

# SCIENCE.

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FRIDAY, FEBRUARY 8, 1884.

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## COMMENT AND CRITICISM.

THE modern revolution in biology has made it plainer than ever before, that a certain elasticity of scope, a power of adaptation, should belong to scientific foundations. These are usually the outgrowth of enthusiasm, which, at a white heat, is not always so tempered with wisdom as to foresee that the special end then to be met may not forever be of paramount importance. It must be some such explanation as this, which is to be given of the state of affairs recently described by Dr. Harrison Allen of the University of Pennsylvania, as existing in Philadelphia. In the *American* of Jan. 26, Dr. Allen asserts that the existing foundations of Philadelphia are unequal to the present emergencies of biological science, and urges with much force that "an institution for the advancement of biological research, which will be open to both sexes, is imperatively demanded" in that city.

With the widening of the field of biological science, it has come to pass that what we need most at the present time is a new order of things. Academies and museums we must always have; and fortunately, in these respects, we already equal our transatlantic brethren. But that these alone do not cover all of the ground, is evident from the following remarks of Dr. Allen, concerning the Academy of natural sciences in Philadelphia: "The institution is committed to the task of accumulating a reference-library and a museum, of publishing proceedings and occasional memoirs, and affording a reading-room to any and all who are in the remotest degree interested in natural history, and, to this end, to give rudimental instruction at stated intervals to miscellaneous gatherings." All this is well, except that it 'is committed' to this line of

work; and even this would be highly satisfactory, if it were not 'committed' to this alone, as appears to be the case: for the author continues, "The representative members of the academy have acknowledged that the higher education is not within the scope of its work, and have uniformly opposed any attempts at so changing the policy of the society as to admit of any responsibility being unreservedly assumed by its scientific men." That this view should be entertained by the members of organizations instituted long ago, and now endowed with a host of venerable traditions, is, of course, natural; but it is perfectly plain that these alone are no longer sufficient.

Dr. Allen would supply the deficiency which he laments by another foundation,—a biological institute, free from restrictions, liberally endowed, and headed by some one of high repute, qualified especially to inspire and to direct research. We see no reason why a plan like that proposed should not be an immediate and pronounced success, especially in Philadelphia, where science has long been at home, and which is so fortunate as to possess in Professor Leidy an enthusiastic leader and investigator eminently qualified to be the head and front of the new enterprise. We should rejoice to see some such enterprise begun in Philadelphia, particularly if it might enable advanced workers to take immediate advantage of that rich field for zoölogical research in our country which is the admiration and envy of European zoölogists. To this end the endowment should be ample,—we believe, considerably larger than the one hundred thousand dollars suggested by Dr. Allen. It should be, at the least, sufficient to enable advanced workers to proceed to points of timely and special interest; as, for instance, to the Great Lakes, or to the shores of the Gulf,—not to establish laboratories, but to pursue certain lines of research which imperatively require the presence

of the investigator in the field. It is certain that such an enterprise would arouse enthusiasm at home, and command respect abroad.

MR. B. J. LOSSING has recently published a paper on the proposed celebration, eight years hence, of the four hundredth anniversary of the discovery of America. We refer to it now, not to discuss this project, but to call attention to an historical question of such interest that it is worth a thorough investigation. Among mistakes which might almost be classed as popular superstitions must be placed the wide-spread notion that the rotundity of the earth was nearly unknown until comparatively recent times. Mr. Lossing goes so far as to say that the scholars in the time of Columbus ridiculed the idea of the earth being globular, and in this he only echoes the popular belief on the subject. Now, the fact is, that the form of the earth has been as well known as it is now from the earliest historic times, and has never been denied by a scientific writer on scientific grounds. Through twenty centuries of discussion among rival systems and theories, this one has stood undisputed as the fundamental fact of astronomy. Nor has it ever been the subject of religious controversy, as the Copernican theory was. Under these circumstances, it is a question of interest, whether a state of things of which the astronomers never heard existed in Spain four centuries ago; whether, in fact, there are books or documents of any kind showing that men who then ranked as scholars believed the earth's surface to be flat. We suggest the subject to historical investigators.

It must, of course, be understood that we are now speaking of professed scholars, in a position to be consulted by the authorities, and not of the ignorant masses. It is quite likely that Queen Isabella's chambermaid may have ridiculed the idea of the earth being round, and that her spiritual confessor may have looked upon astronomical theories generally as the work of men very dangerous to orthodox religion. But if the knowledge of

an epoch is that of the majority, where shall we stop? It might be found, that, at the present day, the majority of the human race believes the earth to be flat. We leave our readers to picture in their minds an encyclopedia of the thirtieth century, in which it will be stated, that although the astronomers of the nineteenth century knew of the motion of the earth, yet their more numerous and influential contemporaries, the theologians, as represented by one of their leaders named Brother Jasper, believed it to be at rest.

THE acquittal of General Cesnola of the charge of libel, in the case so long before the courts, is probably satisfactory to the trustees of the Metropolitan museum of art, but is far from satisfactory from a scientific stand-point. So far as the trial related to libel, it made no difference to science which side won; but it does make a difference when it appears, that, by legal twists and turns, the vital spot was not touched. As the result stands before the scientific world to-day, the curator, while acquitted of the charge of libel in his hot reply to a former business agent, is still, directly or indirectly, responsible for the manipulations of ancient sculptures in the museum under his charge. One good result may follow from the Cesnola trial. In future, fragmentary objects in museums will probably either be left as found, or else so joined, that, while holding their relative positions, they will still show that they are fragments. The so-called restorations are too often the conceptions of the officers in charge; and, while Cesnola has followed a plan often sanctioned by supposed requirements of art, it is one which will never be permitted by science.

#### LETTERS TO THE EDITOR.

*\*.\* Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.*

##### Tropical cyclones.

IN Mr. Davis's paper on whirlwinds, cyclones, etc., in *Science*, vol. ii. pp. 758-761, I notice the use of the term 'equatorial cyclone,' which should be discontinued, as I have already had occasion to state before.<sup>1</sup> There being no deflection of the winds from the normal to the isobars on the equator, there can be no cyclone there; and it is, I think, generally ad-

<sup>1</sup> *Nature*, vol. xix. p. 517.