ter*m*inate in a long broken line of sea-wall, which begins at the mouth of Loch Ryan, extends to the Mull of Galloway, and re­appears again in the southern headlands of Wigtown and Kirkcud­bright. One of the most picturesque features of the Scottish sea- cliffs is the numerous “stacks” or columns of rock which during the demolition and recession of the precipices have been isolated and left standing amidst the waves. These remnants attain their most colossal size and height on the cliffs of Old Red Sandstone. Thus the Old Man of Hoy in Orkney is a huge column of yellow sandstone between 400 and 500 feet high, forming a conspicuous landmark in the north. The coast of Caithness abounds in out­standing pillars and obelisks of flagstone.

The low shores on the west coast are not infrequently occupied by sand-dunes. Such accumulations fringe the western margin of North and South Uist, and are found in many bays from the north of Sutherland to the coast of Ayrshire. They are more abundant on the east coast, especially on the shores of Aberdeenshire, between the mouths of the two Esks, on both sides of the mouth of the Firth of Tay, and at various places in the Firth of Forth. Raised sea-beaches likewise play a part in the coast scenery of the country. These alluvial terraces form a strip of low fertile land between the edge of the sea and the rising ground of the interior, and among the western fjords sometimes supply the only arable soil in their neighbourhood, their flat green surfaces presenting a strong con­trast to the brown and barren moors that rise from them. Most of the seaport towns of the country stand upon platforms of raised beach. Considerable deposits of mud, silt, and sand are accumu­lating in most of the estuaries. In the Tay, Forth, and Clyde, where important harbours are situated, considerable expense is in­volved in dredging to remove the sediment continually brought down from the land and carried backward and forward by the tides. Wide alluvial flats are there exposed at low water.

While no islands except mere solitary rocks like May Island, the Bass Rock, and Inchkeith diversify the eastern seaboard, the western side of Scotland presents a vast number, varying in size from such extensive tracts as Skye down to the smallest sea-stack or skerry. Looked at in the broadest way, these numerous islands may be regarded as belonging to two groups or series,—the Outer and the Inner Hebrides. The Outer Hebrides, extending from Barra Head to the Butt of Lewis, consist of a continuous chain of islands composed (with the exception of a small tract in the east of Lewis) entirely of Archæan rocks. Most of the ground is low, rocky, and plentifully dotted over with lakes ; but it rises into mountainous heights in Harris, some of the summits attaining elevations of 2600 feet. The general trend of this long belt of islands is north-north-east. The Inner Hebrides form a much less definite group. They may be regarded as beginning with the Shiant Isles in the Minch and stretching to the southern headlands of Isla, the most important members being Skye, Mull, Isla, Jura, Rum, Eigg, Coll, Tiree, and Colonsay. The irregularity of this fringe of islands has no doubt been in chief measure brought about by its remarkable diversity of geological structure. Archæan gneiss, Cambrian sandstone, Silurian quartzite, limestone, and schist, Jurassic sandstone and limestone, Cretaceous sandstone, and Tertiary basalts, gabbros, and granitic rocks all enter into the composition of the islands.

Within the limits of this article it is only possible to allude to some of the more important influences of the topography on the history of the inhabitants. How powerfully the configuration of the country affects the climate is shown in the remarkable difference between the rainfall of the mountainous west and of the lowland east. This difference has necessarily affected the character and employments of the people, leading to the development of agricul­ture on the one side and the raising of sheep and cattle on the other. The fertile low grounds on the east have offered facilities for the invasions of Romans, Norsemen, and English, while the moun­tainous fastnesses of the interior and the west have served as secure retreats for the older Celtic population. While, therefore, Teutonic people have spread over the one area, the earlier race has to this day maintained its ground in the other. Not only the external configuration but the internal geological structure of the country has profoundly influenced the progress of the inhabitants. In the Highlands no mineral wealth has been discovered to stimulate the industry of the natives or to attract the labour and capital of strangers. These tracts remain still as of old sparsely inhabited and given over to the breeding of stock and the pursuit of game. In the Lowlands, on the other hand, rich stores of coal, iron, lime, and other minerals have been found. The coal-fields have gradually drawn to them an ever-increasing share of the population. Villages and towns have there sprung recently into existence and have rapidly increased in size. Manufactures have been developed and commerce has advanced with accelerated pace. Other influences have of course contributed largely to the development of the country, but among them all the chief place must undoubtedly be assigned to that fortu­nate geological structure which, amid the revolutions of the past, has preserved in the centre of Scotland those fields of coal and ironstone which are the foundations of the national industry. (A. GE. )

