IRELAND

TOPOGRAPHY

If we carried out a series of soundings from the depths of the Atlantic towards its eastern edge we would find that the land which forms the Old World generally rises steeply from deep water. If we follow, for instance, the 100-fathom line—a line twice as far below the sea as the average surface of Ireland is above it—this line will be found to lie close to the coast along the whole shore of Africa, and also of south-western Europe. But off the coast of France this line bends far out to sea, and sweeping in a wide curve, again approaches the continental coast off southern Norway. In other words a great shelf exists here, covered with a mere film of water as compared with the ocean depths adjoining—an area which, though covered by sea, evidently belongs to the continent rather than to the ocean. On this platform the British Islands stand, and along with the North Sea occupy the greater part of it. Geological evidence shows that at least the higher portions of the shelf which are at present covered by water actually were dry land at a comparatively recent date. The British Isles must be looked on therefore as an integral portion of the continent of Europe, formerly continuous with it, though at present disconnected.

Ireland lies on the western portion of the shelf. The barrier of water (the Irish Sea) which separates it from

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IRELAND

Great Britain is deeper than that which intervenes between the latter and the continental coast, and is without doubt older—that is, Ireland became a separate island before Great Britain did. The sea on the western side of Ireland is again rather deeper, and a hundred miles or so out from the coast we reach the edge of the shelf, and the bottom plunges down into oceanic depths. As regards its position on the earth's surface, Ireland
TOPOGRAPHY

lies between $51\frac{1}{2}^\circ$ and $55\frac{1}{2}^\circ$ north latitude—in the middle of the Temperate Zone—and between $5\frac{1}{2}^\circ$ and $10\frac{1}{2}^\circ$ west longitude. Roughly speaking it lies in the same latitude as Moscow, Kamtschatka, British Columbia and Labrador.

Ireland is much smaller than Great Britain, and it lies towards the west, where the sea, and the prevailing winds which blow in from the sea, are warmer; in consequence it is influenced to a greater degree than Great Britain by the conditions prevailing over the surrounding mass of water. Water being by its nature more slowly heated by the sun and more slowly cooled by radiation than land, it follows that the sea as compared with the land is cooler in summer and warmer in winter, and these conditions, imparted to the surrounding atmosphere, tend to produce higher winter temperatures and lower summer ones over Ireland than over Great Britain, and similarly, over the latter as compared with continental countries. These effects are particularly noticeable in the west of Ireland, where they obscure to a great extent the natural change of temperature which one expects to find between north and south. As a matter of fact, the isotherms, or lines of equal temperature, in the west of Ireland, both in summer and winter, run north and south instead of east and west, distance from the Atlantic counting for more than distance from the equator. In summer the warmest part of Ireland is in the south-east; in winter the coldest part is in the north-east. Much importance attaches to these facts, and the lesson which they teach should be borne in mind.

A comparison of the range of temperature found in Ireland and in England shows that while on the west
coast of Ireland the difference between the average temperature of the coldest and warmest month is 16° F., the same comparison in the east of England gives no less than 24°. In comparison with the Continent the equability of the Irish climate is still more striking; thus, Kerry in January is as warm as Nice; in July it is as cool as Archangel.

The effect of the prevailing westerly winds, which in the main are responsible for these peculiarities of temperature, become very marked on the south and south-west coasts. The exposure here is extremely great, and often for miles inland hardly even a bush can raise its head. Many of even the larger islands have no tree more than a few feet in height.

As regards rainfall also, proximity to the western ocean is the leading factor; and the presence of mountains, usually the dominating condition, though still a potent influence, is nevertheless of secondary importance. The prevailing westerly winds, coming in off the Atlantic, are highly charged with moisture, and very heavy precipitation takes place among the hill-ranges of Kerry, Connemara and Donegal. The rainfall curves, as will be seen from the accompanying map, are largely parallel to the west coast, the main exception being in the south-east, where the highlands which rise from Waterford up to Wicklow deflect the 40-inch line in a wide curve almost up to Dublin. The driest areas in Ireland lie along the east coast, the minimum being reached in County Dublin.

Another effect of the presence of the warm ocean water around Ireland is the high degree of humidity or dampness of the air, and consequently of the soil. This has a direct and powerful influence on both animal
and plant life; it leads moreover to a prevalence of cloud, so that the amount of sunshine in Ireland is reduced. The cloud in its turn by intercepting the sun's rays and by diminishing radiation tends to equalize
IRELAND

the general temperature, and especially lessens the difference of temperature between day and night.

