

NOTE ON THE GEOLOGY OF SOUTHWESTERN NEW ENGLAND.

IN two papers entitled respectively, "On the Geological Structure of the Mount Washington Mass of the Taconic Range" and "On the Geological Structure of the Housatonic Valley lying East of Mount Washington,"¹ the writer has considered the limestone and schist masses of the area covered by the papers to be each separable into two formations, the limestone alternating with the schist and together comprising a series corresponding to that of Greylock some thirty-five miles to the north. This conclusion was reached from both lithological and structural considerations. The strongest reason for believing the full Greylock series to be present was the apparently anticlinal character of certain ridges of Berkshire schist. These ridges were represented as Riga schist (equivalent to Berkshire) and the limestone surrounding them as Egremont limestone which was supposed to correspond to the Bellowspipe limestone of Greylock. The areal continuity of this limestone with the limestone of Canaan, which immediately overlies the Cambrian quartzite and must therefore be considered Stockbridge, was explained by an important strike fault which can be shown to follow approximately the course of the Housatonic River for a considerable distance.

As fully explained in the first of the papers the area is one in which the structures indicating bedding have been largely effaced during the folding and new structures have been developed. In only a few instances has it been possible to obtain a sufficient number of reliable dip observations to determine with certainty the nature of the folding.

Since the papers above referred to were written further study has been given to the area in the effort to find a locality where

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the structure of the apparently anticlinal ridges of Berkshire schist could be determined with certainty. In the ridge of schist immediately to the south of the east Twin Lake in the township of Salisbury and in the mass of Tom Ball near Housatonic village the observations obtained have been sufficiently numerous and reliable to show that the folds are either overturned anticlines with easterly dipping axial planes or nearly recumbent *fanned* synclines with the axial planes inclined to the eastward. In Tom Ball attempts to follow the fold in the direction of the strike taking note of the pitch of the axis with a view of determining whether the surrounding limestone goes below or above the schist on the end of the fold, afforded no positive results. On the other hand the ridge south of Twin Lakes was followed southward into Watawanchu Mountain where the limestone can be seen to pass under the schist on the end of the fold. This latter locality is therefore a crucial one and shows that the apparent anticlines of schist are nearly recumbent synclinal folds with the necks compressed so as to produce a fan structure.

Turnip Rock in Salisbury was shown to be a syncline by Dana, and the writer has referred to it as one of the best observed localities to show the superior position of much of the schist (formerly called Everett schist) to the valley limestone. A study in detail of this hill shows that it is made up of a fold similar to those of the apparent anticlines, though here the limestone completely surrounds the hill and dips so as to form a shallow basin. The peculiar character of the fold is only revealed in the dips of the schist high up on the slopes of the hill.

In view of the definiteness of the above determinations it is best to substitute for the local terms Canaan limestone and Riga schist the terms Stockbridge limestone and Berkshire schist, which they were supposed respectively to represent and which they are now shown to be. The Egremont limestone should be replaced by the Bellowspipe limestone, which it was thought to be, and its distribution is limited to that of the calcareous schist and limestone of the summit plain of Mt. Wash-

ington, the limestone of the Housatonic Valley being included in the Stockbridge limestone. The Everett schist which is here shown to be identical with the Riga schist, should like it be mapped as Berkshire schist. I am glad to be able to acknowledge my indebtedness to Dr. Van Hise for much valuable assistance in reaching a definite settlement of this problem.

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