the new genera or species described, and this notably in the case of the last work of the illustrious Claparède, and again in the case of Van Beneden's memoir, where we are told, simply enough, that "a number of new and little-known cestoid and other parasitic worms are described and figured." A whole page is taken up with a list of the Annelids referred to in a paper by Prof. Grube, but the list is quite useless, as it wants the remarks as to their synonymy.

Prof. Traquair's portion of the Record appears to have been very well executed. We wish he had given us the list of the Echinoderms from the Dutch East Indies, as described by Herklots. It would have been much more valuable than the list given of very common species from the East Frisian coast; and although we notice an omission of a paper or two among a group (the Cœlenterates) somewhat familiar to us, yet this portion of the volume leaves very little to be desired.

No one individual could write an exhaustive criticism on such a work as this Zoological Record. We have not even attempted it. The moment the volume reached us we cut its pages, and in noting its contents the remarks that we have now made recurred to us; but in addition to these there was also present to us the thought of how much we owed for the successful publication of this work to its accomplished editor and his well-qualified and trusty staff of friends. E. P. W.

OUR BOOK SHELF

I. *Earthquakes, Volcanoes, and Mountain-building*, three articles published in the "North American Review," 1869—1871. By J. D. Whitney. 8vo, pp. 107. (University Press, Cambridge, United States, 1871.)

II. *Historical Notes on the Earthquakes of New England*, 1638—1869. By William T. Brigham, A.M., A.A.S. 4to, pp. 28. (Boston, 1871.)

THE first of these works is a small volume containing three reviews, or essays, as they might be more correctly termed, reprinted from the "North American Review," and written by the well-known geologist Mr. Whitney, formerly director of the Geological Survey of California. They are well worthy of perusal, not only from the easy, somewhat popular style in which they are written, but more especially from their containing a tolerably fair summary of the opinions held by most of the later scientific writers who have treated of the phenomena of earthquakes, volcanoes, and mountain-building, as it is here termed, drawn up by one who is evidently well-read in the literature of these subjects.

To give in its turn a summary of the author's opinions as far as we are able to understand them from a perusal of these three essays, we might state, in the first place, that he lays considerable stress on the geographical data, which show that the area within which the greater earthquakes have been mainly confined is also to a great extent coincident with that of the greatest displays of active volcanic forces; and on the observations showing the action which the moon, or rather of the sun and moon combined, exert on the number and intensity of earthquakes, which, if accepted, indicate an internal condition of fluidity in our globe; he believes both in the chronological succession of volcanic rocks, and in their having proceeded from some common or connected source within the earth, but does not agree with those who regard the access of water as the great agent in volcanic cataclysms; disbelieving (in opposition to some elaborate calculations to the contrary) that the force capable of being developed by steam at such immensely high temperatures, could be sufficient to account for the phenomena of ejection; and although admitting the proximity of volcanoes in general to the sea, points out that some of those in South and North America are situated inland, several hundred miles distant from the ocean.

Regarding the differences in texture between the granitic rocks and those of recent volcanic origin as due mainly to the different conditions of our globe in the early periods in which they were erupted, Mr. Whitney protests against the hypothesis, so much brought forward of late, that the former are merely sedimentary deposits, brought within the action of, and softened or liquefied in, some unaccountable way by internal heat, and with respect to the origin of mountains, regards the external action of rain and rivers, now so all-absorbing in the minds of most English geologists, as altogether secondary to more powerful internal forces, believing, whilst mountain-building is to a great extent the result of an antagonism between subsiding and stationary masses of the earth's crust, that in all the great chains of mountains we have ample proof that this is at the same time accompanied by the intrusion of eruptive rocks from below, as a necessary consequence.

The second *brochure* by Mr. Brigham is reprinted from the memoirs of the Boston Society of Natural History; it appears to be the first part of a more lengthy communication to the Society, and is entitled "Volcanic Manifestations in New England;" it is an apparently exhaustive catalogue of all the principal earthquakes which have taken place, or rather been recorded, since the discovery and settlement of the country until the commencement of last year, bearing evidence of much industry, and appearing to be a valuable contribution to the records of American Seismology. D. F.

Astronomische Tafeln und Formeln. Herausgegeben von Dr. C. F. W. Peters, Assistant der Sternwarte in Altona. (Hamburg: W. Mauke, 1871; London: Williams and Norgate.)

A USEFUL collection of auxiliary astronomical tables compiled by the son of the well-known editor of the *Astronomische Nachrichten*. It brings under one cover many tables for which the computer has ordinarily to resort to different books; and in some cases the tables are exhibited in a more expanded form than that in which they are usually printed. It contains copious tables for converting time into arc, sidereal into solar time, hour and minute intervals into decimals of the day, refraction and hypsometric tables, tabular data referring to the figure of the earth, tables of squares and trigonometrical functions, and many others for facilitating the reduction of astronomical observations. It has also a collection of formulæ in common request, goniometrical, trigonometrical, and astronomical. The collection is based upon, and is in many respects closely similar to that made by Schumacher in 1822, and which was re-edited and enlarged by Warnstorff in 1845. Dr. Peters has, however, added many new tables, and modernised others where necessary. We could wish that a little more care had been bestowed upon the printing; the figures on some of the pages are very indistinct, and would tease a computer sorely. The defect is not accidental to a single impression of the work, for two copies have come before us, and in both the same pages are faulty. J. C.

LETTERS TO THE EDITOR

[*The Editor does not hold himself responsible for opinions expressed by his correspondents. No notice is taken of anonymous communications.*]

Zoological Statistics and the Hudson's Bay Company

AMONG the "Notes" in NATURE of December 28, there is one in which mention is made of the great dearth of martens imported into London this last season from Hudson's Bay, also