in the Indian eclipse. It is Mr. Brothers's opinion, I believe, that all you see on the screen round the dark moon, all that enormous mass of light, nearly uniform in texture, and these beautiful broad rays between the rifts are really and absolutely parts of the solar corona. I confess I do not wish to commit myself to such an opinion. We want more facts, and the *onus probandi* lies with those who insist upon that view, and I have yet to hear an explanation of them on that basis.

h.—The Corona sometimes seems to be Flickering or Rotating.

We now come to the next point. Time out of mind, that is, for the last two centuries, the corona has been observed to be flickering, waving, or rotating, moving in every conceivable way and direction. In 1652 it was described as "a pleasant spectacle of rotatory motion." Don Antonio Ulloa remarked of the corona observed in the eclipse of 1788, "It seemed to be endued with a rapid rotatory motion, which caused it to resemble a fire-work turning round its centre." The terms whirling and flickering were applied in the eclipse of 1860. This extraordinary condition of things was also thoroughly endorsed by the late observations. It certainly exists, and is among the observations we have to take into account. When I saw an officer of one of the ships at Catania, I asked him if he had taken a drawing of the corona. "No," he said. I asked him, "Did you see any rays?" "Yes." "Then why did you not make any drawing of them?" His answer was, "How on earth could you draw a thing that was going round and round like a fire-work?" This was not the only observation of the kind, and the tendency of such observations I need hardly say is to strengthen a belief in the unstable, and therefore uncosmical, nature of their rays.

Is this variation of light due to the brilliancy of the corona, and the rapid change of the rays, which is one of the results which comes out clearest? In 1842 the brilliancy of the corona was stated to be insupportable to the naked eye. A similar remark was made to me by several of those officers who saw the last eclipse in Sicily. J. NORMAN LOCKYER

(*To be continued.*)

