



# XLVI. On a new mineral species

A. Levy Esq. M.A. F.G.S.

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Feb. 2nd. Immersion of Jupiter's { 12<sup>h</sup> 17<sup>m</sup> 09<sup>s</sup> M. T. at Bushey.  
 second satellite . . . . . { 12 18 30 M. T. at Greenwich.  
 Feb. 9th. Immersion of Jupiter's { 2 51 00 M. T. at Bushey.  
 second satellite . . . . . { 2 52 21 M. T. at Greenwich.

These observations were made with one of Mr. Dollond's 5 feet achromatic telescopes,—the magnifying power 86.

*Summary of a Meteorological Table, kept at Bushey Heath in 1826.*

The Barometer, Thermometer, and Winds were observed between 9 and 10 o'clock in the morning, at which hour the temperature of the external air is nearly the same as the mean temperature. See column 3 and 8.

The *greatest* altitude of the mercury in the barometer was on December 28th, 30·068 inches; the *least*, on the 14th November, 28·590 inches. Thermometer highest 28th of June, 88°; lowest 16th January, 19°.

Months.	Barom.	Ther.	Rain.	Evap.	Six's Thermometer.			Winds.							
					Min.	Max.	Mean.	N.	NE.	E.	SE.	S.	SW.	W.	NW.
	Inches.		Inches.	Inches.											
Jan. ....	29·542	31·1	0·328	0·700	28·6	52·6	30·60	1	9	5	6	0	4	0	6
Feb. ....	29·504	41·3	1·990	1·58	38·1	47·2	42·65	0	0	0	5	5	14	3	1
March. ...	29·488	41·4	1·607	2·68	37·3	41·4	43·15	1	10	1	5	0	7	1	6
April ...	29·335	48·8	0·690	4·19	42·5	56·7	49·61	0	2	1	1	1	10	4	11
May ....	29·592	52·2	2·477	3·17	44·7	58·2	51·45	7	14	1	2	0	1	1	3
June ...	29·775	66·2	0·594	5·50	55·8	74·4	65·10	1	13	0	2	0	4	2	1
July ....	29·519	65·4	2·095	5·94	58·6	73·8	66·20	1	5	1	2	0	17	2	3
August. ...	29·526	64·3	2·073	6·46	58·8	72·6	65·70	2	5	0	3	1	13	1	5
Sept. ....	29·428	57·7	4·026	2·43	53·0	63·9	58·45	0	7	3	5	0	9	3	3
Oct. ....	29·437	52·5	2·221	1·46	49·4	57·4	53·40	0	3	1	8	0	11	4	4
Nov. ....	29·330	39·4	2·805	1·00	35·3	44·5	39·90	0	9	0	2	0	9	1	9
Dec. ....	29·406	41·12	1·930	0·97	38·9	45·0	41·95	0	7	2	2	3	8	0	9
Year. ....	29·490	50·12	22·836	36·08	45·01	55·56	50·68	13	84	15	43	10	107	22	61

XLVI. On a New Mineral Species. By A. LEVY, Esq.  
*M.A. F.G.S.\**

MR. HEULAND has lately added to his collection a small group of quartz slightly chlorited, upon which are seen some crystals belonging, I believe, to a new species, which at his suggestion I propose to call Mohsite, in honour of Professor Mohs.

An acute rhomboid of 73° 43' represented fig. 1. may be considered as the primitive form of this substance. It does not yield to mechanical division in any direction, as far as I could judge upon the small quantity I had to examine. The fracture is conchoidal and shining. It is brittle, but scratches glass very easily. It is opaque, iron black, and possesses a high metallic lustre. It has not the least action on the magnet.

All the crystals upon the specimen I have seen are twin

\* Communicated by the Author.

crystals,

crystals, flattened in a direction perpendicular to the axis of the primitive rhomboid, and present the aspect of small flat tables almost circular, with alternate re-entering and salient angles on their edges. The form of the individuals which compose these macles is represented by fig. 2: all the planes are very brilliant, except those marked  $d^1$ ,  $d^2$ , which are less shining, but sufficiently so, however, to allow the use of the reflecting goniometer to measure their incidences. The angles are as follow:

$$\begin{array}{lll} p, a^1 = 112^\circ 30' & p, p = 73^\circ 43' & \\ b^1, a^1 = 129 \ 39 & b^1, b^1 = 96 \ 22 & \\ e^1, a^1 = 101 \ 42 & e^1, e^1 = 64 \ 00 & \\ P, d^2 = 157 \ 10 & d^2, d^2 = 142 \ 14 & d^2, d^2 = 99^\circ 22' \end{array}$$

