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once pronounced it to be a molar tooth of the lower jaw of the Anoplotherium commune.

The annexed drawing of the tooth in question being of the

Crown of the tooth much worn.

Base of the tooth with broken portions of the roots.

M M del.

natural size will give a more correct idea of it than can be conveyed by any description; and as the evidence of its having been found in the quarries of freshwater limestone at Binstead (I believe the lower freshwater) rests on such accurate authority as that of Mr. Allan, we may consider this important and almost only deficient link in the chain of evidence that unites the English freshwater formations with those of France to be now supplied, and hope that this discovery will stimulate others whose local position affords them opportunity, to persevere in the attempt to collect further traces of the remains of this remarkable class of extinct quadrupeds in the freshwater strata of the Isle of Wight.

Article X.

Descriptions of Two New Minerals. By Mr. A. Levy, MA. of the University of Paris.

(To the Editors of the *Annals of Philosophy*.)

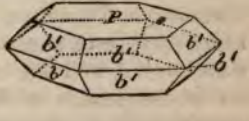
GENTLEMEN, *Oct.* 14, 1825.

Herschelite.

The substance for which I propose this name, in honour of the Secretary of the Royal Society, was brought by him from Aci Reale, in Sicily, and has not yet been noticed, I believe, as a distinct species.

It occurs in white, translucent, and opaque crystals of the form represented by fig. 1, sometimes isolated on the matrix, but most generally very closely aggregated in a manner analogous to that in which in the crystals of prehnite are so frequently met with. The

Fig. 1.



matrix, in the cavities of which it is found, greatly resembles lava, but upon a close examination, I found it entirely composed of small grains and crystals of olivine, several of which I have detached, and measured by means of the reflective goniometer. Dr. Wollaston, with his usual kindness, has examined chemically a small quantity of Herschelite, and has found it contains silex, alumina, and potash. These are also the constituent parts of felspar and amphigene, but the new substance most certainly differs from both by its crystallographical and other characters. The form of the crystals indicates that they are derived either from a rhomboid or a six-sided prism, but the exact dimensions of the primitive form I cannot give, on account of the difficulty of obtaining accurate measurements. The face p is always dull and curved, the faces b', though sometimes sufficiently brilliant for measurement, are generally composed of a number of planes slightly raised one above the other. The mean between several measurements gives

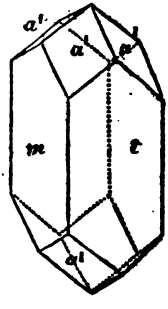
$$p, b' = 132° \qquad b', b' = 124' 45'$$

If, therefore, we suppose the primitive form to be a six-sided prism, and the faces b' to be the result of a decrement by one row on the terminal edges, the ratio between one side of the base and the height of the prism will be nearly that of equality. I could obtain no cleavage either parallel to the base of the prism, or in any other direction. The mean of two experiments to determine the specific gravity gives 2·11. The fracture is conchoidal, and this substance is easily scratched by the knife.

Phillipsite.

Herschelite is accompanied by another substance, which, I also believe, belongs to a distinct species, for which I propose the name of Phillipsite, in honour of Mr. W. Phillips, whose contributions to mineralogy are so numerous and so valuable.

Fig. 2.



This substance occurs in minute white, translucent, and opaque crystals of the form represented by fig. 2. In the specimens from Aci Reale, these crystals are lengthened, adhere closely together radiating from a common centre, and forming globular concretions. It is also found in separate crystals disseminated on the matrix with comptonite and other substances, in specimens from Vesuvius. The form of these crystals is the same as that of harmotome, Haüy has called *dodecaiedre*, and the incidences of the faces are nearly the same. In consequence of these analogies, this substance has been considered by some mineralogists as identical with harmotome.

The incidences of the faces marked a' in the figure I could not obtain with great accuracy, but yet they appeared to differ constantly from those of harmotome, the most obtuse being nearly 123° 30′, and the less obtuse 117° 30′. The substance appears to cleave parallel to the planes m and t, but not in the direction of the diagonal planes as harmotome, and finally the hardness is much less. These differences induced me to request Dr. Wollaston to ascertain whether this substance could be chemically considered as harmotome. The result of his examination was, that it contained silex, alumina, potash, and lime, but not the slightest trace of barytes.

The absence of this earth, which is an essential constituent of harmotome, decides at once the propriety of separating the new substance from that mineral, and to make a distinct species of it. It is easy to verify the chemical difference between the two substances in the following manner: if a fragment of harmotome is pounded and digested for a minute or two in boiling nitric or muriatic acid, and then the liquid filtered, a drop of sulphuric acid put into it will give a precipitate, whilst there will not be the least appearance of one, if Phillipsite be treated in the same manner. I do not give the dimensions of the primitive form, because the measurements are not sufficiently accurate, but it is obvious that a right rectangular prism, or a right rhombic prism, may be assumed as the primitive.

Article XI.

On the Method of analyzing Sulphate of Zinc.

By Thomas Thomson, MD. FRS.

In my late work entitled "An Attempt to establish the First Principles of Chemistry by Experiment," I have made the analysis of sulphate of zinc the foundation on which I have endeavoured to rear the whole subsequent doctrine of the atomic weight of bodies. I was obliged to begin somewhere, and the analysis of this salt appeared as simple and as decisive as any other. I abstained from describing the processes which I followed, because I thought them rather too tedious for a work of the nature that I had projected, and because it was in my power in a book intended chiefly for my own students to supply verbally whatever was wanting in the practical part. I find, however, that I was mistaken in the opinion which I had formed of chemists, when I supposed that they would have given me credit for being acquainted with the usual methods of separating the oxide of zinc from acids. For I lately received a letter from a gentleman, of whose practical skill I entertain a high opinion, informing me that my experiments and calcula-