PART II.—PHYSICAL GEOGRAPHY AND STATISTICS.

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Physical Geography and Geology.

The area of the United States extends, throughout nearly its whole breadth, from the Atlantic to the Pacific. The northern edge of the vast indentation made in the continent by the Gulf of Mexico marks the southern boundary between the meridians of 83° and 97o. From the edge of this gulf the boundary between the United States and Mexico is partly artificial. Its most essential feature is the Rio Grande, which separates the two countries from 31° 47' N. lat. to its mouth. The boundary between the United States and Canada is to a large extent natural ; though artificial in the north-east (see map), it follows the St Lawrence and the Great Lakes from the 45th parallel to the point where the Rainy Lake river enters Lake Superior, and thence passes up that river to a point on the west side of the Lake of the Woods, whence it goes along the 49th parallel to the Georgia Gulf. The country, as thus limited, excluding Alaska, comprises an area, according to the most recent determinations of the Census Bureau, of 3,025,600 square miles. This total includes 55,600 square miles of water surface (coast waters, bays, gulfs, sounds, &c., 17,200 ; rivers and smaller streams, 14,500 ; lakes@@1 and ponds, 23,900). The area of Alaska is given in the Census Report of 1880 as 531,409 square miles,—a rough approximation, differing greatly from that given in the 1886 *Report* of the commissioner of the General Land Office. The total area possessed by the United States is therefore, approxi­mately, 3,557,000 square miles.

The longitude of the most easterly point is about 67° W. ; that of the most westerly nearly 125o. The parallels of 29o and 49o N. roughly designate the position of the country in reference to lati­tude. The extreme southern end of Florida, however, extends as far south as 25o N., while the northern extremity of Maine only reaches to a little beyond 47o N., the large triangular area between the St Lawrence and the Great Lakes, belonging to Canada, being all south of the 49th parallel.

As compared with the western coast of Europe, neither side of America possesses a deeply indented coast-line. On the Pacific side there is only one important bay (that of San Francisco) between San Diego and Puget Sound. At San Francisco and San Diego there are commodious harbours, but within the limits of the United States there are no others on the Pacific coast, unless we except that furnished on the extreme north by Puget Sound, and that offered by the mouth of the Columbia river, the bar of which is somewhat for­midable except for steamers under the management of skilful pilots.

The eastern coast north of the 35th parallel is a considerably broken one. That of Maine may almost be described as a “ fiord coast,” so numerous are the indentations, which are, however, of moderate depths, but which are large enough to afford excellent and commodious harbours, of which that of Portland may be taken as the type. There is an indentation of considerable size formed by the arm of Cape Cod projecting almost at right angles, and enclosing Massachusetts Bay, at the bottom of which lies the com­modious, but not specially accessible, harbour of Boston. The situation of the city of New York makes it by far the most import­ant centre of foreign and domestic commerce in the United States. This superiority is due in part to the excellence of its harbour, and in part to its being the terminus of the great natural line of com­munication between the East and the West, a position which would seem to belong by right to some point on or near the mouth of the St Lawrence, which is the outlet of the Great Lakes, but from which this river is shut out by its north-easterly trend, which carries it into a region beyond that of successful cultivation and populous settlements, and where navigation is suspended during a considerable portion of the year by the freezing of the river.

Long Island, about 120 miles in length, and extending along the southern coast of Connecticut, is the only island of any con­siderable size on the whole Atlantic coast. Smaller ones—Martha’s Vineyard, Nantucket, Block Island, and others—lie adjacent to Long Island on the east, and form, as it were, its prolongation in that direction, while there are indentations of considerable depth on the coast of the mainland opposite these islands.

South of New York there are two indentations of importance— Delaware Bay and Chesapeake Bay,—the former being, as it were, the expanded mouth of the river of the same name, the other being in somewhat similar relations to two large rivers, the Susquehanna and the Potomac. Philadelphia and Baltimore are the cities that command the advantages for commerce which these two bays offer.

The Gulf of Mexico is of large dimensions, and of great import­ance as affecting the accessibility of the interior, and still more as influencing the climate of the country. The peninsula of Florida, extending 5 degrees south of the mainland, and forming the eastern boundary of the Gulf, is in a considerable part of its surface so low and swampy as to be practically uninhabitable.