PHYSICAL FEATURES

Ireland is an irregular oval in shape, with the longer diameter running north-north-east and south-south-west. Its greatest length in a straight line, from Fair Head in Antrim to Mizen Head in Cork is 302 miles; its greatest breadth, from Wicklow Head to Erris Head in Mayo, is 189 miles. Its area is 32,524 square miles. It is of compact form. No arms of the sea, large in proportion to the total size of the island, intervene between adjoining portions, as in the case of Greece or Denmark; and the islands that lie off the coast are quite small as compared with the main mass of land.

Ireland is peculiar in having no back-bone parallel to its longer axis (i.e. N.N.E. and S.S.W.) with rivers flowing from it eastward and westward. Across the middle of the island, from east to west, a plain extends from sea to sea, with hilly country to the north and south of it. Yet the greater part of this plain is drained not by east and west streams, but by the Shannon, which, rising among the hills in the north, flows southward across the plain and cuts through the southern hills to the ocean. Several of the other main rivers have also courses that are likewise parallel to instead of at right angles to, the long axis of the country—that is, north or south instead of east and west. A consequence of this is that much of the water which falls on the country in the shape of rain reaches the sea by circuitous routes. Thus, the source of the Shannon, a river over 214 miles long, is distant only 23 miles from the sea at Sligo. The source of the Bann, 97 miles in length,
lies only 7 miles from the coast at Annalong and Carlingford Lough. The Barrow, 96 miles in length, has tributaries which rise 24 miles from Dublin Bay. More curious still, some of the streams, for instance, the
IRELAND

Barrow, which have their upper courses in the Central Plain, instead of flowing across the low ground to the sea, flow towards the hills, and cut their way through them in deep narrow valleys.
TOPOGRAPHY

The Irish mountains are mostly near the coast. Most of the highest hills—those of Wicklow, Carlow, Waterford, Cork, Kerry, Galway, Mayo, Sligo, Donegal, Derry, Antrim, and Down, rise within 25 miles of the sea. The counties with the largest percentage of low ground—Westmeath, Longford, Roscommon—lie in the centre of the country.

Lakes of all sizes are frequent, from large sheets of water like Lough Neagh (the largest lake in the British Isles) to the innumerable tiny lakelets of Connemara. They occur mainly in the north and west, and are almost absent from the south-east.

The coast is mostly irregular and much indented, especially in the north, west, and south, and is in many parts exceedingly bold.

We may now consider these physical features in rather more detail.

THE COAST

Taken as a whole, the coast of Ireland is much indented, with some tolerably large inlets and innumerable small bays, points and islets. From Dublin southward along the shores of Wicklow and Wexford great stretches of gravel-beach prevail. In Waterford the coast is higher, and often cliff-bound. The coast of Cork is full of pretty sheltered harbours lying inside bold promontories and islands. In West Cork and Kerry great sea-inlets, thirty miles in length, run far into the mountainous country. The Clare coast is inhospitable and devoid of harbours, mostly precipitous, the cliffs of Moher rising vertically to 668 ft. The Galway coast is low and exceedingly broken, with innumerable minor sinuosities and some large bays. The Mayo
coast is similar, but with larger bays, peninsulas and islands, and some magnificent cliff scenery. In Sligo we have again a low much dissected coast-line. The Donegal shores resemble on the whole those of Galway, being mostly rather low and exceedingly broken; but very bold scenery is found in the north and south. Most of the Derry coast is low and sandy, with high ground behind. The basaltic plateau of Antrim provides a very beautiful bold coast, with deep glens running in from the water. In Down, on the other hand, low reefs fringe the coast, running far out to sea, and very dangerous to shipping. The Louth coast is low and sandy; that of Dublin is more diversified, with some bold headlands and islands.

The larger indentations of the coast may be grouped according to their origin. On the west coast mostly very old and hard rocks front the Atlantic, and to their presence there as an effectual breakwater is largely due the fact that Ireland exists at all. Wherever the more soluble and more easily denuded limestone forms the coast, the sea has penetrated for some distance —Donegal Bay, Sligo Bay, Killala Bay, Clew Bay, Galway Bay, Tralee Bay, and the great Kerry inlets have all low limestone at their heads or around their sides. The Aran Islands in Galway Bay are reefs of limestone corresponding to the rocks of North Clare, and point to the extent to which this rock has yielded to the forces of denudation. The inlets of Cork Harbour, Youghal Harbour, Waterford Harbour are sunken valleys cut by the Lee, Blackwater and Barrow when the land stood at a higher level than it does at present.

Belfast Lough represents the sunken valley of the Lagan, now greatly silted up at its head and the silts subsequently raised above sea-level, so that most of