

side by Peibidian and Cambrian, and on the southeast by Silurian strata, let down by a fault.

On the shore of Llyn Padarn, near the foot of Snowdon in North Wales, the porphyritic petrosilex of the Arvonian is again well displayed, while in contact with it, and at the base of the Llanberris (Lower Cambrian) slates, is a conglomerate made up almost wholly of the petrosilex. This locality was supposed by Prof. Ramsay and others to show that the petrosilex is the result of a metamorphosis of the lower portion of the Cambrian, the conglomerates being regarded as beds of passage. The writer, after a careful examination of the locality, agrees with Messrs. Hicks, Hughes and Bonney that there is no ground for such an opinion, but that the conglomerate marks the base of the Cambrian, which here reposes on Arvonian rocks, and is chiefly made up of their ruins. In like manner, according to Prof. Hughes, the Cambrian in other parts of this region includes beds made of the *débris* of adjacent granitoid rocks.

These petrosilex-conglomerates of Llyn Padarn are indistinguishable from those found at Marblehead and other localities near Boston, Massachusetts, which have been in like manner interpreted as evidences of the secondary origin of the adjacent petrosilex beds, into which they have been supposed to graduate. The writer has, however, always held, in opposition to this view, that these conglomerates are really newer rocks made up of the ruins of the ancient petrosilex. He has found similar petrosilex-conglomerates at various points on the Atlantic coast of New Brunswick, of Lower Cambrian, Silurian and Lower Carboniferous ages, all of which have, in their turn, been by others regarded as formed by the alteration of strata of these geological periods. The evidence now furnished in South Wales of still older (Huronian) beds of petrosilex-conglomerate should be noted by students of North-American geology. From observations near Boston, made by one of my former students, I have for some time suspected the existence of petrosilex conglomerates of Pre-Cambrian age.

To the eastward of the localities already mentioned in Wales, are some other small areas of crystalline rocks, including those of the Malvern, and the Wrekin and other hills in Shropshire, all of which appear as islands among Cambrian strata; also those of Charnwood Forest, in Leicestershire, which rise in like manner among Triassic rocks. The Wrekin, regarded by Murchison as