THE CAMBRIAN FAUNAS OF NORTH AMERICA.

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INTRODUCTORY OBSERVATIONS.

§ 1. In using the name Cambrian in this paper for the series of strata characterized by the First or Primordial fauna of Barrande, I do not forget the claims of the name "Upper Taconic," which Dr. E. Emmons proposed for the strata now placed under the Middle Cambrian or Georgia Formation. At the end of these introductory observations the reader will find some remarks upon this subject which define my position at the present time.

§ 2. The term Cambrian is used from the belief that in so doing I approve of the view of those writers that hold that each of the distinguished authors, respectively, of the names Silurian and Cambrian will be fairly recognized, and geologic nomenclature advanced by the use of the names Cambrian and Silurian for the divisions of strata characterized by the first and third faunas as defined by Barrande. This is spoken of here as, in the second edition of Geikie's Manual of Geology, 1885, p. 651, the author has included the Cambrian as a subdivision of the Silurian system. I do not wish at this place to question the wisdom of this; but of the presence of a well defined geologic system beneath the strata characterized by the second fauna of Barrande or the Trenton fauna (including the Chazy and most of the Calciferous) of North America, on the North American continent, there is no question. The geologic sections given in this paper show it to have a total thickness of over 18,000 feet, and that its middle division has a known fauna of 43 genera, represented by 107 species. We also know that the Lower Cambrian or Paradoxides fauna has 32 genera and 76 species; that the Upper Cambrian or Potsdam fauna includes 52 genera and 212 species; that of the 393 species now known from Cambrian rocks but very few pass up into the Calciferous horizon of the Lower Silurian (Ordovician); and that the faunas of the two systems are so distinct in their general facies, and also in detail, that they are quite as readily separated as the Silurian and the Devonian or the Devonian and the Carboniferous. There is no doubt that in certain