

double-peaked rock which bears the ancient fortalice of Dumbarton,—the castle which, according to Jeanie Deans's friend Mr. Archibald, was always given in keeping to the best man in Scotland,—at one time to Sir William Wallace, at another to the Duke of Argyll.

The depth of the primary stratified rocks, which in Scotland must be very great, has been variously estimated by geologists,—as low as five and as high as ten miles,—evidence enough, did we require any such, that there must be some degree of obscurity in the data on which the calculations regarding it have been founded. It is always extremely difficult to estimate the thickness of even a clay-slate or quartz-rock deposit in a mountainous country, where the centres of disturbance are numerous and involved; and in gneiss and mica-schist,—always greatly contorted deposits,—the difficulty is so enhanced, that what begins as calculation usually ends as guess. But we at least know that it can be no thin series of deposits, however much their strata may be contorted, or however often repeated, that covers, in highly inclined positions, tracts of country so extended as even those which we find covered by them in the Scotch Highlands. In crossing the four primary stratified deposits,—clay-slate, mica-schist, quartz-rock, and gneiss,—at right angles with the line in which they traverse the country in the southern division of the Highlands, we find them occupying, as from near Crieff to Fort-Augustus, a tract rather more than sixty miles across; and in crossing at the same angle the northern division of the Highlands,—as from Glen Urquhart to the middle reaches of Loch Carron,—we find a tract of nearly forty miles occupied by the gneiss alone. The question is one on which I would not choose to dogmatize; but an estimate that gave to our Scottish primary rocks an aggregate thickness of from six to eight miles I would not regard as by any means too high. A more vexed question, however, and a still more