SCIENTIFIC INTELLIGENCE FROM AMERICA*

PROF. LEIDY has lately announced to the Philadelphia Academy of Natural Sciences the existence of some new fossil mammals from the Tertiary formations of Wyoming Territory. One was a lower jaw, discovered by Dr. J. Van A. Carter in the vicinity of Fort Bridger. The animal to which it belonged was as large as a hog, but was more nearly allied to the rhinoceros or tapirs. It was especially remarkable for the possession of a large pair of front teeth, resembling, both in form and construction, the incisors of the beaver. The name proposed for it was *Trogurus castoroideus*, or the beaver-toothed gnawing-hog. Another of the fossils indicates a carnivorous animal, a contemporary of the former, and about the size of the gray fox. The animal was related to the weasel and canine families, and was called *Sinopa rapax*, the former name being that applied by the Blackfeet Indians to a small fox. Prof. Leidy also exhibited photographs of the lower jaw of the American mastodon, recently received from Prof. W. C. Kerr, State Geologist of North Carolina. The jaw was found in Lenoir County of that State. It belonged to a mature male, and was of special interest from its retaining both tusks, as well as the molar teeth.—Among objects of great ethnological import are the aboriginal inscriptions or carvings upon rocks, which are met with in North America and elsewhere, and are sometimes of a very remarkable character. Ordinary copies of such inscriptions, unless they be photographs, are rarely of sufficient accuracy to be of much value; and those of our readers who are likely to come across such inscriptions may like to know a method by which an absolutely perfect fac-simile can be made. This process has been applied with much success in copying carvings in Egypt and other places, and it will be equally serviceable in our own country. For this purpose the inscription is to be first well cleaned from dust or mud by means of a hard, stiff brush; stout, unsized paper is then to be wetted rapidly, but uniformly, in a tub of water, and applied to the inscription, and forced into the irregularities by repeated and forcible strokes with a hard brush, an ordinary clothes-brush being as good as any for the purpose. If the stone be clear of dust, the paper adheres, and, when dry, falls off, forming a perfect mould of the inscription. If the carving be deep or broad, it is sometimes advisable to apply several sheets of paper, one after the other, brushing over the surface of one with glue or gum before applying the next, so as to obtain, when dry, a firm body. By making a plaster cast of the paper relief thus prepared a fac-simile of the inscription will be obtained.—The present year seems to be marked with a great deal of activity and enterprise in researches connected with the natural history and physics of the deep seas, especially on the coast of America. We have already referred to the enterprise proposed by the Coast Survey, of sending a steamer, especially adapted to this purpose, around Cape Horn to the California coast, on a ten-months' journey, to be accompanied by Professor Agassiz and Count Pourtales, and a corps of assistants, all prepared to make observations and collections on the most perfect scale. The expense of the scientific work will, it is understood, to the amount of 15,000 dollars, be defrayed by Mr. Thayer (the same gentleman who supplied the funds for Professor Agassiz's expedition to Brazil), a sum which will probably enable Professor Agassiz to accomplish his object in the most perfect manner.—Professor Verrill and party, from Yale College, will also, it is expected, prosecute an exhaustive research into the deep sea and littoral fauna of the Vineyard Sound and the adjacent waters, in connection with the inquiries of the United States Commission of Fish and Fisheries relative to the decrease of the food fishes of our coast. Corresponding researches will also be carried on in the deeper waters of Lake Michigan, where, it may be remembered, the interesting discovery was made last year of crustaceans and fish of marine types at a depth of 300ft. and over. The inquiries this year will be under the immediate direction of Dr. Stimpson and Mr. Milner in a still deeper part of the lake, and it is not at all improbable that discoveries of the highest interest will be made.—The Arctic expedition of Captain Hall will also undoubtedly do its part in the general work, as the naturalist of the party, Dr. Emil Bessels, has had large experience in such labours, and is practically conversant with the fauna of the arctic seas from his connection with the Spitzbergen expedition of 1869.—At the June meeting of the California Academy of Sciences the subject of inviting the American Association for the Advancement of Science to meet in San Francisco in 1872 was discussed, and the treasurer was instructed to call upon the trustees, and to solicit the co-operation of the Chamber of Commerce in taking measures toward this object. The meeting for the present year will be held in August next in Indianapolis, and a large attendance is expected, especially of Western members, to whom the places of meeting in the East have generally proved too remote to suit their convenience.

* Communicated by the Scientific Editor of *Harper's Weekly*.

SCIENTIFIC SERIALS

THE *American Naturalist* for June contains no article of very striking value, though several of interest in special subjects. Dr. Elliott Coues contributes an account of the yellow-headed blackbird, *Xanthocephalus icterocephalus*, first described by Prince Buonaparte in his continuation of Wilson's Ornithology.—An article on Cuban Seaweeds, by Dr. W. G. Farlow, includes outline drawings of a number of distinct types.—Dr. Lebaron describes a new species of moth, the larva of which is extremely destructive to young apple trees, which he calls *Tortrix malivorana*, or the Lesser Apple Leaf-folder.—Mr. E. L. Greene contributes June Rambles in the Rocky Mountains, with special reference to their flora.—From Dr. Henry Shimer we have "Additional Notes on the Striped Squash Beetle," and from Prof. W. H. Brewer, "Animal Life in the Rocky Mountains of Colorado."—A larger space than usual is occupied by Reviews, among which is one of Mivart's "Genesis of Species," comparing the views of the author with those of the American writers, Cope and Hyatt.

THE first article in the *Journal of Botany* for June is an important one, by Prof. A. H. Church, on Sugar in Beet-root, with a record of investigations on the effect of the amount of rainfall in the development of the sugar.—Dr. Henry Trimen discusses the question, "Is the Sweet Flag, *Acorus calamus*, a Native?" showing that it was unknown in this country before 1596, and that it was not till about 1660 that it was reported as a wild plant from Norfolk. The plant appears to be originally a native of south-east Europe.—Prof. Dickson has an article on the Phyllotaxis of *Lepidodendron*, and the allied, if not identical,