

and origin in the States which are known to afford natural gas, even there do we find questions of detail and structure coming in which prevent anyone from making the rash statement that it does or does not occur here. For example, whilst it is well known that the Trenton formation in several places yields natural gas—nevertheless, it does so when the limestones of that rock-formation are dolomitic (Prof. Orton), which character we know does not apply to the Trenton as it is developed about Ottawa. It is also a remarkable fact that, besides the three great faults or dislocations indicated by Sir Wm. Logan ("Geology of Canada, 1863") which affect the geological structure of the rocks here, there are large numbers of smaller ones which constitute a more or less parallel series of breaks of great importance in working out the geological structure of the country, and which act as so many chimneys or openings whence natural gas may have been escaping for ages past, had the strata ever been impregnated with this substance. Whilst the writer would be pleased to see natural gas occurring in large quantity and easy of access for manufacturing and other purposes, and whilst there are many points occurring in the geology of Ottawa which make it desirable that borings be made to ascertain if gas really does occur in paying quantities; nevertheless, the result of his researches lead him to conclude that there are undeniable evidences which point to the likelihood of gas not occurring in quantity about Ottawa. A bore sunk through the Hudson River, Utica and Trenton formations would soon reveal the fact of its occurrence, yes or no.

Should natural gas be struck however, the formations which would, from their peculiar composition, be most likely to afford that useful material—are the Utica and Trenton formations. These two are highly bituminous. (See table.)

The following table has been prepared with a view of giving at a glance and in chronological order the different rock formations met with. It does not by any means profess to be exactly accurate, still it has been drawn up from the evidence obtained in the field at the excursions and sub-excursions of this Club.

These rock-formations divide themselves into three grand natural divisions as they may be seen in the field, belonging to three different ages or epochs of the earth's history :

- I. Post-Tertiary or Post-Pliocene.
- II. Cambro-Silurian or Ordovician.
- III. Laurentian or Archæan.

The local development of the second division, viz., Cambro-Silurian system include a series of formations which succeed one another in perfect unbroken sequence from the Hudson River formation above to the Potsdam sandstone below. For reasons, palæontological and stratigraphical, which it is not within the province of this paper here to discuss, the writer has placed the Potsdam and Calcareous formations along with the other overlying series into the Cambro-Silurian System, rather than class them along with the Cambrian System.