

direction. Burials in tidal mud would occur in largest numbers at the recession of the tide, and the valves would have been oriented to the southwest, whereas these valves have just the opposite direction.

If then the burial of the shells was not by tidal mud but through sediment carried on a continuous marine current, this current undoubtedly set steadily to the northeast. The nature of the sediment which it carried and the species of fossils entombed by it, show that it was a shore current. Whether the currents of the open ocean set in the same direction, or not, there is no evidence to show. This may have had a reversed direction, just as the Gulf stream is complimentary to the Arctic current along the coast at the present day; but so far as the shore animals are concerned, these were subject to the conditions of transportation above inferred.

We as yet know nothing of the deep water animals of this time, which may have dwelt in a southwest current as did those of the Utica slate, and probably also those of the Paradoxides beds.

Full particulars of observations on the orientation of the Cape Breton Cambrian fossils are contained in the report on that region recently submitted by the writer to the Director of the Canadian Geological Survey.

NO. 8. CAMBRIAN BRACHIOPODA AND MOLLUSCA OF MT. STEPHEN, B.C.,
WITH THE DESCRIPTION OF A NEW SPECIES OF METOPTOMA.

At the time that the trilobites of the Mt. Stephen fauna were reviewed by the author, the Brachipoda were left, in hope that better material would come into his hands, than were found in the Walker collection. Since then, through the kindness of the late Director of the Geological Survey of Canada, opportunity was furnished to examine the collections that had been made for that survey by Messrs. McConnell and Ami. These gave some further material for study.

In this year, through the courtesy of the Director of the U. S. Geological Survey, I have seen the types of the species from Mt. Stephen described by him (except the Crania) and so am in a position to identify with some certainty the several Brachipods collected by Mr. Walker and Dr. Ami.

Mr. Walcott, through the occurrence of several of the Mt. Stephen species in the Cambrian strata of central Nevada, correlates them with the fossils of a certain belt of shales that occurs in a section in that district.¹

¹ Am. Jour. Sci., Vol. XXXVI. Sept., 1888.