

the remarkable layer of graphite at Karsok, and probably also the layer of graphite at Niakornet. One has to pass over a tolerably extensive subjacent band of gneiss before arriving at the sedimentary strata, which appear, with a steep inclination, on the bank of the Karsok river at a height of 840 feet. Afterwards, slopes of basalt, boulders, gravel washed down from the mountains, etc., continue, till, at a height of 1150 feet, one arrives at a terrace covered with gravel, in which a few angular fragments of graphite may be discovered, as also angular fragments of a hard sandstone impregnated with coal. In consequence of the unfitness of our Greenland assistants for real labour, our attempts to dig through the strata of gravel, and reach the graphite bed, were unsuccessful; but we were informed by Capt. G. N. Brockdorff—master of the ship which, in 1850, was to have taken out a cargo of graphite to Europe, and which actually carried over about five tons of that mineral—that the graphite here forms a horizontal bed eight to ten inches thick, covered with clay, sand, and angular fragments of sandstone. This interesting graphite bed does not contain any organic remains; but as both the underlying Cretaceous strata and those of graphite lie horizontally and in the neighbourhood of each other, and the latter is situated about 300 feet higher up, it is evident that *the graphite at Karsok belongs either to the Cretaceous or to a still later period.*

(To be continued in our next.)

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## NOTICES OF MEMOIRS.

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### I.—ON THE OCCURRENCE OF THE "CHALK ROCK" NEAR SALISBURY. By WILLIAM WHITAKER, B.A. (Lond.), F.G.S., of the Geological Survey of England.

[From the Magazine of the Wiltshire Archæological and Natural History Society, vol. xiii., 1871, p. 92.]

IN 1861 a bed was described, under the name "Chalk-rock," which, in the counties of Wilts, Berks, Bucks, Oxon, and Herts, seemed to form the top of the Lower Chalk.<sup>1</sup> Its occurrence in the Isle of Wight, though in a less marked form, has since been noticed;<sup>2</sup> some new sections in North Wilts have been described in the Wiltshire Society's Magazine by my friend Mr. T. Codrington,<sup>3</sup> and I have also seen it in Bedfordshire<sup>4</sup> and Dorsetshire. As it is open to view near the town (Wilton) where the Society is to hold its meeting this year (1870), a description of two sections in that neighbourhood may perhaps be acceptable.

The Chalk-rock, where best developed (from near Marlborough to near Henley-on-Thames), is a hard somewhat crystalline cream-

<sup>1</sup> Quart. Journ. Geol. Soc., vol. xvii., p. 166. See also Geological Survey Memoirs on Sheet 13, p. 19 (1861), and on Sheet 7, p. 5 (1864).

<sup>2</sup> Quart. Journ. Geol. Soc., vol. xxi., p. 400.

<sup>3</sup> Vol. ix., p. 167.

<sup>4</sup> Mr. J. Saunders, whose notice I called to this bed, has described a section near Luton, GEOL. MAG., Vol. IV., p. 154.

coloured chalk, ringing when struck with the hammer, jointed, and with layers of irregular-shaped green-coated nodules. Sometimes, however, it consists simply of one hard nodular layer.

In the cutting on the South-Western Railway just north-east of Barford St. Mary (west of Salisbury), there is a good thickness of the Upper (or flinty) Chalk, the flint occurring both in the form of nodules and of thin tabular layers. From below this the Lower-Chalk (which here contains a few flints) rises westward at a very small angle; it is hard and of a somewhat nodular structure, and at (or close to) the top has a layer of green-coated nodules. This hard nodular layer is the bed to which I wish to draw attention, not only on account of its wide range and distinct character, but also because it yields a somewhat peculiar set of fossils.

A better section is given by a smaller cutting close by westward, where the chalk-rock (dipping 2° or 3° eastward) forms a hard ledge a foot or more thick, with green-coated nodules at its well-marked top, sharply dividing it from the chalk above, whilst on the other hand it passes down into nodular chalk, both hard and soft, in which another but fainter bed of the "rock" occurs about five feet below the layer of nodules. There are flints in the Upper-Chalk, and thin layers of marl in the Lower.

