

Australasia.—In New South Wales, the presence of Devonian rocks was determined by W. B. Clarke from the evidence of fossil remains. The thickness of strata (sandstones, quartzites, conglomerates, shales and limestones) is in some places estimated at not less than 10,000 feet, passing down into Silurian and upward into Carboniferous strata. Among the numerous fossils are many forms familiar in corresponding strata in Europe and America, such as *Cyathophyllum damnoniense*, *Favosites reticulata*, *F. fibrosa*, *F. Goldfussi*, *Heliolites porosa*, *Chonetes laguessiana* (*hardrensis*), *Orthis striatula*, *Rhynchonella pleurodon*, *R. pugnus*, *Atrypa reticularis*, *Spirifer Verneuili*.¹⁵² In Victoria certain limestones found at Bindi on the Tambo river and elsewhere have yielded characteristically Middle Devonian fossils, including *Favosites Goldfussi*, *Spirifer lævicostatus*, *Chonetes australis*, and a placoderm fish. With these rocks are associated contemporaneous felsitic lavas and tuffs. Other strata are referred to the Upper Devonian series.¹⁵³

Devonian rocks play an important part in the structure of New Zealand. To the lower part of the system are assigned quartzites, cherts, and limestones, which in the South Island at Reefton have yielded *Spirifer vespertilio* and *Homalonotus expansus*. To the Upper Devonian series should probably be referred the enormously thick Te Anau group of "greenstone-breccias, aphanite-slates, diorite-sandstones, with great contemporaneous flows and dikes of diorite, serpentine, syenite, and felsite." These rocks form important mountain ranges in the South Island, and at Reefton are the matrix of the auriferous reefs. They rest unconformably on the Lower Devonian and pass up into the Maitai series (Carboniferous).¹⁵⁴

II. OLD RED SANDSTONE TYPE

§ 1. General Characters

Under the name of Old Red Sandstone, is comprised a vast and still imperfectly described series of red sandstones, shales, and conglomerates, intermediate in age be-

¹⁵² See the authors cited on p. 1290, note.

¹⁵³ R. A. F. Murray, "Victoria—Geology and Physical Geology," 1887.

¹⁵⁴ Hector, "Handbook of New Zealand," p. 36.