

## CHAPTER XVIII.

THE PHYSICAL STRUCTURE OF SCOTLAND—THE HIGHLANDS  
—THE GREAT VALLEYS OF THE FORTH AND CLYDE—THE  
LAMMERMUIR, MOORFOOT, AND CARRICK HILLS.

I NOW come to that part of the subject in which it will be my duty to explain the connection between the geological phenomena of Britain and the nature of its modern scenery. In this chapter I shall briefly describe the most mountainous part of Britain, and tell why great part of Scotland is so rugged. In another chapter I shall have to show that there is a strong contrast between the physical features of Scotland, and those of the middle and east of England, and to explain why the conformation of these two districts, and those of the east and west of England, are essentially so distinct.

In Scotland gneissic rocks and granites are extensively developed. The north-west coast of Sutherland, and the outer Hebrides, chiefly consist of the oldest known formation, called Laurentian, as already stated in Chapter V. Above them, in Sutherland, there are unaltered red or purple Cambrian sandstones and conglomerates, which lie unconformably on the Laurentian gneiss. In fact, the Laurentian strata were disturbed, metamorphosed, and much wasted by denudation, before the deposition of those Cambrian strata began, and fragments of the denuded gneiss help to make up the conglomerates. The Lower Silurian rocks come next in the series, and