

*B. producta* appear at the same geologic horizon as *Asaphiscus Wheeleri*, but not at the same localities. In the presence of well-marked glabellar furrows and the general appearance of the entire body, *Bathynuriscus* is allied to *Ogygia*. With the fragmentary material of the Upper Cambrian still unstudied, we will not attempt comparisons; but from the resemblance between this group of trilobites and the *Asaphidæ* of the Lower Silurian (Ordovician) there is probably a group of genera and species corresponding to them in the Upper Cambrian or Potsdam horizon.

§ 119. Reviewing the Middle Cambrian fauna as a whole, we find that it combines the characters of both the Lower Cambrian and the Upper Cambrian faunas, and yet is distinct from either of them. There does not appear to be an equivalent fauna in the Cambrian system of Europe, either in Bohemia, the Scandinavian area, or in Wales. The nearest approach to it is on the island of Sardinia. (See close of remarks on the genus *Ethmophyllum*, p. 80.)

§ 120. The conditions that developed the Middle Cambrian fauna appear to have been largely peculiar to the American continent. During the deposition of the St. John series of the Lower Cambrian or the *Paradoxides* strata, we learn from the European and the eastern American sections that the fauna was essentially of the same type over the entire basin (Atlantic), and, from the evidence known to date, that the fauna did not extend west of a line passing northeast through Eastern Massachusetts to New Brunswick and Newfoundland.

§ 121. That there were deposits of sediments to preserve the fauna, if it extended westward, is shown by the thousands of feet of sediments below the Middle Cambrian faunas of Utah and Nevada.

§ 122. From the evidence we now have it appears to me that during the existence of the greater portion of the Lower Cambrian (*Paradoxides*) fauna a barrier existed that prevented its extension westward of the line mentioned (§ 120); that towards the close of the time of the *Paradoxides* fauna the barrier was removed to the northeast, and its descendants entered the westward seas and spread over the entire interior basin and formed the middle Cambrian fauna. In the Atlantic basin the *Paradoxides* fauna persisted to a greater or less extent, and mingled with the types of the Upper Cambrian fauna, as in the Upper Lingula Flags of Wales.

§ 123. If the strata of the Grand Cañon, Llano, and Keweenaw groups are of pre-Cambrian age or older than the strata carrying the *Paradoxides* fauna on the eastern side of the continent, and also older than the strata of the lower portion of the Wasatch section, another explanation is offered for the absence of the *Paradoxides* fauna in the central and western portions of the continent. During the period of erosion of the Grand Cañon, Llano, and Keweenaw Formations, a land surface probably extended from north of Lake Superior south to Central Texas and west, on the south, to the Grand Cañon region of Northern Arizona.