The deposits of the lower division may be arranged in three groups: (1) a lower, consisting of conglomerates, sandstones, and flags with no volcanic rocks; (2) a middle, composed almost wholly of lavas, tuffs, and agglomerates; (3) an upper, consisting of conglomerates, sandstones, flags, and mudstones. The members of the upper group are splendidly developed in the centre of a great trough extending from Stonehaven by the Braes of Doune to near Drymen—a distance of 100 miles; while the lavas and ashes of the middle group rise from underneath these and form a prominent arch in the Sidlaws and Ochils. The members of the lower group are exposed on the coast at Stonehaven, where, at their northern limit, they are truncated by a powerful fault which brings them into conjunction with the metamorphic rocks of the Highlands. As already indicated, this great dislocation stretches from the Kincardineshire coast to the Firth of Clyde, and through part of its course brings different members of this formation against each other. On the north side of the fault, between Crieff and Cortachy, there is a development of coarse trappean conglomerates with thin beds of lava occupying the horizon of the volcanic series and resting unconformably on the metamorphic rocks, while the underlying beds are absent or sparingly represented. It is apparent from this overlapping of the strata that there must have been a gradual depression of the Highland barrier, and that as the waters of the lake crept northwards the crystalline schists of the Highlands were buried under the accumulating sediments of the higher groups.

The foregoing subdivisions are conspicuously developed in the belt that borders the northern margin of the Southern Uplands. In this case also the Lower Old Red Sandstone is bounded by a great fracture extending from Midlothian to the Firth of Clyde, whereby this formation has slipped downwards against the Silurian tableland to the south. In the Pentland Hills the volcanic series, comprising andesites, rhyolites, and tuffs, forms conspicuous features in the landscape and is traceable at intervals along the belt south-westwards into Ayrshire. Beyond the Silurian tableland, in the Cheviots, these volcanic rocks are well developed, and they form a broad plateau in Lorne, Argyllshire, where they are associated with sediments which have yielded fish-remains of Lower Old Red Sandstone age. They likewise appear in the Glencoe region and on the crest of Ben Nevis.

A striking feature of this period is the extent and variety of the plutonic intrusions (granite, diorite) in the Highlands and Southern Uplands, to which reference has already been made.

In the great northern area, where the middle or Orcadian series of the Moray Firth, Caithness, Orkney, and Shetland appears, there is a marked divergence in the character of the strata and the fish fauna from that on the south side of the Grampians. Murchison clearly