

relation whatever to the arrangement or contour of the schists still deeply buried below. Once traced they would gradually sink deeper in the Old Red Sandstone, and at last would reach and continue their downward progress in the older platform of schists.

In Chapter II. some account was given of the variety of form assumed by water-channels: how sometimes the stream runs in a wide open valley, and at other times is confined within the narrow walls of a mere chasm. I endeavoured to show that these contrasts could be explained by geological structure and by variations in the resistance offered to erosion by the rocks exposed to it.

River-gorges form undoubtedly some of the most picturesque features in the scenery of the Highland valleys. Their characteristic varieties of aspect can be traced back to the guiding influence of the structure of the rocks in the progress of erosion. By much the most imposing ravines are those which have been excavated in the Old Red Sandstone along the borders of the Highlands. The massive conglomerates and thick-bedded sandstones, and the clean-cut lines of jointing in that formation afford peculiarly favourable conditions for the excavation of long, narrow chasms, where the drainage, laden with debris, escapes from the more rapid slopes of the interior. On the north side of the Highlands, a series of remarkably striking ravines lie in the strip of Old Red Sandstone along the west side of the Cromarty Firth. Perhaps the most singular of these is that of the Alt Graat—a chasm about 110 feet deep, and at the narrowest part only 17 feet across the top, wherein the scooping action of the water, in cutting down the massive conglomerate, is conspicuously visible. This remarkable gorge is fully five times deeper than it is broad—a ratio very un-