

reaching its final resting place also must have affected the uprising magma. Examples of such action are described by Harvie.¹ Inclusions in dykes around Mount Royal at Montreal, show that these inclusions have risen at least 2,050 feet from their point of origin and perhaps a greater distance, for in the same dyke other xenoliths have sunk 2,000 feet from their point of origin. These xenoliths, which are great in number, often show evidences of solution by the enclosing igneous material. In the East Kootenay district one dyke was found in connexion with the Purcell Sills which was crowded with small fragments of crystalline limestone which is not represented in the Aldridge formation as far as known. Thus, the evidence of some contamination of the magma by material through which it passed is strong and if the acid material of the composite sills is indeed of extraneous origin, it would be perhaps more justifiable to assume that it was absorbed by the uprising magma before it entered the Purcell Series.

Another field fact of prime importance is that in those sills whose upper contacts were so exposed as to be traceable for long distances, the contact between the sediments and the sill was remarkably uniform and not irregular as might be expected if stoping had been very active.

A modification of this theory was discussed with Dr. R. A. Daly. It is as follows: assimilation of the blocks of sediment took place in the lower larger sills; the syntectics thus formed were drawn off in some manner and injected into a higher horizon where they differentiated under the action of gravity.

The following field facts do not support this hypothesis:—

- (1) Many sections containing thick sills contain no granite (micropegmatite) in any of the sills.
- (2) The upper contacts of the larger sills in sections which do contain granite (micropegmatite), where examined, show a smooth upper contact. If stoping took place to such a degree as to form large quantities of granite (micropegmatite), the upper contact would be irregular showing the effects of stoped off blocks.

¹Harvie, R., Trans. Roy. Soc. of Can. 3rd series, vol. 3, 1909-10, p. 277.