

			Hardness.	Sp. Grav.
Witherite	Carbonate of baryta	Rhombic	3 to 3·7	4·3
Bromlite	ditto and lime ...	Rhombic	4 to 4·5	3·7
Barytocalcite ...	ditto and lime ...	Monoclinic	4	3·6
Pearl spar	Carb. of lime & magnesia	Rhombohedral ..	3·5 to 4	2·8
Pyromorphite ...	Phosphate of lead	Hexagonal	3·5 to 4	6·5 to 7
Mimetite	Arsenio-phosphate, with } chloride of lead	Hexagonal	3·5	7
Kampylite				
Linarite	Cupreous sulph. of lead...	Monoclinic	2·5	5·4
Caledonite	ditto with carbonate ...	Rhombic	2·5 to 3	6·4
Brochantite	Hyd. sulphate of copper	Rhombic	3·5 to 4	3·7

With a view to show the vast importance of the lead mines of the northern district, it is deserving of mention here that the number of mines and the amount of lead ore and silver raised in the following counties in 1867 was—

Counties.	Mines.	Lead Ore.	Silver.
Northumberland and Durham, ...	47	Tons. 22,574	Ozs. 77,678
Westmoreland	7	2,418	25,142
Cumberland	75	5,682	31,022
Yorkshire	65	7,539	3,000

Whilst the total produce of Great Britain for 1867 was—Lead ore, 93,432 tons, of the value of £1,158,066; lead, 68,440, worth £1,337,509; silver, 805,394 ozs., worth £215,400; showing that Northumberland and Durham raise nearly one-quarter of the total produce of the entire kingdom.

In conclusion the writer begs to acknowledge his obligations to Mr. T. Sopwith, F.R.S., and Mr. R. W. Bainbridge, of Middleton, for much valuable aid and information in preparing this paper, likewise to notice the general intelligence and civility of the miners, and their willingness to impart practical knowledge; and, lastly, the care which has obviously been bestowed by the large proprietors for the education and elevation of the people, and the promotion of their domestic comforts and happiness—a boon fully appreciated by them, and thus there does not appear to exist those unhappy differences between the employers and employed which in too many places are detrimental to the interests and welfare of every party.¹

NOTICES OF MEMOIRS.

I.—THE MIOCENE FLORA OF NORTH GREENLAND.

IN March last, a paper by Prof. Oswald Heer, of Zurich, was read at the Royal Society, being an account of the examination of the fossil plants brought home from Greenland in the autumn of 1867 by Mr. Edward Whymper.

Our readers will remember that Prof. Heer's work, "Flora Fossilis Arctica," was to a great extent a description of the fossil remains brought from Atanekerdluk, in Greenland, by Sir F. L. M'Clintock and others, most of which are deposited in the Museum of the Royal

¹ Revised by the Author, and reprinted from the *Mining Journal*, June 12, 1869.

Dublin Society. In order to obtain materials for a more thorough investigation of the district, application was made to the British Association at Nottingham by Mr. R. H. Scott, and a grant of money was made to a committee for the furtherance of this object. Mr. Whympster was one of the members of this committee; and as he had previously had the intention of visiting Greenland for the purpose of a geographical exploration, he consented to accept of the grant conditionally on his being able to collect geological specimens. The grant was afterwards most liberally increased by the Government Grant Committee of the Royal Society. Mr. Whympster engaged Mr. R. Brown to assist in the work, and ultimately brought home a large and valuable collection of fossil plant remains.

The localities whence these were obtained were three in number— (1) Atanekerdluk, the original locality described in the *Flora Arctica*. This place is situated on the mainland of Greenland, on the shore of the Waigat Strait, in lat. 70° N. (2) Ujararsusuk. (3) Kudlisch. Both these localities are on the island of Disco itself, on the opposite shore of the Waigat to Atanekerdluk. Coal has long been worked at various spots along this eastern shore of Disco, and more than sixty years ago Sir Charles Giesecke noticed impressions of leaves in the sandstone underlying the coal.

