

In India, the Director of the Survey reports the discovery, by Dr. Warth, of two Trilobites in the *Neobolus* beds of the Salt Range, and the identification, by Dr. Waagen, of one of them as a species of *Conocephalites*, and of the other as probably an *Olenus*; thus indicating the presence of a Cambrian and probably Lower Cambrian fauna.

Species of *Conocephalites*, *Dicellosephalus*, *Ethmophyllum*, and several other Cambrian genera, have been discovered in the rocks of South Australia.

Kayser described, in 1876, a number of Brachiopods and an *Olenus* from the northern part of the Argentine Republic, thus indicating Upper Cambrian rocks in South America.

GEOGRAPHICAL AND PHYSICAL CONDITIONS AND PROGRESS.

American. — Cambrian history, as the facts presented show, is the history of a begun and a growing continent; growing not by extension seaward, but by progress in rock-making over its wide surface wherever sufficiently submerged, and in rock destruction over emerged areas as a source of material for the new rocks. The abundance of shells of Pteropods may seem to indicate deep waters, since they now abound in sea-bottom deposits at depths of 100 to 1000 fathoms in the seas of the Mexican Gulf. But these pelagic species live at or near the surface; and if any physical conclusion is to be inferred from their abundance, it is simply that the surface of the water was between 70° F. and 85° F.

The gathering of building-material in gradually deepening geosynclines or troughs for future mountain ranges in the neighborhood of the Appalachian and Rocky Mountain protaxes has been stated to have commenced (page 357) with the beginning of Paleozoic time. The Cambrian formations bear testimony to the fact; for they have a great thickness, thousands of feet, over the sites of the Taconic and Appalachian ranges, west, for the most part, of the eastern protaxis, and over that of the future Laramide or post-Cretaceous Range, partly east and partly west of the western protaxis. Even in the Lower Cambrian a large part of this thickness was attained; while through the interior basin of North America, as far as the facts are known, the Cambrian is thin, and the Lower and Middle Cambrian wanting. Walcott's map, in the *U. S. G. S., Tenth Ann. Report*, presents the probable condition, and sustains his view of very uniform conditions over the interior, which signifies either emergence of the land or but small submergence, and no subsidence in progress.

In the Lake Superior region, along the southern margin of the Archæan V, between it and the Archæan area of Wisconsin, there was one great exception to uniformity over the interior continental area. But it was apparently confined to the Keweenaw area, where there were extensive igneous eruptions. The igneous rocks of Isle Royale, in Lake Superior, are referred to the same epoch by Whitney. Similar ejections took place also in Michipicoten Island, and at Thunder Bay and other points along the north shore of the lake; but