

acter entirely tentative. In the following notes his purpose is merely to amplify previous observations on a particularly interesting part of this western region by the addition of new facts, given, as far as possible, apart from any theoretical considerations whatever. In the concluding pages, however, an attempt is made to indicate the more obvious deductions which appear to flow directly from the examination of the particular district in question.

In a report by the writer on the southern portion of the district of Alberta,* the principal facts then ascertained of the "superficial geology" are given, but the work upon which that report was based was directed chiefly to the "solid geology" of the country, and details respecting the superficial geology were as far as possible eliminated in the interests of brevity. Since the publication of that report great advances have been made in our knowledge of the glacial phenomena of the northern part of the continent, some of which seemed to render the region particularly referred to in this paper one of especial importance as the meeting place of the deposits (whether immediately or proximately derived) of the Cordilleran and Laurentide ice-sheets. Thus it became desirable that an attempt should be made to further investigate this region and to test the previous observations and conclusions. With this object in view, a couple of weeks in the early part of the summer of 1894 were devoted chiefly to a critical examination of the superficial deposits of that part of southwestern Alberta adjacent to the eastern slopes of the Rocky mountains. The writer was accompanied by Mr R. G. McConnell, who had previously acted as his assistant in the same field, and, while he assumes the responsibility for the statements made in the sequel, those observations made by Mr McConnell will be given under his own name and in his own words. He would further take this opportunity of acknowledging the value of Mr McConnell's coöperation, and of stating that in regard to the observations of fact, at least, there is complete unanimity between himself and that gentleman.

PHYSICAL FEATURES OF THE REGION.

The region treated of may be described as extending from the international boundary northward to Bow river, or in latitude from 49° to $51^{\circ} 20'$. The eastern edge of the Rocky mountains proper (Laramie range) is defined by the line separating the Paleozoic rocks from those of the Cretaceous and Laramie, and, although this line is not a perfectly definite one, it corresponds closely with the orographic features, and the eastern front of the mountains is often particularly abrupt and striking. The want of definiteness referred to arises from the fact that embayments

* Report on the Geology of the Bow and Belly Rivers region. Geol. Survey of Canada, 1882-'81.