

mixture in the cubic form. The action of acid on maskelynite pointed to its composite nature, to the possibility of its consisting of an aluminous silicate containing soda which is less readily acted upon than another aluminous silicate containing lime.

Tschermak represents the Shergotty meteorite as made up of:

	Pyroxene.	Maskelynite.	Magnetite.	Total Composition (Calculated).	Total Composition (Observed).
Silicic acid ..	38.21	12.68	—	50.89	50.21
Alumina ... ..	0.18	5.79	—	5.97	5.90
Iron protoxide	16.93	—	—	16.93	17.59
Magnesia ... ..	10.43	—	—	10.43	10.00
Lime ... ..	7.65	2.60	—	10.25	10.41
Soda ... ..	—	1.14	—	1.14	1.28
Potash ... ..	—	0.29	—	0.29	0.57
Magnetite ... ..	—	—	4.50	4.50	4.57
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	73.40	22.50	4.50	100.40	100.53
Specific gravity ...	3.466	2.65	5.0	3.285	3.277

While the Shergotty stone by its peculiar constitution defies in a way proper classification, it finds a place among the small group of eukritic meteorites, and resembles most closely that of Petersburg (1855, August 5th).

#### Found 1866.—Frankfort, Franklin Co., Kentucky.

[Lat. 38° 14' N.; Long. 80° 40' W.]<sup>1</sup>

This block of meteoric iron, which was found on a hill 8 miles S.W. of Frankfort, was conveyed to a blacksmith's forge in that town, in order to test its quality as iron. It weighs 24 lbs., has a somewhat globular form and a highly crystalline structure. The specific gravity of this iron is 7.692 and the composition:

Iron = 90.58; Nickel = 8.53; Cobalt = 0.36; Phosphorus = 0.05; Copper, trace. Total = 99.52.

(To be concluded in our next Number.)

### NOTICES OF MEMOIRS.

Paper Read before the British Association at Bristol, August, 1875,  
Section C. Geology.

#### I.—ON THE DISTRIBUTION OF THE GRAPTOLITES IN THE LOWER LUDLOW ROCKS, NEAR LUDLOW. By JOHN HOPKINSON, F.L.S., F.G.S.

THE author first drew attention to the special interest attaching to the Ludlow Rocks, in connexion with investigations on the vertical distribution of the Graptolites, as being the formation in which they apparently die out.

The RHABDOPHORA or true graptolites, which with the CLADOPHORA or dendroid forms, are found in infinite variety when they first appear in the Arenig rocks, genera the most complex coming in simultaneously with simpler forms, were stated to be represented in the Lower Ludlow rocks by but a single genus, *Monograptus*; and the Cladophora also by one genus only, *Ptilograptus*.

<sup>1</sup> J. L. Smith. *Amer. Jour. Sc.*, 1870, xlix. 331.

A list of the graptolites of the Ludlow rocks given in a former communication to the British Association (1873) was then referred to,<sup>1</sup> and the main conclusions as to the distribution in these rocks near Ludlow of the species enumerated, arrived at in the course of a few days spent in this neighbourhood before the opening of the present meeting, were given.

It was shown that several species of *Monograptus* abound in the lowest beds of the Lower Ludlow; that some of these pass up and a few others come in a little higher in the series, all in soft calcareous sandy shales; and that when a decided change in the strata takes place, indicating in some places, by more siliceous and gritty beds, comparatively shallow water deposits, and in others, by excessively hard fine-grained limestones, a deeper sea, a decided change in the graptolite fauna occurs, the gritty beds containing in myriads a single new form, *Monograptus Leintwardensis*, and the indurated limestone alone yielding the few species of *Ptilograptus* which have yet been detected. *Monograptus colonus*, Barrande, a form first seen in the Llandovery rocks, appeared to be the only species which survived these physical changes, it having alone been seen in the softer beds high in the Lower Ludlow, and passing up from these into the harder calcareous shales which in some places immediately underlie the Aymestry Limestone, and again passing up into this limestone bed, in which it seems finally to disappear.

The author concluded by showing the dependence of the fossil fauna and flora of these rocks on the physical conditions of the Lower Ludlow seas, the fossils frequently being only locally distributed, and varying slightly in their horizons according to the nature of the sediment deposited, the graptolites especially being influenced by these changes, to which their final extinction, or at least their dispersion from the area under consideration, was considered to have been most probably due.

To the list previously given, a single species only, *Monograptus Roemeri*, Barrande, occurring in the lowest beds of the Lower Ludlow, is added by these recent researches.

## II.—ON THE ASSOCIATION OF THE NATIVE PLATINUM OF THE URALS.

M. DAUBR E, in an interesting paper read before the Academy of Sciences, has shown that Native Platinum, although obtained abundantly in the alluvial deposits of certain regions of the Ural, has been found in a Peridot (Olivine) rock, which is more or less altered into serpentine, and accompanied with diallage (a ferruginous sahlite, according to M. Des Cloizeaux), and also with chromite, which occurs abundantly, not only in separate grains, but also encrusting the grains of platinum. The platinum, which is here associated with chromate of iron, appears to be distinguished from the platinum of other deposits by the large proportion of metallic iron with which it is alloyed. It appears that platinum very rich in iron, and endowed with magnetic polarity, has not been found—at least, at present—save in company with chromate of iron.—“*Comptes Rendus*,” t. lxxx. —March, 1874.—J. M.

<sup>1</sup> See *Geol. Mag.* Vol. X. p. 520.