The manner in which the two individuals are grouped in the macles is very remarkable; their axes coincide, or are parallel; and to have their relative position it is necessary to suppose, that, being first in a parallel position, one of them has turned  $30^\circ$  or  $90^\circ$  round the axis, instead of  $60^\circ$  or  $180^\circ$  as is generally the case in the macles offered by crystals derived from a rhomboid. The thickness of the two crystals is the same, and their faces  $a^1$  are on the same level, and form only one plane.

Another remarkable fact to be noticed with respect to this new substance, is its almost perfect isomorphism with Eudyalite. The primitive form of the last substance is an acute rhomboid of  $73^\circ 40'$ , differing only by  $3'$  of the primitive form of Mohsite: and moreover, out of the six modifications which compose the crystal just described,—five,  $P$ ,  $a^1$ ,  $e^1$ ,  $b^1$ ,  $d^1$ , occur on the variety of Eudyalite I have described in the Edinburgh Philosophical Journal for January 1825.

Fig. 1.

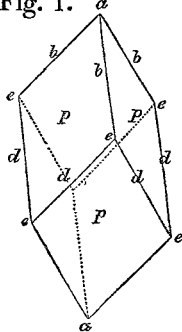
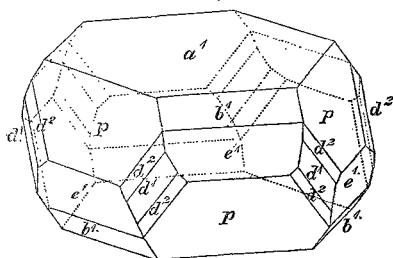


Fig. 2.



It seems from the appearance of the group of rock crystals upon which this substance occurs, that there can be no doubt that the specimen comes from Dauphiny. This circumstance, added to the analogy of some of the exterior characters, might suggest the idea that Crichtonite and Mohsite belong to the same

same species: and in support of this opinion, I find that a rhomboid measuring very nearly the same angle as the acute rhomboid of Crichtonite may be derived from the primitive adopted for Mohsite by the simple law  $e\frac{4}{3}$ . But however, it may be observed, that a rhomboid so acute as that of Crichtonite may be derived by simple laws, from many rhomboids;—thus, for instance, that rhomboid is derivable by a still simpler law  $e\frac{5}{2}$  from the primitive form of specular iron, or of axotomous iron. Besides, Crichtonite presents a cleavage in a direction perpendicular to the axis, and is not sufficiently hard to scratch glass, —two characters which differ from those of Mohsite.

XLVII. *Notices respecting New Books.*

*An Historical and Descriptive Account of the Steam-Engine, comprising a General View of the various Modes of employing Elastic Vapour as a prime Mover in Mechanics: with an Appendix of Patents and Parliamentary Papers connected with the Subject.* By C. F. PARTINGTON, of the London Institution. Second Edition, Corrected and Enlarged. London, 1826. 8vo. pp. 300. Plates and Diagrams 33.

THE merits of Mr. Partington's treatise on the steam-engine have been already so well appreciated by the public, that on the present occasion we need only point out the improvements it has received in this second edition. The only additional section it contains is an article on steam-boats, from the pen of Mr. Tredgold, furnishing some important mathematical data for the construction of the paddle-wheels; but several useful tables, and a variety of particulars respecting the progressive improvement and present state of the steam-engine in its different forms, have been incorporated in their proper places. A number of engravings on wood have also been added, representing on an enlarged scale some of the most important parts of the steam-engine, &c.; together with a quarto plate of a locomotive engine and sections of a steam-vessel. Some less important or redundant statements in the former edition have been omitted; and the entire work, we think, has been rendered more useful than before.

*Geological and Historical Observations on the Eastern Valleys of Norfolk.* By J. W. ROBBERDS, jun.

This interesting tract furnishes a pleasing instance how much assistance may be obtained, from studies which have apparently no mutual connexion, in the investigation of any branch of knowledge or subject of inquiry. Mr. Robberds has been led by an examination of the district which has been the object of his attention, to dispute the conclusion of Cuvier, De Luc, and others, that no alteration in the height of the waters of the ocean has taken place for many ages. "If," says the latter, "the depression of the level of these seas were a matter