

and is also met with in the Qu'Appelle River valley and in other parts of the zone. Poplar and oak are the chief trees of the bluffs and the herbaceous vegetation, as may be expected, is made up of a mixture of prairie and woodland forms.

The major part of the second prairie steppe is true prairie, with no trees except in the river valleys. Shrubs occur, generally in low thickets or copses, and very frequently in small clumps composed of a single species. On the exposed prairie, where their growth always is stunted, snowberry, silver berry, buffalo berry, saskatoon, roses, and other species occur. In damp situations meadow sweet is met with, and in wet places, such as the borders of ponds and marshes, willows are abundant. The herbaceous vegetation varies somewhat with soil conditions but, taking the second prairie steppe as a whole, the numerous members of the pea family are perhaps the most characteristic flowering plants.

*Third Prairie Steppe.*—This region includes the rest of the prairie up to the foothills of the Rocky mountains. In its northern parts, i.e., north of lat. 52°, the flora is very similar to that of the second prairie steppe, but in the southern parts it is very different.

Except on Wood mountain and Cypress hills trees occur only along the borders of streams in the valleys, and the ponds, marshes, and lakes are not even fringed with shrubs. The rivers and creeks flow in deep, narrow valleys and the country is broken by coulees and low hills. The precipitation is scant and, as a result, the vegetation is often almost desert-like in character.

Large districts, especially in the Coteau de Missouri belt, are characterized by the absence of drainage valleys, the result being that the water in the lakes and ponds is generally saline and that numerous alkali flats occur. The vegetation in such situations is sparse and largely made up of plants especially fitted for soils rich in salt. Indeed, in these inland ponds and marshes, a number of plants thrive which normally occur in profusion on the shores of the Atlantic ocean.

*The Rocky Mountains.*—A great number of prairie species are found at considerable altitudes in the foothills of the Rocky mountains. On the other hand, a number of sub-alpine forms descend practically to the prairie, the result being that in the foothills, where the two types of vegetation intermingle, the flora is very rich in species. As the foothills and the lower slopes are ascended, prairie forms gradually disappear and are replaced by mountain species. Vegetation in general becomes more luxuriant in appearance, herbaceous plants grow taller, shrubs become an important feature in the flora, and finally real forests are reached.

In the well developed forests on the slopes the trees are largely coniferous, the principal ones being lodge-pole pine, whitebark pine, white spruce, balsam fir and highest up, larch. Shrubs are few in number, except in open and springy places, where bewildering thickets of many species of willows are found. The herbaceous vegetation is also rather scant, except along the edges, in open spaces, and along brooks and rivulets. In the dense forest, members of the blueberry and winter-green families are conspicuous.

On the grassy slopes above the tree line the herbaceous vegetation again becomes very rich in species, exhibiting the richness and brilliancy of colour in the flowers so characteristic of alpine vegetation in general, until, just below the snow line, it takes on an appearance suggestive of arctic vegetation. In fact, many species occur on the higher levels in the Rockies which also have their homes in the arctic regions, a fact which may be satisfactorily explained, in the words of Darwin, as a result of conditions caused by the glacial period, as follows: "As the warmth returned (after the glaciation had reached its height) the arctic forms would retreat