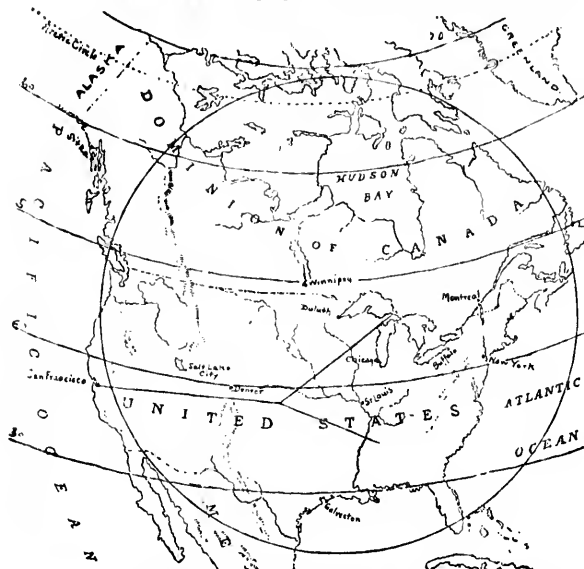


with its delicate lavender petals, is fully ten days in advance of other venturesome spring blossoms. It is often gathered on the Mississippi bluffs near the Falls of St. Anthony on April 15. It appears simultaneously on the dry elevations near Winnipeg. It was observed even earlier, on April 13, during the Saskatchewan campaign of 1885, and is reported by



The straight lines on this map define three territories, all points in one of which are nearer to Duluth than to Chicago or Galveston; all points in the second nearer to Chicago than to Duluth or Galveston, and all points in the third nearer to Galveston than to Duluth or Chicago.

Major Butler in his 'Wild North Land' as in profusion on Peace River, 1,500 miles from St. Paul, on April 20. Even beyond one thousand miles, on the Yukon, within the Arctic circle, Archdeacon McDonald, a missionary of the Church of England, has gathered the flower on May 14. Equally significant as this delicate herald of the spring are the records of ice obstruction in the rivers, their emancipation being simultaneous from Fort Snelling, Minnesota, to Fort Vermilion, Athabasca."

ALTITUDE VS. LATITUDE.

The recorded observations of many years confirm the truth of these statements, but it will be in order to state some of the reasons for this similarity of the climate over so wide a range, with the far northwestern extension of the growth of wheat and other cereals which the existence of these conditions renders possible. Latitude has something to do with climate, but not everything. Altitude is at least as important. The effect of altitude in overcoming the influence of latitude is shown by the mountains crowned by snow which lie within the tropics. This fact is known to every one, but few have given consideration to the reverse effect produced by the decline of

altitude in northern lands. The great central plain of North America is two miles high in Mexico. The entire Colorado basin has an average height which is greater than that reached by the Great Northern Railway where it crosses the main divide of the Rocky Mountains near the international boundary line. The Union Pacific crosses the dome of the continent near latitude 40° with its highest elevation at Sherman of eight thousand feet, and with an average elevation of five thousand feet for fifty miles eastward from the Rocky Mountains. It is higher for thirteen hundred miles of its course than any point between the Atlantic and Pacific on a surveyed route through the Peace River country. The elevation at the crossing of the Canadian Pacific Railway on the south branch of the Saskatchewan near latitude 51° is but three thousand feet; in the Athabasca district, latitude 55° , is two thousand feet; the valleys of the Peace and Liard rivers, latitude 56° to 60° , is but one thousand feet; and falling still toward the north, the navigable channel of the Mackenzie River is reached at an elevation of only three hundred feet above the Arctic Ocean. The difference in the altitude of the continental plain in Wyoming and in the valley of the Mackenzie River is equivalent in its climatic effect to 13° of latitude. But the climatic conditions of the Great Northwest do not depend alone upon latitude and altitude.

OCEAN CURRENTS AND PACIFIC WINDS.

The great Japan current sweeping northward from the island kingdom to the Arctic Sea, is caught by the Aleutian Archipelago and the Alaskan peninsula and deflected to the east and south along the shores of Alaska, British Columbia and the States of the Pacific Northwest, producing effects exactly similar to those caused by the Gulf Stream upon the climate of Norway and the British Islands. A large portion of the Pacific Coast of North America has, instead of winter and summer, a rainy season and a dry season, after the fashion of tropical lands. Even as far north as Sitka, it is said that ice sufficiently strong to sustain the weight of a twelve year old boy occurs but once or twice in a generation. The ameliorating influence of this great warm river of the sea, while exerting its greatest effect upon the coast, extends also into the interior. The mountain barriers are not only far less lofty in the north, but are less in width. As has been said, the Union Pacific crosses the Rockies at an elevation of 8,000 feet; the Great Northern at an elevation of but 5,300 feet; the Canadian Pacific, still further to the north, at an elevation of a little over four thousand feet; while the passes of the Peace and Pine rivers have an elevation of but twenty-five hundred feet above the sea level. The Rocky Mountains in Colorado are nearly twenty degrees away from the coast line, while in the Peace River country they stand but ten degrees away, and these degrees, it must also be remembered, are shorter because of the higher latitude. "The Utah basin, a plateau eight hundred miles or more in width, at an elevation of five thousand feet, lying between the Rocky Mountains and the