

My object in making these remarks on Canadian Stratigraphy is to eliminate, as far as possible, from Mr. Selwyn's paper, the facts upon which he bases his conclusions, and to examine how far the latter are new, or acceptable. Mr. Selwyn in referring to the opinions of those who have gone before him in the study of Quebec rocks, asserts that "most of these opinions have been advanced on palæontological, mineralogical or theoretical grounds, without any study of the actual stratigraphy of the field." Indeed, he has expressed himself to the effect that his views are the result of a careful examination and mapping of the stratigraphy, while those of myself and others are the results of either mineralogical or palæontological comparisons, the former of which especially he supposes to be very misleading. From these utterances, and from the very excellent opportunities which we know Mr. Selwyn possesses for making observations in the field, we are entitled to expect to find in his memoir a careful description of the new facts and data which have influenced his opinions, and these I shall endeavour to point out. We must, however, distinguish betwixt these and Mr. Selwyn's general geological descriptions, and also try to ascertain whether they involve negligence or inaccuracy on the part of previous observers.

I. Among these newly observed phenomena is that having reference to the Champlain and St. Lawrence fault. "The line of this dislocation," says Mr. Selwyn, "or unconformity—which ever it may be—has been supposed to pass in rear of the Quebec citadel. This I hold to be a mistake, and I think it can be distinctly shewn that it passes from the southwest end of the Island of Orleans, under the river, and between Point Lévis and Quebec." To an ordinary observer the rocks underneath the city and citadel of Quebec bear a much greater resemblance to the contorted strata of Point Lévis than to the even-bedded shales and limestones which generally occur on the northwest side of the fault. But, after all, even if the fact be as Mr. Selwyn states, he will probably admit that this is not of the slightest importance so far as regards the correctness of his theoretical views.

II. Mr. Selwyn places on record the results of an actual examination of certain supposed Potsdam rocks, described in the Survey Report for 1866-9, and has not observed anything in their architecture or fossils to justify their separation from the Lévis formation. This is quite an important fact, of which I shall