

- E. *In the sands immediately under the chalk*; interposed between it and the oolitic series. See in this work the description of the iron sand, especially near Hastings and at Lulworth cove.
- F. *In the oolitic series*, the Kimmeridge clay, interposed between the upper and middle division, contains beds of bituminous shale affording an imperfect fuel. Lower down, the sands resting on the lias of Yorkshire contain regular strata of workable coal, though of inferior quality, accompanied by vegetable impressions. The account of this has, from the uncertainty of its exact place in the oolitic series, been necessary postponed to an appendix.
- G. *The newer red or saliferous sandstone* is said on the continent to contain occasionally thin seams of coal, though such do not appear to have been yet noticed in this country.
- H. The descending series next conducts us to the great coal-formation, the subject of the present book.
- I. *The slates, &c. of transition*, (as they are called) sometimes contain beds of Anthracite; examples of this we believe occur in Devonshire.
- K. *Beds of anthracite and plumbago*, (which is the purest known form of carbon) occur in mica slate and other rocks esteemed primitive; no example of this position is as far as we are informed known in this country, but it is frequent on the continent. These transition and primitive carbonaceous beds appear to be destitute of bitumen: bitumen however has been found in the veins of transition rocks; e. g. accompanying yellow copper in Carharack mine Cornwall.

In thus stating the occasional occurrence of carbonaceous beds in other formations, it is necessary carefully to guard against the error of supposing that any supplies of this mineral, capable of being profitably worked, are to be found any where without the limits of the coal-district of which we are now treating; an error that has led to much waste of capital in fruitless speculation. The local deposits above mentioned are objects of Geological curiosity, not of statistical interest.

We now proceed to consider generally the great coal-formation so called, as distinguished from the above partial deposits.

(a) *Chemical and external characters.* The coal-measures consist of a series of alternating beds of coal, slate clay, and sandstone; the alternations being frequently and indefinitely