

Transactions (*continued*).

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8vo. *London* 1870. The Society.

Melbourne:—Royal Society of Victoria. Transactions and Proceedings.
Vol. IX. Part 1. 8vo. *Melbourne* 1868. The Society.

Philadelphia:—Academy of Natural Sciences. Journal. New Series.
Vol. VI. Part 4. Vol. VII. (Leidy's Extinct Mammalian Fauna of
Dakota and Nebraska.) 4to. *Philadelphia* 1869. Proceedings,
1869. Nos. 1, 2. 8vo. *Philadelphia*. American Journal of Con-
chology. Vol. V. Parts 1, 2. 8vo. *Philadelphia* 1869-70.
The Academy.

Haidinger (W. v., For. Memb. R. S.) Ein vorhomerischer Fall von zwei
Meteoreisenmassen bei Troja, 1864. Der Meteorit von Goalpara in
Assam, nebst Bemerkungen über die Rotation der Meteoriten in ihrem
Zuge, 1869. Bemerkungen zu Herrn Dr. Stanislas Meunier's Note
über den Victorit oder Enstatit von Deesa, 1870. Review of the
Royal Society Catalogue of Scientific Papers, 1870. 8vo. *Vienna*.

The Author.

Miers (J., F.R.S.) Contributions to Botany, Iconographic and Descrip-
tive, detailing the characters of Plants that are either new or imper-
fectly described. Vol. II. 4to. *London* 1860-69. The Author.

Zantedeschi (Fr.) Delle Oscillazioni calorifiche orarie, diurne, mensili ed
annue del 1867. 8vo. *Venezia* 1870. The Author.

April 7, 1870.

Dr. WILLIAM ALLEN MILLER, Treasurer and Vice-President,
in the Chair.

The following communications were read:—

- I. "On Supra-annual Cycles of Temperature in the Earth's Surface-
crust." By Prof. C. PIAZZI SMYTH, F.R.S. Received March
4, 1870.

(Abstract.)

The author presents and discusses the completely reduced observations,
from 1837 to 1869 inclusive, of the four great earth-thermometers sunk
into the rock of the Calton Hill, at the Royal Observatory, Edinburgh,
by the late Principal Forbes, pursuant to a vote by the British Association
for the Advancement of Science.

Leaving on one side the several natural-philosophy data which have
been investigated from smaller portions of the same series of observations

both by Principal Forbes and Sir William Thomson, the author applies himself solely to trace the existence of other cycles than the ordinary annual one, in the rise and fall of the different thermometers.

Of such cycles, and of more than one year's duration, he considers that he has discovered three; and of these the most marked has a period of 11.1 years, or practically the same as Schwabe's numbers for new groups of solar spots. Several numerical circumstances, however, which the author details, show that the sun-spots cannot be the actual cause of the observed waves of terrestrial temperature, and he suggests what may be, concluding with two examples of the practical use to which a knowledge of the temperature cycles as observed may at once be turned, no matter to what cosmical origin their existence may be owing.

II. "On the Constituent Minerals of the Granites of Scotland, as compared with those of Donegal." By the Rev. SAMUEL HAUGHTON, F.R.S., M.D. *Dubl., D.C.L. Oxon.*, Fellow of Trinity College, Dublin. Received March 31, 1870.

During the past summer (1869) I completed my investigation of the constituent minerals of the Scotch Granites, and secured specimens, from the analysis of which I obtained the following results:—

I. *Orthoclase.*

	No. 1.	No. 2.	No. 3.	No. 4.
Silica	65.40	64.44	64.48	64.48
Alumina	19.04	18.64	20.00	20.00
Peroxide of iron	trace.	0.80	none.	none.
Lime	0.22	0.66	1.01	0.78
Magnesia	trace.	trace.	trace.	none.
Soda	3.63	2.73	1.72	2.19
Potash	11.26	12.15	12.81	12.10
Water	0.20	0.80	0.64	0.08
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	99.75	100.22	100.66	99.63

No. 1. Stirling Hill, Peterhead. Occurs in an eruptive Granite, in veins, in well-developed reddish-pink opaque crystals, encrusted with crystals of Albite.

No. 2. Rubislaw, Aberdeen. Large beautiful reddish-pink opaque crystals in veins, associated with white Mica. The Granite of Rubislaw is of metamorphic origin, and different in character from the eruptive Granite of Peterhead. No Albite has been found in it.

No. 3. Peterculter, Aberdeen. In metamorphic Granite; white, translucent, large crystals.