which succeeds is more probably Triassic, while the upper subdivisions appear to be of Jurassic age.²⁶⁶

Australia.—The "Upper Coal-measures" (Newcastle series) of New South Wales have been classed as Permian. They consist of shales, sandstones, and conglomerates, with abundant plant-remains (Glossopteris, Gangamopteris, Vertebraria, Phyllotheca, Sphenopteris), but with no marine shells. This group of coal-bearing strata comprises nearly all the seams of coal in the Newcastle coal-field, the lowest of which is from eight to fifteen feet thick. Another seam, near Jamberoo, is twenty-five feet thick.²⁶⁷

In Victoria certain sandstones and conglomerates (Bacchus Marsh, Grampian) have been compared with those of the Talchir series of India as possibly indicating glacial action. They contain Gangamopteris and Glossopteris.²⁰⁸ In Queensland a much fuller development of Upper Palæozoic rocks has been ascertained. A great thickness of stratified deposits comprising four or five distinct formations has been named Permo-Carboniferous. In its higher portions (Bowen series) it consists of an upper fresh-water series with plants (Sphenopteris, Glossopteris), and a lower marine series containing a fauna which includes the genera Fenestella, Dielasma, Spirifer (striatus, trigonalis, etc.), Derbyia, Productus (cora, etc.), Strophalosia, Chonetes, Aviculopecten, Platyschisma, Mourlonia, Bellerophon, Porcellia, Orthoceras, Goniatites.²⁰⁹

Africa.—In the south of this continent a group of rocks occurs which presents some of the lithological and palæontological types of southern India and southeastern Australia. At their base is a remarkable conglomerate (Dwyka) which lies unconformably on the Carboniferous quartzite and has been compared with the conglomerate of the Talchir series, but it presents many of the characters of a volcanic conglomerate.²⁷⁰ It is surmounted by a series of clays or mudstones and sandstones, at least 4000 feet thick, con-

²⁶⁶ Medlicott and Blanford, "Geology of India."

²⁶⁷ C. S. Wilkinson, "Notes on Geology of New South Wales," Sydney, 1882, p. 51. O. Feistmantel, Mem. Geol. Surv. N.S. Wales, Palæontology, No. 3, 1890, p. 38.

 ²⁶⁸ R. A. F. Murray, "Geology and Phys. Geog. of Victoria," 1887, p. 84.
²⁶⁹ R. L. Jack and R. Etheridge jun. "Geology and Palæontology of Queensland and New Guinea," 1892, chaps. vi.-xxii.

²⁷⁰ A. H. Green, Quart. Journ. Geol. Soc. xliv. 1888, p. 239.