Detailed descriptions of the various fields are not given in this note, since these will be found in a memoir (now in the press) by Mr. R. R. Simpson, on the coal-fields of India (*Memoirs, Geological Survey of India*, Vol. XLI); this is based on an article by the late Professor V. Ball, but has been largely rewritten and completely brought up to date, and I have made extensive use of it in the present note. Those desirous of obtaining more detailed information than is to be found in this note are recommended to consult Mr. Simpson's memoir. As the latter is also furnished with a complete bibliography, references to literature are omitted from the present note.

For detailed information as to the resources of certain fields, I am greatly indebted to colliery owners and managers, who have supplied me freely with the necessary figures; amongst these I may mention Messrs. T. H. Ward and G. C. Lathbury, of the East India Railway Company's collieries at Giridih; Mr. G. E. Harris, of Margherita (Assam); Mr. A. Mort (Khost Colliery, Baluchistan); Mr. A. H. Parry and Messrs. Shaw, Wallace & Co. (Pench Valley, Central Provinces); Mr. B. J. Davies (Ballarpur, Central Provinces); Mr. H. W. Trotman (Singareni Collieries, Hyderabad); Mr. F. L. G. Simpson (Mohpani, Central Provinces); Mr. R. J. W. Oates (Rewah State Collieries, Umaria, Central India), and Messrs. J. W. Jervis and W. L. Phillips (Palana, Bikanir).

Before dealing with the question of the amount of coal available, it may be well to explain briefly the nature and disposition of the Indian fields. They fall, firstly, into two broad categories, viz.:

(1) the Gondwana fields, the coal of which occurs in the lower portion of the Gondwana system and is approximately of Permo-Carboniferous age;

(2) the Tertiary fields, the coal of which is in some cases of Eocene, in others of Miocene age.

There are also a few fields in which the coal belongs to the Cretaceous system, and others in which it is Jurassic, but these are small and still unexploited, and may, for the purposes of the present note, be conveniently grouped with the Tertiary fields.

THE GONDWANA FIELDS

Of the above fields, the Gondwanas are by far the most important, and contribute over 96 per cent. of the annual Indian output. Their distribution is peculiar; they "are preserved as small patches let down, mostly by faulting, into the great crystalline mass of the Peninsula. Originally they must have covered a much wider area; but as the Peninsula has been exposed ever since to the free action of weathering agents, the Gondwana formations have been cut into, like the older formations, and the Coal-Measures thus preserved in India now form but a fraction of those that once existed. Isolated patches of Gondwana rocks, including coal-beds, have been involved in the folded extra-peninsular area, in the Darjeeling district, and in Northern Assam. The string of Gondwana patches which determines the direction of the river Damuda includes our most valuable deposits of coal."* They are found also in the valley

* Sir T. Holland in *Imperial Gazetteer of India*, Vol. I, (1907), p. 81.