As these sections are very near the outcrop of the Upper Greensand, it follows that the Lower Chalk and the Chalk Marl are comparatively thin here.<sup>1</sup>

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II.—FORTY-SECOND MEETING OF THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE. BRIGHTON, AUGUST 14TH TO 21ST, 1872. PAPERS READ BEFORE SECTION C. (GEOLOGY.)

R. A. C. GODWIN-AUSTEN, Esq., F.R.S., *President*.

Address by the President, R. A. C. Godwin-Austen, F.R.S.

*Prof. E. Hull, F.R.S.*—On the Raised Beach of the North-East of Ireland.

*Jas. Howell*—On the Supra-Cretaceous Formation in the Neighbourhood of Brighton.

*W. Topley, F.G.S.*—On the Sub-Wealden Exploration.

*G. A. Lebour, F.G.S.*—On the Geological Distribution of Goitre in England.

*W. Pengelly, F.R.S.*—Eighth Report of the Committee for the Exploration of Kent's Cavern, Torquay.

*W. Pengelly, F.R.S.*—Notes on *Machairodus latidens* found in Kent's Cavern, Torquay.

*W. B. Carpenter, M.D., V.P.R.S.*—On the Temperature and other Physical Conditions of Inland Seas, considered in reference to Geology.

*Henry Hicks, F.G.S.*—On the Cambrian and Silurian Rocks of Ramsey Island, St. David's.

<sup>1</sup> A very good example of the "Chalk Rock" may be seen on the top of White-sheet Hill, South Wilts. It is there about three feet in thickness.—W. Cunnington.

- J. Hopkinson*—On the Occurrence of a remarkable Group of Graptolites in the Arenig Rocks, St. David's.
- H. G. Seeley, F.G.S.*—On the Occurrence of a British Fossil *Zeuglodon* at Barton, Hants.
- Prof. E. Hébert*—Sur les divisions de la Craie en France, leurs limites et leur faune, l'identité de ces divisions des cotés du détroit.
- James Thomson, F.G.S.*—Fourth Report of the Committee for the Continued Investigation of Mountain Limestone Corals.
- James Bryce, LL.D., F.G.S.*—Report on Earthquakes in Scotland.
- William Jolly*—Report on the Discovery of Fossils in certain remote parts of the N.W. Highlands.
- Prof. H. Alleyne Nicholson, M.D., F.R.S.E.*—On the Geology of Thunder Bay and Shabendowan Mining Districts on the North Shore of Lake Superior.
- Prof. H. A. Nicholson*—On *Ortonia*, a new genus of Fossil Tubicolar Annelides, with Notes on the Genus *Tentaculites*.
- Rev. Canon Tristram, F.R.S.*—On the Geology of Moab.
- Prof. Edward Hull, F.R.S.*—On the Trachyte Porphyry of Antrim and Down, Ireland.
- Prof. James Hall*—Note on the Occurrence of Erect Bases or Trunks of *Psaronius* in the Devonian Rocks of New York, U.S.A.
- W. Carruthers, F.R.S.*—On the Tree Ferns of the Coal Measures and their Affinities with Existing Forms.
- Prof. Albert Gaudry*—Sur les Animaux Fossiles du Mont Leberon.
- Prof. James Hall*—On the Geographical Distribution of the Middle and Upper Silurian (Clinton, Niagara, and Upper Helderberg) Formations in the United States.
- Thomas Davidson, F.R.S.*—Brief Notice of the Present State of our Knowledge in Connexion with the Brachiopoda.
- Henry Woodward, F.G.S., F.Z.S.*—Sixth Report on Fossil Crustacea.
- Rev. John Gunn*—On the Prospect of Finding Productive Coal Measures in Norfolk and Suffolk, with Suggestions as to the Places best adapted for an Experimental Boring.
- Thomas Davidson, F.R.S., and Prof. William King, D.Sc.*—Remarks on the Genera *Trimerella*, *Dinobolus*, and *Monomerella*.
- G. vom Bath*—On a Remarkable Block of Lava, ejected by Vesuvius during the Great Eruption of April, 1872, Proving the Formation of Silicates by Sublimation.
- J. Gwyn Jeffreys, F.R.S.*—A Few Remarks on Submarine Explorations, with References to M. Delesse's Work, "Lithologie du Fond des Mers."
- Dr. Leith Adams, F.R.S.*—Report on the Fossil Elephants of Malta.
- W. Boyd Dawkins, M.A., F.R.S.*—On the Physical Geography of the Mediterranean during the Pleistocene Age.
- Charles Moore, F.G.S.*—On the Presence of Naked Echinodermata (*Holothuria*) in Oolitic and Liassic Beds.
- John Edward Lee, F.G.S.*—Notice of Veins or Fissures in the Keuper filled Rhatic Bone-bed at Goldcliff in Monmouthshire.

