know the relative positions of the different deposits with which one is dealing, and not to proceed, as Dr. Meyer has done, from top to bottom, believing that top was bottom, and bottom top." Professor Heilprin has confounded the limestone at the top of the profile in Claiborne with the limestone at the base, because he has studied the literature regarding it superficially, and because he himself has never seen it in nature. If he puts no faith in the observations of Conrad, Lyell, or my own, he may go there and observe for himself.

7. I fail to see what the fact, that Professor Heilprin has been six years curator of the tertiary shells in Philadelphia, has to do with any conclusion which I have drawn, based upon my larger material. It may be that he has studied these shells attentively; although I have pointed out paleontological mistakes of a surprising nature in his publications on tertiary fossils, and although I had published my regrets that he had not utilized the Philadelphia type-specimens for the benefit of science. The fact, that he once sent me an undescribed tertiary form of the collection as a duplicate in exchange (see 'Terebra trilirata Conr.,' *Proc. ac. nat. sc. Phil.*, 1884, 105, 106) makes me doubt whether this study was as thorough as he intimates.

8. "Pseudo-science, of the kind to which we are here treated, should be exposed." After having worked for years in the old-tertiary formation in Europe, I studied the literature of the corresponding formation in America, following the different opinions from their origin, and tracing out contradictions. Then I went to the spots, observed for myself, and from all these studies I have been forced to conclusions, which, indeed, throw a peculiar light on some publications. Professor Heilprin's way has been to study the literature, and then to write a book on this formation: even to map it, without ever having seen it. He calls *my* way 'pseudo-science!' Without having pointed out one single mistake in my papers, Professor Heilprin uses the expressions, — "geological and paleontological fancies . . . monstrous disregard or ignorance (or both) of the literature . . . misconception of the numerous species . . . vagaries . . . amusing . . . pseudo-science," and warns paleontologists not to accept my species.

I have here fully answered Professor Heilprin's objections, in order to show his method of argumentation, and how useless and how disagreeable discussion with him is. I will not, however, enter into any further controversy with him upon this subject; at all events, not until he has made some examination of the region under consideration, in person, and then confines himself strictly to the discussion of observed facts.

OTTO MEYER.

New Haven, Conn., Aug. 12.

A NEW ENDOWMENT FOR RESEARCH.

IT is usually the case that private endowments for public purposes are made subject to narrowing restrictions, and then it too often ensues that with the lapse of time the very object of the gift is defeated by the restrictions: the letter kills the spirit. It must therefore be a matter of congratulation when a great public donation is left as free as compatible with the general object for which it is made. This is remarkably the case with a noble and munificent endowment established by Mrs. Elizabeth Thompson of Stamford, Conn., an American lady well known for her public benefactions. Her long experience with churches and various charitable enterprises had led her to question whether the money spent in them achieves the greatest possible good. She finally reached the conviction that knowledge is the real source, the impelling power of human progress; and it became her desire, from motives of the highest philanthropy, to contribute to the promotion of science.

When the plan for the establishment of an International scientific association was brought forward at Montreal, and again at Philadelphia, before the great national associations, Mrs. Thompson considered that the proposed international society would be the fittest body to assume the trust she wished to establish. Accordingly she placed in my hands the sum of five thousand dollars as the nucleus of a fund to be controlled by the International scientific association when organized.

Not long since, Mrs. Thompson communicated to me her desire to transfer the above-mentioned sum to a board of trustees, and to add to it at once twenty thousand dollars more, making a total permanent fund of twenty-five thousand dollars. Mrs. Thompson has been as liberal in the conditions she has established as in the amount she has given. According to her letter of conveyance, "The income of the fund is to be devoted to the advancement and prosecution of scientific research in its broadest sense; it being understood that to provide for, and assist in, the maintenance of an international scientific association, is a method of application which seems to me very desirable."

The trustees are left with very great discretionary powers, which are to be guided by certain general directions. It is, above all, expressly understood that the prime object is to contribute from the income towards defray-

ing the cost of scientific researches. The board of trustees consists of five members: Dr. Henry P. Bowditch, chairman; William Minot, jun., treasurer; Prof. Edward C. Pickering; Gen. Francis A. Walker; and Dr. Charles S. Minot, secretary. It was considered important to have as great a variety of interests represented as possible, and this is accomplished by the association of the above gentlemen.

When the International association is organized (and it is hoped that the movement will be initiated by the British association at Aberdeen), the income of the fund will presumably be expended under the direction of that new association; until then, under the direction of the trustees. The first appropriation will probably be made next autumn, when several hundred dollars will become available. At the proper time a circular will be issued, announcing the manner in which applications may be made. As it is desired to give the fund an international character, it is hoped that foreign journals will copy this notice.

In conclusion, I wish to express my admiration for the wisdom shown by Mrs. Thompson. It is certainly very remarkable that a person not especially versed in science, nor directly interested in any of its branches of investigation, should be induced by a desire to benefit her fellows, not to give for some temporary need, but, with exceptional insight, to give for the development of the very sources of progress. The same sound judgment governed her decision as to the conditions of her gift, for it is difficult to foresee any probability which will render this endowment futile. Very often the object of a public gift is determined by the donor's personal interests. I believe Mrs. Thompson was governed by her convictions as to the application of her money which would do most good. She is a devout person, and trusts in the peaceful union of true religion and true science.

At their first meeting the trustees voted unanimously to call their trust 'THE ELIZABETH THOMPSON SCIENCE FUND.'

CHARLES SEDGWICK MINOT.

THOMAS ALVA EDISON.

THOMAS ALVA EDISON was born at Milan, Erie county, Ohio, on the 11th of February, 1847. His ancestors on his father's side were of Dutch descent, having emigrated from Holland to the United States in 1730. His mother, Mary Elliot by name, though a native of Massachusetts, was originally of Scotch parentage. She had for some years taught in a Canadian high school, and was possessed of an excellent education. Under her careful training, her son, in the almost entire absence of the ordinary educational privileges, developed very early a fondness for books, which became almost a passion. Before he was ten years old he had read not only Newton's 'Principia' and Ure's 'Dictionary,' but also Hume's 'England,' Gibbon's 'Rome,' D'Aubigné's 'Reformation,' and Burton's 'Anatomy of melancholy;' and at the age of twelve he undertook the task of reading through the public library of Detroit in course, becoming convinced, after wading indiscriminately through fifteen feet of shelving, that it would be better for him to make a selection of works upon his favorite subjects.

In 1854 the Edison family removed to Port Huron in Michigan, and a few years later young Edison became a train-boy on the Grand-trunk railway. When the line was completed between Port Huron and Detroit, he secured the exclusive right upon it as news-agent, employed four or more assistants, fitted up a printing-office in the baggage-car, and issued therefrom a weekly journal called *The grand-trunk herald*. While thus occupied, he became interested in telegraphy; and having, at the risk of his own life, saved a little boy from being crushed under the train, the father, a station-master upon the road, assisted him to become an operator. So assiduously did he apply himself, practising often the entire night, that at the end of five months he was given in charge the telegraph-office at Port Huron.

As a telegraph-operator his career was a checkered one. He was employed chiefly for night-work in positions of increasing importance, until finally he reached the larger offices of Indianapolis and Cincinnati. Everywhere his desire for information, his originality in suggestion, the novelty of his speculations, his exemplary conduct, and his uniform good nature, won for him the regard and esteem of his associates. In 1864 he went to Memphis as a government operator; and thence he removed to Louisville, where he remained two