

The second formation, viz., the Chazy, is separable into two portions, the lower of which is a shaly and sandy series, while the upper is largely calcareous. East of Ottawa, the lowest members can be well studied along the Grenville and Carillon Canal, while the upper portion is well developed in the area to the south. Excellent sections are also exposed in the vicinity of Ottawa city and along the shores of the Ottawa River at Aylmer, and on the southern bank in the townships of March and Fitzroy.

The lowest beds of the Chazy at these places consist of a somewhat coarse greenish-gray grit or sandstone in places conglomeratic in character, and in general aspect not unlike some of the gritty beds of the Sillery formation. These have a thickness of only a few feet and they graduate upwards into finer arenaceous beds of a light greenish-gray shade, with a considerable thickness of shales. Certain bands in this portion contain fossils and are fucoidal. Intercalated beds of limestone appear in the upper part, which gradually becomes more calcareous till the formation is essentially a limestone. At Aylmer the thickness of the lower portions of the Chazy, to the base of the limestones proper, is apparently not far from one hundred to one hundred and twenty feet.

The thickness of the upper or calcareous portion varies greatly at different places, ranging from fifty to nearly one hundred feet. In its upper part the limestones become nodular, and certain beds of grayish colour are largely composed of *Rhynchonella plena*.

The passage from the upper beds of the Chazy to the overlying beds of the Bird's Eye and Black River, which lie between those just described and the main mass of the Trenton formation, appears to be gradual and to present no well defined break in the succession of the strata. The Black River, which in Canada includes the Bird's Eye in its lower portion, consists of certain dark brown and black limestones often cherty, breaking with a marked conchoidal fracture, and distinguished largely by the presence of *Tetradium fibratum*, which is in places so abundant as to constitute almost the entire mass of some of the beds. Certain other fossil forms, such as *Columnaria Halli* and *Orthoceras Bigsbyi* are particularly developed in the strata of this formation but from the difficulty of clearly distinguishing these limestones as a group from the Trenton at many places, they are now generally included in the latter formation. The thickness of the Bird's Eye and Black River is given in the *Geology of Canada*¹ as only thirty-eight feet for the area in the lower Ottawa basin, near Montreal, but on the upper Ottawa, as at Eganville, Douglas, etc., this is increased to over one hundred feet.

The Trenton is essentially a limestone formation throughout. The lower portion consists largely of grayish and black, often bituminous beds, holding an abundance of fossils, among which *Stenopora fibrosa* is very abundant; the upper 350 to 400 feet are for the most part dark

¹ *Geology of Canada*, 1863, p. 137.