

upper portion of this same consequent, of which the Duneaton and Douglas Waters were already subsequent tributaries. As the North Channel River and the Lower Clyde cut backwards through weak Carboniferous strata more rapidly than the tributaries of the Tweed among the durable Silurian rocks, they eventually captured the territory which had been temporarily annexed by the Tweed.

A feature of special interest in connection with the topography of the Southern Block is the resuscitation of old palæozoic land surfaces in the course of the development of the existing physical features. Thus we find evidence of the existence of a transverse valley system of pre-Upper Old Red Sandstone age, of which Lauderdale is a characteristic example. In this ancient hollow, sediments of Upper Old Red Sandstone age were laid down which are now being eroded by the Leader Water. Another, but less obvious, valley is still buried under sandstones and conglomerates belonging to the same period, stretching across the Eastern Lammermuirs from Longformacus to Dunbar.

Nithsdale and Loch Ryan are instances of pre-Carboniferous hollows, for they are still floored in part by Carboniferous strata which are remnants of more extensive deposits. In the case of Loch Ryan, the Carboniferous rocks must have undergone considerable denudation before the deposition of the overlying red sandstones of Permian or Triassic age. Annandale furnishes striking evidence of a valley system dating back to palæozoic time, as the breccias (Permian or Triassic) which floor the present valley near Moffat contain blocks of fossiliferous Lower Carboniferous strata that once filled these hollows. The hollow of Eskdalemuir is another example, for the deep staining of the Silurian rocks points to the removal by denudation of red strata from that area. Again, in the Abington region outlying patches of Carboniferous strata and breccia of Permian or Triassic age rest unconformably on the old Silurian floor in such a manner as to suggest that the Clyde took advantage of these weak sediments while cutting backwards as an obsequent stream.

Along the western edge of the Upper Old Red Sandstone south of Melrose there are examples of a secondary system of smaller valleys following the grain of the Silurian rocks, which contain outliers of Upper Old Red Sandstone. Recent observations point to the existence of such sediments in the valley of the Ettrick far to the west of Selkirk.

The relation of the Upper Old Red Sandstone to the Silurian rocks along the northern slope of the Moorfoot and Lammermuir Hills shows that part at least of the steep northern declivity was a feature established in Upper Old Red Sandstone time. Similar instances of the resuscitation of the old land surfaces along the north-