

of the New Scotland fauna continues through the Becraft into the Port Ewen. Only a few forms, such as *Spirifer macropleura*, unable apparently to live in the slightly purer waters, disappeared.

Port Ewen beds

The 200 feet included in this formation are mostly concealed. The few exposures are lithologically very similar to the New Scotland, varying from a dark blue limestone to a silicious shale. The fossils are likewise very similar to those of the New Scotland, including such typical forms as *Stropheodonta becki*, *Strophonella punctulifera*, *Streptelasma strictum*, *Lichenalia torta* and an abundance of *Coelospira concava* and *Eatoniasingularis*. But the transitional character of the Port Ewen to the Oriskany is indicated by the presence of *Meristella lata* and *Spirifer murchisoni*. With the exception of these two fossils, all the species found in these beds are Helderbergian.

From the close of the Becraft to the uppermost *Dalmanites dentatus* beds the fauna is transitional from the typical Helderbergian to the Oriskanian. The fauna acquires more and more an Oriskanian aspect as the beds are ascended. Yet the lower beds contain so many very typical Helderbergian species that there is no hesitancy in placing these beds in the lower Helderberg. From the upper 30 feet of these transition beds, however, the above mentioned Helderbergian species are absent and there is a great increase of the Oriskanian element. It was thought well, therefore, on account of the very decided faunal change, to place these upper (*D. dentatus*) beds in the Oriskany.¹ The evidence for this is taken up in detail under the lower Oriskany.

Oriskany

The Oriskany is mainly a silicious limestone with the silicious content increasing perceptibly from the base upward. At times it is

¹Barrett likewise noted the close relationship of the fauna of the Trilobite bed to that in the rocks above: "The relations of the *Dalmanites dentatus* layer seem to be more with the rocks above than those below it." *Am. Jour. Sci. ser. 3.* 45:72.