

SUMMARY OF A LECTURE DELIVERED, BEFORE THE  
OTTAWA FIELD-NATURALISTS' CLUB, ON JAN.  
28TH, 1911, BY DR. PERCY E. RAYMOND.

The subject of the talk, the "Local Geology," had been so often and so admirably treated before the Society, that the speaker did not attempt to repeat the details of the local distribution of the rocks and fossils, but made the local section the basis of a brief exposition of what has been recently accomplished in mapping the ancient geography of the region. The older view, that throughout Ordovician time the Ottawa valley was continuously an arm of the sea has been modified in recent years by critical studies of the fossils, and the speaker endeavoured to show the great value of fossils in studying the former distribution of lands and seas. It was pointed out that at the present time the fauna of the Pacific Ocean was very different from that along our eastern coasts, and that it had been found that the fossils showed similar differences in contemporaneous faunas living in separated ocean basins. The two great basins which had affected this region were the Atlantic and the great interior sea.

The most ancient fossiliferous sedimentary rocks, the lower Cambrian, do not seem to have been deposited in this region, though an arm of the sea passed through the St. Lawrence and Champlain valleys at this time. During a large part or all of Middle Cambrian time, both the Ottawa and Champlain regions were above sea level, and the next inundation, the first to reach Ottawa, came from the Gulf of Mexico. In late Upper Cambrian time, however, the sea seems to have broken through to the Atlantic in the St. Lawrence valley, for at Levis we have a mixture of interior and European types of fossils. At this time the water was very shallow in the Ottawa valley, and the arm of the sea was probably in the form of a bay opening to the eastward. In this bay was deposited the Potsdam sandstone.

During the early part of Beekmantown time the Ottawa region was again above the water level, but toward the later part, the sea to the eastward again encroached upon the land, bringing in a part of the Upper Beekmantown (Ft. Cassin) fauna. As the land was submerged, the sea seems to have at first derived a large part of its sediment, from the more ancient Potsdam sandstone, thus forming the so-called passage beds of Potsdam sands with Beekmantown fossils.

After Beekmantown time there was a general emergence of the Ottawa and Champlain valleys, and the Ottawa region was land until the latter part of Chazy time. The Chazy sea was an