

SCIENCE.

FRIDAY, NOVEMBER 14, 1884.

COMMENT AND CRITICISM.

THE CUSTOM-HOUSE at Philadelphia and the Treasury department at Washington are wrestling over a difficulty growing out of the special tariff upon 'philosophical instruments.' Such instruments are, under the law of 1883, subject to a duty of thirty-five per cent, while instruments of glass or metal, not 'philosophical,' are subject to forty-five per cent duty. Where can the line be drawn? An astronomical telescope is evidently philosophical, as the word goes. But there are instruments of every grade, from the 26-inch equatorial to the little glass through which the opera-goer contemplates the movements of his favorite *prima donna*: shall they all be classed together? If not, who can define what telescopes, spyglasses, binoculars, lorgnettes, microscopes, and other instruments for aiding vision, are entitled to patents of nobility which shall distinguish them from the plebeian mass of 'manufactures not specially provided for in this act'? Of course the same question arises in the case of chemical and physical instruments of all sorts, which may be used either in a laboratory, private or public, in a factory or telegraph-office, or in a children's playroom. It is understood that the aid of the National academy of sciences will be invoked to furnish a solution of the problem, and the result will be looked for with great curiosity.

THE PROBLEM, how to make scientific assemblies more profitable to those who attend them, is constantly recurring. It is conceded that the more profound and special a paper may be, the fewer will be the number of those who take an interest in hearing it. On the other hand, if those who are special and profound are not to be encouraged to present their papers to scientific associations, who shall have the privilege? Certainly not the vague and the

shallow. Papers must be presented, as elaborate and recondite as can be secured; but such papers repel the auditors. What shall be done in the dilemma? How can the mathematician presenting some new development of the theory of functions expect to interest the botanist? How can the petrographer discussing the microscopic aspects of rocks command the attention of the morphologist? Or, in a philological association, how can an elaborate paper on some point in the grammar of the Vedas command the attention of linguists who have never learned the Sanscrit alphabet? Has the advancement of knowledge reached such a point that there is no place left for the general society, the academy of science, and is specialization to be so special that each line of inquiry is to be considered only in a limited company of those who are devoted to it?

We venture to make a few suggestions which seem to us worth considering by those who are called upon to manage scientific meetings, especially the annual gatherings which bring from a great distance, at a great expense, those who are desirous of securing the utmost advantage from the meeting. *First*, Let the committee in charge make arrangements of a positive character for the conduct of the meeting, and require conformity to their regulations. Among these rules should be, (1) a strict adherence to the allotted time; (2) the presentation, in advance, of an abstract of what is to be read (and this should be printed, particularly if it contains any tabular statement, mathematical formulas, chemical formulas, or other rigidly technical statements); (3) the allowance of a definite time for discussion, questions, answers, and comments. *Second*, Let every speaker or reader form the habit of stating in general terms the purpose of his investigation, its relations to other work, and its results, refraining from going into minute details unless he is sure that a considerable part

of the audience can follow him. Let him always remember that there are some statements which the mind cannot readily receive through the portal of the ear; and there are but few which cannot be simultaneously presented, both to the eye and the ear. The diagram, the printed formula, the abstract, may cost the speaker a little expenditure; but it will save the hearer a vexatious outlay of time and attention. *Third*, Let there be a liberal margin allowed for social intercourse outside of the meetings, not merely for public receptions and excursions, but for those informal introductions and interviews which to many persons are the best part of scientific gatherings. We should not then hear it said so often, "This would have been a very pleasant meeting were it not for the papers which were read."

A REMARK made in one of the papers read before the recent Woman's congress in Baltimore suggests an interesting argument in favor of the kindergarten. It is well known, that, in its development, each new-born being passes through very much the same stages that his ancestors have been through before him. Even after birth, the growth of the child's intelligence simulates the progress of the human race from the savage condition to that of civilization. It has been shown by Preyer, and others who have studied infant-development, that a faculty which has been acquired by the race at a late stage is late in making its appearance in the child. Now, reading and writing are arts of comparatively recent achievement. Savage man could reap and sow and weave, and build houses, long before he could communicate his thoughts to a person at a distance by means of written speech. There is, then, reason to believe that a child's general intelligence would be best trained by making him skilful in many kinds of manual labor before beginning to torture him with letters; and the moral to be derived is, that primary instruction should be instruction in manual dexterity, and that reading and writing could be learned with pleasure and with ease

by a child who had been fitted for taking them up by the right kind of preparation. The argument is a novel one, and it certainly seems plausible.

LETTERS TO THE EDITOR.

Change in the color of the eye.

IN *Science*, p. 367, you say the color of the iris, 'after early childhood' 'does not vary with age.' I think I can give you positive evidence that it does. My own eyes were called black (in reality dark brown) until after I was forty years old. About that time they commenced to change, and are now blue-gray, with streaks of light hazel, which last are fast fading out. The same thing happened with my father's eyes. I remember him at forty years and under, with thoroughly black eyes, and there are portraits of him which show him thus; but between forty and fifty, his eyes changed, and eventually became a blue; with a very slight tint of hazel, not noticeable without close observation. THEODORE F. MCCURDY.

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The eggs of *Ornithorhynchus*.

The editorial comments in a recent number of *Science* (p. 412), on the revival of forgotten statements, lead me to believe that some more old matter may be revived with profit. The telegram sent to the meeting of the British association from Professor Liversedge, announcing the fact ascertained by Mr. W. H. Caldwell (*Science*, iv, 261), that *Ornithorhynchus* lays eggs, has been universally hailed as an entirely new discovery; and a number of the prominent British zoologists, whom we had the pleasure of welcoming to Washington recently, were unaware that the oviparity of the monotreme had long before been definitely announced, and an egg figured. Nevertheless, such is the fact; and an extensive series of old comments and applications of the fact appears in the literature of zoology. I need only refer to some of the most prominent, and others can follow up the subject in the publications of the day.

In 1829 Geoffroy Saint-Hilaire published a memoir in the *Annales des sciences naturelles* (xviii, 157-164), in which he reproduced a figure of an egg of the natural size (pl. 3, fig. 4). This was communicated to him by Prof. Robert E. Grant of London, who drew one of a nest of four obtained by a Mr. Holmes. Two of these eggs were reported to have been obtained by the 'Muséum de Manchester;' and it would be well for our Manchester friends to hunt them up, and see whether they are still to be found. As a result of a general belief in the oviparity of the animal, several of the naturalists of the day revised the classification of the vertebrates.

In 1830 Dr. Joh. Wagler, in his 'Naturliches system der amphibien,' proposed a peculiar class (Gryphi—Greife), in which, however, by illegitimate assumptions, he included the ichthyosaurs, plesiosaurs, and pterodactyls.

In 1831 Charles L. Bonaparte, prince of Musignano, in his 'Saggio di una distribuzione metodica degli animali vertebrati,' also isolated the monotremes as a peculiar class (*Monotrema*), defining it in the following terms: "I Monotremi sono animali vertebrati, a sangue caldo, *ovipari*, quadrupedi; respirano per mezzo di polmoni; hanno un cuore biloculare biaurito."

And even long before the egg was thus figured,