The drainage areas of the country, as given by the United States census of 1880 are—Atlantic and Gulf, 2,178,210 sq. m. ; Great Basin, 228,150 ; Pacific slope, 619,240. The drainage into the Atlantic and Gulf is distributed as follows :—New England coast, 61,830 sq. m. ; Middle Atlantic coast, 83,020; South Atlantic coast, 132,040; Great Lakes, 175,340; Gulf of Mexico, 1,725,980 (the Mississippi-Missouri basin being estimated at 1,240,039).

The explanation of this overwhelming preponderance of drainage into the Gulf of Mexico at once becomes evident when we notice the general relief of the country and the positions of the various watersheds. If the level of the ocean were raised 1000 feet, a broad water-way across the American continent would be opened. There would be a great mass of land on the western side, which would comprehend nearly the whole of Mexico, and which, within the limits of the United States, would have a breadth from east to west of from 1500 to 2000 miles. North of the United States boundary line the breadth of this mass of land would diminish rapidly in width as higher latitudes were reached, but its dimensions would still be on a grand scale, although deeply intersected with inlets occupying the positions of the lower portions of the present streams of that region. A similar rise of 500 feet in the ocean would not divide the continent into two decidedly distinct and widely separ­ated parts, but would isolate New England from the land adjacent on the north and west, by opening a channel through the Hudson River and Lake Champlain depressions, would carry the Atlantic coast-line more than 100 miles inland of its present position, and would open a deep bay in what is now the Mississippi valley, the ramifying arms of which would extend north nearly to Chicago, to Cincinnati on the Ohio, to Burlington, Iowa, on the Mississippi, and nearly to Jefferson City, on the Missouri. A rise of sea-level of 2000 feet would not materially change, as to position and size, the great land-mass on the western side of the continent already spoken of. That area would be slightly narrowed on the east, and would have its western edge more deeply indented, with the addi­tion of groups of islands, so that its character would, south of the Columbia, be something like what it is at the present time north of that river. On the eastern side of the continent, however, the most striking changes would be effected. All the present coherent land­mass east of the 97th meridian would have disappeared, and in place of it we should have various groups of islands, one of the most important of which would extend from the north line of Georgia north-east into Pennsylvania and New Jersey, where it would ter­minate in finger-like projections, forming north-easterly and south­westerly trending archipelagos, with various outliers in north-eastern New York, Vermont, and New Hampshire, the highest points of which would rise from 3000 to 4000 feet above the surrounding waters. The distance of these islands from the western mainland would be from 1000 to 1500 miles. Another group of islands north of the United States boundary would extend in a curving line parallel to and north of the St Lawrence and the Great Lakes.

The all-important fact in the topography of the North American continent in general, and of the United States in particular, is the existence of a central comparatively low and level region, declining ; gently from a watershed in close proximity to the Great Lakes on the north towards the Gulf of Mexico on the south.

One may ascend the Mississippi to its junction with the Ohio, at Cairo—a distance of 1100 miles from the Gulf of Mexico,—and the elevation attained will be only about 300 feet, an average ascent of about 4 inches to the mile. A journey of almost 1000 miles farther, to Pittsburgh, at the junction of the Allegheny and Monon­gahela rivers, will only give a total rise of 700 feet above the sea­level. The head of the Mississippi is in a region entirely destitute of mountains, comprising an almost level area, covered in large part by lakes and swamps, and only about 1500 feet in elevation. In ascending the Mississippi to St Louis, a distance of 1250 miles, we have reached an elevation of about 400 feet, and at St Paul, 658 miles above the mouth of the Missouri, one of a little less than 700 feet. If we follow up the Missouri to the western line of the State of the same name, where the river flows from the north, we have the choice, if we wish to keep on directly west, of following either of its great branches from that direction—the Platte and the Kansas. Up either of these we may travel for fully 500 miles, rising so gradually that the difference of elevation from day to day is hardly perceptible, the country preserving all the characteristics of a plain, although declining gently to the east.

We have, therefore, in the central region of the United States a nearly level area, which, roughly speaking, may be taken at 1250 miles square, which has a very gentle downward slope from east and west to the centre, and from very nearly its northern ex­tremity to the Gulf of Mexico, its southern boundary, while its northern edge, with a part of the adjacent region, is occupied by five great bodies of fresh water, communicating by short narrow river-like contractions of the water areas, and all together occupy-

@@@1 Under this head no portion of the Great Lakes is included.