The specimens on their arrival in Europe were sent to Prof. Heer at Zurich, and on their return to London, a complete series, comprising all the figured specimens, was presented by the Committee to the British Museum.

The general conclusion to be drawn from the notes made on the geology of the district is that on both sides of the Waigat the sedimentary rocks are covered with Miocene deposits pierced by volcanic rocks, which appear in places as thick beds of basalt and trap. The botanical results of the expedition are very valuable. Fourteen species were discovered in Disco, among which *Sequoia Couttsia*, so common in our own Bovey Tracey beds, is noticeable. The most important find here was the cone of *Magnolia*, of which two specimens were secured. Leaves referred to this plant had been previously found at Atanekerdluk, and the discovery of the fruit is consequently very satisfactory. The number of species brought from Atanekerdluk is 73, 25 of which are new to Greenland. Among the most interesting of these are the flowers and fruit of a chestnut, showing that the deposit containing them must have been in process of formation in spring as well as in autumn.

The Miocene plants discovered in Greenland have now reached 137 species, making 194 in all, belonging to the Arctic Miocene Flora; 46 of the Greenland species (one-third of the total number) are also found in the Miocene of Europe. The beds are therefore Lower Miocene. Four species are also met with at Bovey Tracey. As regards the determination of the species, Prof. Heer says—

17 species among the Greenland specimens are represented by *leaves and organs of fructification*.

10 species are represented by *leaves* in Greenland, their *organs of fructification* occur elsewhere.

17 are species of which the *leaves* are so marked that their identification is quite certain.

5 *Cryptogams* have been satisfactorily recognized.

Accordingly, though it must be allowed that the systematic position of many of the plants from North Greenland is still uncertain, yet the considerable number of absolutely identified species which can be produced enables us to form a clear idea of the Miocene Flora of North Greenland.

We are glad to hear that the Swedish Polar Expedition of last summer has brought home a rich harvest of Miocene plant-remains from Spitzbergen, which have been entrusted to Prof. Heer for examination and description.

II.—MUSÉE TEYLER, CATALOGUE SYSTÉMATIQUE PAR T. C. WINKLER.
Suppl. I. 1868.

THE additions to the Palæontological collection of this valuable Museum are noticed in the present Supplement, which is a continuation of the Catalogue previously edited by the author, who succeeded Van Breda as Curator of the Museum. The species are classed zoologically under the three great geological periods, and amount to 12760.

III.—DES TORTUES FOSSILES CONSERVÉES DANS LA MUSÉE TEYLER,
PAR T. C. WINKLER. 1869.

THIS Memoir consists of 27 folding lithographic plates, with 151 pages of descriptive letter-press, illustrative of the species of fossil turtles in the Teyler Museum at Harlem, of which the collection contains a considerable number. It is from the pen of the able Curator, Dr. Winkler, and contains not only detailed descriptions, but critical remarks on the species. In noticing the *Chelone longiceps* of Owen, Dr. Winkler cites it as a synonym of *Emys Parkinsoni*, Gray, as he considers, from certain characters alluded to in the text, it should be placed with the latter instead of the former genus. There is some confusion about the synonymy of this species, as may be seen by comparing the works of Bronn and Pictet.

REPORTS AND PROCEEDINGS.

GEOLOGICAL SOCIETY OF LONDON.—I. May 26th, 1869. Papers read:—

1. "Notes on the Geology of Cape York Peninsula, Australia." By Alex. Rattray, M.D. Communicated by the President.

The author stated that the Eastern mountain-range of Australia is produced through and forms the axis of the peninsula of Cape York; it consists of various granites and porphyries, gneiss, felspathic and quartzose rocks. In Cape York itself the rock is a porphyry, with numerous crystals of yellowish quartz. Resting on the flanks of this axis are beds of sandstone, regarded as of Carboniferous age by the Rev. W. B. Clarke, and referred to the Oolite by