*Climate.—*In considering the climate of Scotland the first place must be assigned to the temperature of the various districts during the months of the year, it being this which gives the chief charac­teristics of climate and not the mean temperature of the whole year. Thus, while the annual temperatures of the west and east coasts are nearly equal, the summer and winter temperatures are very different. At Portree (on east coast of Skye) the mean temperatures of January and July are 39° and 56°·8, whereas at Perth they are 37°·5 and 59°·0. The prominent feature of the isothermals of the winter months is their north and south direction, thus pointing not to the sun but to the warm waters of the Atlantic as the more powerful influence in determining the Scottish climate at this season through the agency of the prevailing westerly winds. The Atlantic is in truth a vast repository of heat, in which the higher temperature of summer and that of more southern latitudes are treasured up against the rigours of winter ; and in exceptionally cold seasons the ocean protects all places in its more immediate neighbourhood against the severe frosts which occur in inland situations. While this influ­ence of the ocean is felt at all seasons, it is most strikingly seen in winter ; and it is more decided in proportion as the locality is surrounded by the warm waters of the Atlantic. At Edinburgh the temperature is 27°·0 and at Lerwick 32°·5 higher than would otherwise be the case ; in other words, but for the ameliorating influence of the Atlantic the temperature of Edinburgh in mid­winter would only be 12°·5 and of Lerwick 7°·5, or such winters as characterize the climates of Greenland and Iceland. The influence of the North Sea is similarly apparent, but in a less degree. Along the whole of the eastern coast, from the Pentland Firth southwards, temperature is higher than what is found a little inland to the west. The lowest temperature yet observed in the British Isles was -16°·0, which occurred near Kelso in December 1879. In summer, every­where, latitude for latitude, temperature is lower in the west than in the east and inland situations. In winter the inland climates are the coldest, but in summer the warmest. The course of the isothermal lines at this season is very instructive. Thus the line of 59° passes from the Solway directly northwards to the north of Perthshire and thence curves round eastwards to near Stonehaven. From Teviotdale to the Grampians temperature falls only one degree ; but for the same distance farther northwards it falls three degrees. The isothermal of 56° marks off the districts where the finer cereals are most successfully raised. This distribution of the temperature shows that the influence of the Atlantic in moderating the heat of summer is very great and is felt a long way into the interior of the country. On the other hand, the high lands of western districts by robbing the westerly winds of their moisture, and thus clearing the skies of eastern districts, exercise an equally striking effect in the opposite direction,—in raising the temperature.

There is nearly twice as much wind from the south-west as from the north-east, but the proportions vary greatly in different months. The south-west prevails most from July to October, and again from December to February ; accordingly in these months the rainfall is heaviest. These are the summer and winter portions of the year, and an important result of the prevalence of these winds, with their accompanying rains, which are coincident with the annual extremes of temperature, is to imprint a more strictly insular character on the Scottish climate, by moderating the heat of summer and the cold of winter. The north-east winds acquire their greatest frequency from March to June and in November, which are accordingly the driest portions of the year.

The mountainous regions of Scotland are mostly massed in the west and lie generally north and south, or approximately perpen­dicular to the rain-bringing winds from the Atlantic. Hence the westerly winds are turned out of their horizontal course, and, being thrust up into the higher regions of the atmosphere, their temperature is lowered, when the vapour is condensed into cloud and deposits in rain the water they can no longer hold in sus­pension. Thus the climates of the west are essentially wet. On the other hand, the climates of the east are dry, because the surface is lower and more level ; and the breezes borne thither from the west, being robbed of most of their superabundant moisture in cross­ing the western hills, are therefore drier and precipitate a greatly diminished rainfall. It thus happens that the driest climates in the east are those which have to south-westwards the broadest extent of mountainous ground, and that the wettest eastern climates are those which are least protected by high lands on the west. The breakdown of the watershed between the Firths of Clyde and Forth exposes southern Perthshire, the counties of Clackmannan and Kinross, and nearly the whole of Fife to the clouds and rains of the west, and their climates are consequently wetter than those of any other of the eastern slopes of the country. The driest climates of the east, on the other hand, are in Tweeddale about Kelso and Jedburgh, the low grounds of East Lothian, and those on the Moray Firth from Elgin round to Dornoch. In these districts the annual rainfall for the twenty-four years ending 1883 was about 26 inches, whereas over extensive breadths in the west it exceeds 100 inches, in Glencroe being nearly 130 inches and on the top of Ben Nevis 150 inches. (A. B.)