Society of Washington I took pains to see that the word was correctly spelled in manuscript. The report has appeared in print twice and in each instance an *l* has been inserted by the publisher.¹

The word was proposed by Tschudi² in 1839 and written by him *Ambystoma* in four different places in his work, and only in that manner. The derivation of the word is not given by him and there is nothing to indicate that he intended *Amblystoma* and made a lapsus calami. The first author to employ *Amblystoma* was Agassiz³ in 1842-1846. This spelling has had a very wide acceptance and it is the one usually employed by morphologists, embryologists, physiologists and others who are not systematists. A discussion of the appropriateness of *Ambystoma* and its possible derivation from *ἀνὰ στήθα βίβω* meaning to cram into the mouth is given by Stejneger in his "Herpetology of Japan."⁴ The correct form of the word is employed by Hegner⁵ in his "College Zoology," but aside from this most of the non-specialist authors that I have lately seen incorrectly spell the word with the *l* inserted.

¹ *Jour. Wash. Acad. Sci.*, Vol. 6, p. 258, May 4, 1916. *SCIENCE*, N. S., Vol. 43, p. 761, May 26, 1916.

² *Mém. Soc. Sci. Nat. Neuchâtel*, Vol. 2, section 4, pp. 57 and 92, 1839.

³ *Nomencl. Zool. Rept.*, p. 2, 1842-46.

⁴ *Bull. U. S. Nat. Mus.*, No. 85, p. 24, July 22, 1907.

⁵ "College Zoology," p. 511, 1912.

¹ March 31, 1916, page 472.

Dr. Stejneger has called my attention to the fact that the specific name under which Mr. Doolittle's specimen was reported should properly have been written *Ambystoma maculatum* instead of *Ambystoma punctatum*, as shown by him in 1902.⁶

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CENTIGRADE VERSUS FAHRENHEIT

IN the article by A. H. Sabin, appearing in the May 5 issue of SCIENCE, entitled "The Centigrade Thermometer," were expressed the sentiments of many scientific workers, who have had no other method of voicing their opposition to his scheme accorded to them by Representative Johnson, than through articles in various publications.

In the judgment of the writer the set of questions submitted to him by Mr. Johnson should have been so constituted as to have permitted the views of the opposition to have been presented.

The *inconvenience* of the Fahrenheit scale is not apparent to the writer.

The number denoting the temperature range between the freezing point (32°) and the boiling point (212°) of water, being 180 is divisible without a remainder by 1, 2, 3, 4, 5, 6, 9 and 10; while the number for the Centigrade scale denoting the same range, namely 100, is divisible by only 1, 2, 4, 5 and 10 without a remainder; or three less divisors, tending to arouse the suspicion that the Fahrenheit scale is more "rational" than the Centigrade scale.

It is the opinion of the writer that such a change as is contemplated by Mr. Johnson would not only be idiotic, but a most undesirable blow at *educational efficiency*, the most important factor entering into the life of every human individual.

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SAFETY RAZOR BLADES FOR HAND SECTIONING

IF there are still any botanists so old-fashioned as to cut sections by hand, they may be

⁶ *Proc. Biol. Soc. Wash.*, Vol. 15, pp. 239-240, December 16, 1902.

glad to know, both for themselves and for their students, of the convenience and cheapness of the razor I am now using.

The present stropping handle of the Gem Safety Razor is the holder, the Gem Damascene the blade. The total cost is about fifteen cents. The blades, when dull, can be replaced for five cents, but in the stropping holder they may very easily be kept sharp.

I find this thin, keen, easily stropped razor admirably suited to light work. I am not sure that it would be heavy enough to cut hard wood satisfactorily, but it sections leaves, stems and roots, even of considerable size and hardness. I am so pleased with the result that I wish to share it.

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SCIENTIFIC BOOKS

Ptolemy's Catalogue of Stars. A Revision of the Almagest. By C. H. F. PETERS and E. B. KNOBEL. Carnegie Institution of Washington, 1915.

It will give pleasure to astronomers to have this long and careful work on the collation of existing manuscript copies of the "Almagest" so well presented in published form. It is the oldest known catalogue of measured star places, and while observers of this day can receive little assistance in comparing those rough measurements with modern positions, the catalogue will still exhibit the changes in the heavens due to precession, and it serves as a record of the unchanging character of the distribution of the bright stars.

No original copy of Ptolemy's "Almagest" is in existence, so far as known, and the earliest manuscripts thus far found were made eight or nine centuries after the epoch of the catalogue. Both Greek and Arabic manuscripts are among the early transcripts; the Latin copies were translations of either one of these. In the transcriptions many errors were made, due in part to the ignorance of astronomical science on the part of copyists, and to the difficulties of translating the nu-