series gradually approaches the rock of Salisbury Crags. They are both transgressive across the strata, and they appear to unite in a large mass called Samson's Ribs.

On the west front, a large dike-like mass of the diabase descends vertically through the sandstones, and has been regarded as not improbably a pipe or feeder, up which the molten rock originally rose (Fig. 284). Along the southern face of the escarpment, several instructive exposures show the behavior of the diabase to the strata through which it has made its way. In Fig. 285, for example, a portion of the underlying strata having been carried away, the diabase has wedged itself below one of the remaining broken ends. Again, veins and threads of the eruptive rock have been injected into fragments of the strata caught up in its mass (Fig. 286). The strata in contact with the diabase have

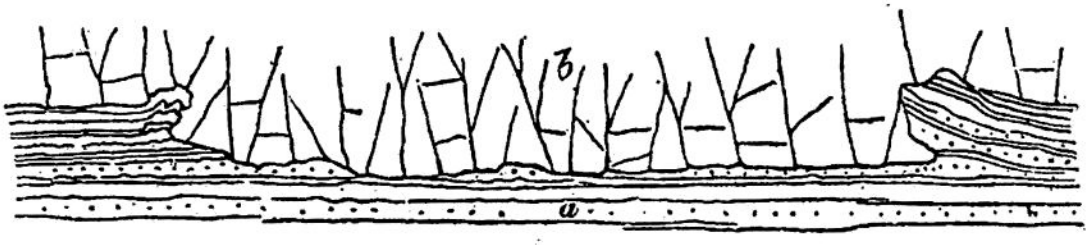

Fig. 285.—Section at base of south front of Salisbury Crags, showing portion of strata cut out by intrusive diabase. *a*, sandstones, shales, etc.; *b*, diabase. Length of section, 22 feet.

been much hardened, the shales being converted into a kind of porcellanite, and the sandstones into quartzite.[18] The diabase in the centre of the bed is a coarse-grained rock, in which the component minerals can readily be detected with a lens, or even with the unassisted eye. But as it approaches the sedimentary beds, above and below, it becomes finely crystalline. I have had sections cut for the microscope, showing the actual junction of the two rocks (Fig. 287). In these it is interesting to observe that the diabase, for about the eighth of an inch inward from its edge, consists mainly of an altered glass in which lie well-formed crystals of triclinic felspar and numerous opaque tufted microlites, which may be of augite. An inch back from

[18] Mr. Sorby has observed in specimens from this locality sliced by him for microscopic examination that the fluid cavities in the quartz-grains have been emptied.—Address, Quart. Jour. Geol. Soc. xxxvi. Address, p. 82. But see Dr. Stecher's papers quoted p. 937, 997. This author gives a detailed account of the contact phenomenon of the Carboniferous sills in the basin of the Firth of Forth.