Otherwise such borings might have been made in the country to the south of the Mendips, as well as in other localities in the south of England, where the presence of Coal-measures has been inferred beneath the Secondary rocks.[1]

III.—Note on a Futile Search for Coal near Northampton.

By Samuel Sharp, F.S.A., F.G.S.

HAVING had my attention drawn to a communication from H. W. Bristow, Esq., F.R.S., District Surveyor of the Geological Survey of England and Wales, which appeared in the *Wells Journal* of 12th October, and which relates how he came upon a shaft (with steam-engine, etc., in full operation) that was being sunk for Coal about three-quarters of a mile North of Easton, in Somersetshire, and which shaft penetrated the Old Red Sandstone to a depth of 112 yards, starting at a point from 3,000 to 4,000 feet below the horizon of the lowest strata of the true Coal-measures, I think it not undesirable to make known the fact of an as unwise and hopeless search for Coal in Northamptonshire, at a point probably more removed vertically, but in the opposite direction, from any strata in which Coal would be likely to be found.

About thirty-five years ago, a company was formed, based upon the advice also of "a practical man," at Northampton, and a shaft was sunk at Kingsthorpe, a village lying immediately North of that county town. The spot selected was nearly the highest in the neighbourhood, and remarkable for the presence of quarries in a bed of Limestone of the Great Oolite formation, of a thickness of about twenty-five feet; which limestone overlies an estuarine Clay (also Great Oolite) of fifteen feet. These are succeeded by the three divisions of the Northampton Sand (Inferior Oolite), having an aggregate depth of say eighty feet, which repose upon the Upper Lias. So that these upper beds have a depth of about 120 feet.

No accurate detailed section of the shaft was taken at the time; but at a depth of 210 feet from the surface, a water-yielding "Limestone rock," in the Middle Lias (Marlstone), was pierced, which produced 36,000 gallons of water per hour. At the depth of 880 feet (as is stated in pencil-notes on a diagram in my possession, which notes are said to have been made by Dr. Wm. Smith, F.R.S., F.G.S., etc.), the New Red Sandstone was reached, and a flow of brackish water of a like volume to the former occurred. The New Red Sandstone is stated to have consisted of "sixty feet of Sandstone, twelve feet of Red Marl, and fifteen feet of Conglomerate." At this point (a depth of 967 feet having been attained, and about £30,000 expended) the enterprise was abandoned.

[1] Mr. Prestwich remarks that a few trials for coal would not be very costly, and that they could hardly fail in important results, as in case of failing at once to hit the Coal-measures, we might possibly find the Lower Greensands, and obtain its pure and abundant waters, a consideration of high importance to the metropolis. Report of Coal Commission, p. 165.—This is not the place for going fully into the question of the occurrence of Coal in the south-eastern counties, but I agree with Sir Roderick Murchison that it is highly improbable that a remunerative Coal-field will ever be discovered in that area.—H. B. W.

The question, however, has lately been again agitated, and a proposal has been made to form a new company to recommence operations from the bottom of the old shaft. In view of this circumstance, it may not be without interest or utility to consider what thickness of beds possibly intervene between the bottom of the shaft and the horizon of workable Coal. The Coal-field of Warwickshire is the nearest Coal-field to this locality, and as no important change from the thining-out or denudation of intermediate beds, or from a great fault, is known to occur in the space lying between this locality and that, it will not be unreasonable to apply the data furnished by sections in Warwickshire to an approximate calculation of the probable thickness of the same beds in this district. Mr. Hull, in *The Coal-fields of Great Britain*, quoting from Mr. Howell's Memoir "On the Geology of the Warwickshire Coal-field, etc.," gives the following thicknesses:—Trias, 780 feet; Lower Permian, 2,000 feet; Sandstones, Shales, etc., of the Coal-measures before workable Coal is reached, 1,500 feet. So that, if these beds extend into the adjoining county of Northampton without material alteration, we shall have underlying the bottom of the Kingsthorpe shaft, and above the horizon of the Warwickshire Coal, beds of the aggregate thickness of 4,200 feet; which, added to the depth of the old shaft, would give a total depth of some 5,000 feet, or about twice the depth of the deepest Coal-mine in this country.

Moreover, according to the views of Mr. Hull, as stated by him in a paper read in the Geological Section of the British Association at Liverpool last year, Northamptonshire is quite without the area of the original Coal-field of this country, as it existed before denudation took place; and in such case no Coal could possibly be found at any depth.

The faith of the projectors of the proposed new company, however, is not based upon any geological considerations, but upon the opinions of *practical men*; indeed, one prominent mover in the matter, a man of means, having large connexion with the iron-producing trade in the country, declares his utter lack of faith in geologists, and bases his belief that Coal will be found in Northamptonshire upon his conviction "that where God has sent iron-ore, he has also sent Coal to smelt it!"

Dallington Hall, *Oct.* 20, 1871.

IV.—On the Foraminifera of the Chalk of Gravesend and Meudon, figured by Prof. Dr. Chr. G. Ehrenberg.

By Prof. T. Rupert Jones, F.G.S., and W. K. Parker, F.R.S.

THE Second Edition of Prof. Morris's "Catalogue of British Fossils" appeared in 1854, and in the same year was published Dr. Chr. G. Ehrenberg's "Mikrogeologie," containing the figures of numerous Foraminifera found by that eminent German microscopist, in specimens of Chalk from Gravesend, Kent. A preliminary notice, indeed, of these had been given in the Transactions of the Berlin Academy of Sciences for 1838 (1839), pp. 92, 133—135, 146, pl. iv.,