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is passed through. In the upper 250 feet of silico-argillaceous shales that rest on a massive band of quartzite, 3,000 feet in thickness, the following fossils occur: Cruziana?, Lingulella Ella, Kutorgina pannula, Hyolithes Billingsi, Leperditia Argenta, Olenellus Gilberti, Ptychoparia quadrans and Bathyuriscus producta. This fauna is also found at a similar horizon in several localities in Nevada; and the lithologic, stratigraphic and paleontologic evidence, as found in the Oquirrh and Tintie ranges of Utah and the House, Eureka and Highland ranges of Central Nevada, extends the same horizons throughout the western and southern portions of the Great Basin area.

The entire absence of fossils in the lower portions of the Wasatch section may be owing to the character of the sediments; but an attempt is made further, to explain the absence of the Lower Cambrian fauna of the Atlantic area.

The second section (fig. 3), that of the Eureka District, by Mr. Arnold Hague, stratigraphically overlaps that of the Wasatch, the lower 1,500 feet of quartzite corresponding to the upper-half of the 3,000 feet of quartzite of the Wasatch section, and the Olencllus shales occurring at the same horizon on the summit of the quartzite; but here the Lower Silurian (Ordovician) strata do not rest on the siliceous Olencllus-bearing shales, but are separated by over 6,000 feet of limestone that carries a fauna uniting the Middle Cambrian fauna with the Upper Cambrian or Potsdam fauna, which begins in its characteristic forms 4,500 feet above the Olenellus horizon. One hundred miles south of Eureka, in the Highland Range, I found the Eureka section essentially repeated and identical species occurring at the same relative horizons in each section. The vertical range of the Eureka section embraces the corresponding strata of the Highland Range section and several sections that occur in Nevada and Western Utah.

Section No. 3, fig. 4, is unlike either of the first two sections in having the Upper Cambrian well developed, and the Middle, and probably the Lower Silurian (Ordovician), entirely absent. This section is beautifully exposed in the deeper portions of the Grand Cañon of the Colorado, Arizona, and was first made known in a general way, through the explorations of Major J. W. Powell in 1875. During the winter of 1882–83, Major Powell instructed me to make a detailed section of the strata in the depths of the cañon, and fig. 4 is one of the results of the work. The Upper Cambrian, or Tonto formation is 1,000 feet in thickness, composed of siliceous and calcareous strata and carries a fauna that unites it closely with that of the Upper Cambrian of Nevada, Texas and the Upper Mississippi Valley. Beneath the Tonto there is a great mass of strata, over 12,000 feet in thickness, that are unconformable to the horizontal Tonto

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