- Robert Sim, M.D.*—On Certain Quartz Nodules occurring in the Crystalline Schists near Killin, Perthshire.
- W. Molyneux, F.G.S.*—On the Occurrence of Copper and Lead Ores in the Bunter Conglomerates of Cannock Chase.
- T. Ogier Ward, M.D.*—On the Formation and Stratification of Sedimentary Rocks.
- T. Ogier Ward, M.D.*—On Slickensides, or Rubbed, Polished, or Striated Rocks.
- T. McK. Hughes*—On the Announcement by Mr. J. W. Judd of Cretaceous Rocks in the Western Islands of Scotland.
- Prof. Tennant*—To Exhibit Specimens of Diamonds from the Cape of Good Hope.
- E. R. Readwin*—On the Arigna Coal and Iron District of the West of Ireland.

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REPORTS AND PROCEEDINGS.

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GEOLOGISTS' ASSOCIATION. — July 5, 1872. — J. U. Flott, Esq., in the Chair.—1. "*Corbicula fluminalis*, its Associates and Distribution," by Alfred Bell.

Having traced the distribution, both in place and time, of *Corbicula fluminalis*, the author pointed out its value in discriminating various geological horizons, especially in the valley of the Thames, and commented on the peculiar distribution of the different species of *Unio* associated with it, *Unio littoralis* only occurring in the gravels and brick-earth of Kent, at Crayford, and Erith, and *Unio tumidus* and *Unio pictorum* being equally confined to those of Essex and Middlesex, at Grays, Ilford, and Hackney Downs.

The difference in the size of the *Corbicula* from these localities was also noticed, and the inference suggested from these peculiarities was, that the Essex gravels and brick-earth were newer than those of Kent. All these were, however, anterior to those gravels in the Thames Valley which have yielded palæolithic flint implements, none of which have produced either the *Corbicula* or *Unio littoralis*. A cast of a flint flake found at Crayford by the Rev. Osmond Fisher below the *Corbicula*-beds was shown by the author, who did not concur in its being indicative of the presence of man at that early date, since, he considered, natural agencies were equally capable of producing such flakes.<sup>1</sup>

2. "On the Dip of the Chalk in Norfolk, and the Remains of Old Land-surfaces called the 'Stone-bed,'" by John Gunn, M.A., F.G.S.

Mr. Gunn showed that the dip of the Chalk from Hunstanton to Yarmouth averaged twenty-nine feet per mile. This he arrived at by computing the extent of the surface of the Chalk from Norwich to Yarmouth, where the Chalk was reached by the boring of an artesian well, and the extent of the base of the Chalk from Hunstanton to Norwich, where it was perforated by a similar boring. On this inclined plane of the Chalk, the strata were successively

<sup>1</sup> The flake in question is undoubtedly of human workmanship. See *GEOL. MAG.* 1872, Vol. IX., p. 268.—*EDIT. GEOL. MAG.*