of the same formation, or even system. "A geological formation "is made up of very widely distributed or very numerous rock "members, which form an independant whole, and are by their "lithological and palæontological characters as well as by their "structure and stratigraphical position recognizable as contem- "poraneous products of similar natural processes." † The terms system, series, and formation have been used for expressing this idea, but the name employed is immaterial; two rocks or groups of rocks, unconformable to each other, must belong to different systems. If, therefore, the mutual relations of the so-called Taconic and Champlain rocks have been accurately described by Emmons and others and if, as we have supposed, these so-called Taconic rocks are of Silurian age, it follows that the Champlain division cannot be Silurian but must belong to a newer series, such as the Devonian, Carboniferous, Permian or Triassic.

V.—THE CARBONIFEROUS SYSTEM.

The only representative of this series heretofore supposed to exist in the Province of Quebec, is the Bonaventure formation. Nowhere else has the existence of carboniferous strata been suspected or regarded as likely. Such existence has not been denied, but no hope has ever been held out of the possibility of discovering productive coal measures within the limits of the Province. It cannot, however, be maintained that throughout its whole extent it has undergone such a thorough examination as to enable our geological authorities to assert its absolute destitution as regards paying beds of coal. There are immense areas in the valley of the St. Lawrence, occupied by lake and swamp, sand and clay, where no rocks come to the surface, and where no enteprising oil seeker has ever pierced the underlying strata. The rocks around the margin of these areas have indeed been examined, and the result has not been favourable to the idea that coal may exist beneath them. If, however, as I believe, erroneous ideas prevail as to the true order of succession among these rocks; if the newer rocks of the Eastern Townships succeed the older towards the north-west, and not in the opposite direction, it becomes a matter of much importance to ascertain, with certainty, what geological formations exist beneath the alluvium of the St. Lawrence valley.

Reference has already been made to the order of succession

† Naumann, Geognosie; II, 3.