

1. On the Parallel Roads of Glen-Roy, with an Examination of Mr Darwin's Theory of their Formation, Part I. By Sir T. D. Lauder, Bart.
2. On the Polarizability of Heat from different Sources. By Professor Forbes.

The author of this paper states in it his belief, that the curious fact formerly announced to the Society of the greater permeability of mica, laminated by heat, to heat of low temperature, contrary to the usual character of the same substance (a property which he has since extended (see Proceedings, Jan. 1840) to changes of mechanical conditions of surface), may very probably explain, as M. Melloni anticipates, the difference in point of fact long contested between them as to the equal or unequal polarizability of heat from different sources.

Solarium pseudo-perspectivum, Brocchi.

- umbrosum, Brongniart.
 millegranum, Lamarck.
 canaliculatum, Lamarck.

In illustration of his paper, M. Michelotti has sent drawings of each of the species he describes, in three different positions, so as to shew all the characters of the shell. The references to authors who have mentioned the species (or synonyms) seem very complete

The following Donations were presented :—

- Journal of the Asiatic Society of Bengal. No. 100. 1840.—*By the Society.*
- Mittlere Vertheilung der Wärme auf der Erdoberfläche, nebst Bemerkungen über die Bestimmung der mittleren Temperatur. Von Wilhelm Mahlmann.—*By the Author.*
- Memorie della Reale Accademia delle Scienze di Torino. (Serie Seconda). Tomo ii.—*By the Academy.*
- Philosophical Transactions of the Royal Society of London for the year 1840. Parts 1, 2.—*By the Royal Society.*
- Proceedings of the Royal Society 1840. Nos. 41, 42, 43, 44, and 45.—*By the Royal Society.*
- Report of the Ninth Meeting of the British Association for the Advancement of Science, held at Birmingham in August 1839.—*By the British Association.*
- A Supplementary Report on Meteorology, presented to the Meeting of the British Association in 1840. By Professor Forbes.—*By the Author.*

5th April, 1841.

Sir T. M. BRISBANE, Bart., G. C. B., Pres., in the Chair.

1. On the Parallel Roads of Glen-Roy, with an Examination of Mr Darwin's Theory of their Formation, Part II. By Sir T. D. Lauder, Bart.

This paper consists of a critical investigation of a recent paper by Mr Darwin upon this subject, and the author's object is to prove that Mr Darwin's views are untenable; and that his own explanation of the appearances in Glen-Roy, given in his paper

in the Transactions of this Society, and ascribing them to successive subsidences of a fresh-water lake, is still the only view reconcilable with the facts.

James Spittal, M.D., Fellow of the Royal College of Physicians of Edinburgh, was duly elected an Ordinary Fellow.

2. On the Visibility of rapidly revolving Lights, made in reference to the Improvement of Light-Houses. By Alan Stevenson, LL.B., Civil Engineer.

These experiments consisted in a comparison of the visibility of lights from lenses when at rest, and when revolving with such rapidity as to produce an apparently continuous impression on the sense of sight. They were undertaken at the suggestion of Captain Basil Hall, who had himself in the spring of last year made some trials of a similar kind, in the expectation that the eye would be so stimulated by the bright flashes, that not only the almost imperceptible intervals of darkness would have no effect in impairing the visibility of the rapidly recurring flashes, but likewise the eye would actually be stimulated by the contrast of light and darkness, in such a manner that the effect of the rapid series would be greater than that of the same quantity of light equally distributed over the whole horizon by the refracting zones at present used in fixed lights, which only refract the light in the vertical direction, without interfering with its natural horizontal divergence. Mr Stevenson shewed that this expectation was at variance with what would be predicted from a consideration of the laws of the physical distribution of the light; and the experiments proved that the visibility of the rapidly revolving series was greatly inferior, not only to that of the lens at rest, but also to that of the light equally distributed by the refracting zones. From the results of the experiments, the author drew the following general conclusions:—

1. That continuity of impression in the sense of sight is scarcely obtained by producing ten flashes in a second of time; and that the visibility of the light decreases in a most remarkable degree with the velocity of the series.

2. That this decrease of visibility, although partly owing to a loss of intensity, is chiefly caused by deficiency of volume in the visual object, which at the most rapid velocity became so small