

scale in a dust-proof enclosure, little damage is possible by inexperienced usage.

A. Russell: Notes on some new British localities for Barytocalcite and Alstonite. The occurrence of barytocalcite at the following new localities is described: Ayleburn Mine, Northumberland, two miles north of Alston, where it occurs, abundantly and well crystallized, with blende in brown limestone; Heartycleugh Mine, West Allendale, Northumberland, in small quantity with barytes; and Lolly Scar Mine, Nidderdale, Yorkshire, massive and in small crystals with fluor, chalcopyrite, witherite, etc. Alstonite, massive and in crystals of the usual habit, was found as a single specimen in the witherite vein worked in Ushaw Moor Colliery, near Durham.

Dr. G. T. Prior: The meteoric iron of Vaalbult and meteoric stones of Witklip and Queen's Mercy, South Africa. A mass of meteoric iron weighing 26 lb. was found on Vaalbult farm, Prieska Division, Cape Province. It is a coarse octahedrite having a percentage of nickel of about 7, with a ratio of iron to nickel of about 13. The Witklip stone fell on 26th May, 1918, on the farm Witklip in Carolina district, Transvaal, after a loud explosion and a flash of light. It is a grey chondrite resembling Cronstad. Only a few grams appear to have been preserved. The Queen's Mercy stone is also a grey chondrite which fell on 30th April, 1925, about twenty miles from Matatiele, Cape Province, after appearance of a bright light and a loud detonation. The stone, which measured about  $1\frac{1}{2}$  foot in length, was broken up by the natives and only a few fragments have been recovered.

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## CORRESPONDENCE.

### THE BASE OF THE "MILLSTONE GRIT" NEAR HAVERFORDWEST.

SIR,—In view of the interest which has been aroused in the problems of the Millstone Grit by the recent publication of Mr. W. S. Bisat's paper on the Carboniferous Goniates of the North of England and their Zones, it may be useful to put on record some further evidence bearing upon the relation of the Millstone Grit to the Carboniferous limestone near Haverfordwest.

The section in the old quarry near Haroldston St. Issels, which shows the base of the grit resting with a marked unconformity on the *Seminula* zone, is described in the Survey Memoir on the Haverfordwest district (p. 151), and reference is made to a black shale band, crowded with goniates, which occurs in the Millstone Grit some 10 to 15 feet above the base of the lowest quartzite band. When these goniates were originally collected they were reported to be *Glyphioceras bilingue* and no particular significance was attached to them. Last Easter I visited the section again in order to obtain a fresh collection of these fossils, a part of which was submitted to Mr. Bisat for his opinion. He identifies

them with *Reticuloceras reticulatum* mut.  $\beta$ , a fossil which is characteristic of an horizon near the Third Grit in Lancashire. This identification agrees specifically with the original identification by the Survey palaeontologists. Any doubt there may be regarding the significance of the break between the Millstone Grit and the Carboniferous limestone is set at rest by the relations of the two formations at this locality. The fossils obtained from the limestone indicate, it is believed, the lower part of the *Seminula* zone (S1) and the rest of the Main Limestone, which attains a thickness of about 600 feet at Pendine, some miles to the east and a much greater thickness farther south, is missing owing to overstep at the base of the Millstone Grit. The horizon of the above-named goniatite in Lancashire is several thousands of feet above the base of the Upper Carboniferous (Lancastrian of Bisat). In the Haverfordwest Memoir (p. 151) the suggestion is made that there is overlap at the base of the grit since the shale bands near Haverfordwest appear to correspond with bands that are underlain farther east by a considerable thickness of shales and quartzites that are not represented in the western area. Definite evidence in support of this suggestion can only be obtained by the collection of fossils from the shales in the Eastern districts.

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#### THE TECTONICS OF THE SOUTHERN MIDLANDS.

SIR,—I have read with much interest the paper on the "Structure of the Southern Midlands," appearing in your July issue. Attention is there drawn to a probable axis of unrest running south-eastwards from Nuneaton which, it is suggested, may account for the sudden disappearance of the Lower Greensand at Leighton Buzzard. I write to call attention to further evidence bearing on the existence of this axis. The line indicated above, if continued to the south-east, enters the Tertiary outcrop in north-west Middlesex, in the Pinner-Watford area. It is a significant fact that the Reading Beds are exceptionally thin and sandy in this region, while they thicken both north-eastwards and south-westwards, resuming at the same time their normal lithology. Nearer London there is evidence that the same axis was active in Thanetian times, for the Thanet Sands are thin and locally absent over a limited tract in north-west London. It is also of interest to note that the London Clay thins westward against this axis, but thickens again on the further side towards the Bagshot country. The full evidence for these statements cannot be given here, but it is hoped that it will soon be published.

It may be thought by some a far cry from London or Watford to Nuneaton, but there can be no doubt that posthumous movements along several Charnian lines materially affected Eocene sedimentation. One need only refer to the case of the Ipswich axis so fully worked