

discinoid shells, fragments of what appear to have been trilobites (like *Olenellus*, *Olenoides* or *Paradoxides*), small and rather obscure forms like *Hyolithes*, and others like *Stromatopora*, indicate a low fauna somewhat like that of the Cambrian system above.<sup>10</sup> Most of these fossils have been detected by Mr. Walcott below the *Olenellus* zone or base of the Cambrian rocks in the Grand Cañon of the Colorado. In the Animikie district of Lake Superior, fossil tracks and shells like *Lingula*, and some obscure forms like trilobites, have also been met with. More recently Dr. Barrois has traced a band of graphitic quartzite for a long way in the gneiss of Brittany, and has detected in it the presence of radiolarians, belonging to their most primitive group, the *Monosphæridæ*.<sup>11</sup>

Reference may be made here to the controversy regarding the true nature of certain curious aggregates of calcite and serpentine, which were found many years ago in some of the limestones associated with the lower or Laurentian gneisses of Canada. These minerals were found to be arranged in alternate layers, the calcite forming the main framework of the substance, with the serpentine (sometimes loganite, pyroxene, etc.) disposed in thin, wavy, inconstant layers, as if filling up flattened cavities in the calcareous mass. So different from any ordinary mineral segregation with which he was acquainted did this arrangement appear to Logan, that he was led to regard the substance as probably of organic origin.<sup>12</sup> This opinion was adopted and the structure of the supposed fossil was worked out in detail

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<sup>10</sup> C. D. Walcott, 10th Ann. Rep. U. S. Geol. Surv. 1890, p. 552.

<sup>11</sup> Compt. Rend. 8th August, 1892.

<sup>12</sup> Rep. Geol. Surv. Canada, 1858. Amer. Journ. Sci. xxxvii. 1864, p. 272. Q. J. Geol. Soc. xxi. 1865, p. 45. Harrington's "Life of Sir W. E. Logan," 1883, pp. 365-378.