176 Adams, Barlow and Ells-Canadian Laurentian.

The northwestern half of the more restricted area at present under consideration is underlain by Fundamental Gneiss, presenting the characters described above. A smaller area of the same gneiss ocenrs at the southwestern corner of the area, in the townships of Latterworth, Snowdon and Glamorgan, while in the southern and southeastern portions of the area there are other ocentrences, which, however, present a more normally granitic character. ۲

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The southeastern portion of the area is underlain by rocks of the so-called Hastings Series, consisting chiefly of thinly-bedded limestones, dolomites, etc., eut through by great intrusions of gabbro-diorite and granite. These linestones and dolomites are usually fine-grained and bluish or greyish in color, with thin interstratified layers, holding sheaf-like bundles of hornblende crystals. As compared with the limestones of the Grenville series they are comparatively unaltered. They form beyond all doubt a true sedimentary series, and in the southeastern corner of the area are associated with conglomerates or breccias of undoubtedly elastic origin. Between the great area of Fundamental Gneiss in the northwest, and the Hastings series in the southeast of the sheet, there lies an irregular-shaped belt of rocks, presenting the characters of the typical Grenville series as above described, the limestones having in all eases the form of coarsely erystalline, white or pinkish marbles, although more or less impure. The strike of the foliation of the Grenville series follows in a general way the boundaries of the Fundamental Gneiss, and is seen in an especially distinct manner to wrap itself around the long and narrow development of the gneiss exposed in the sonthwest corner of the area. Isolated masses of the limestone and gueiss characteristic of the Grenville series are also found in the form of outlying patches about its margin, as for instance in the townships of Lutterworth and Stanhope. The relations of the Grenville series to the Fundamental gneiss are such as to suggest that in the former we have a sedimentary series later in date than the Fundamental Gneiss, which has sunk down into and been invaded by intrusions of the latter series when this was in a semi-molten or plastic condition. The limestones, while themselves rendered more or less plastic by the same heat which softened the lower gneisses, do not show any distinct evidence of absorption or solution by the invading rocks, unless some of the highly garnetiferous gneisses usually associated with the limestones are formed by a commingling of the two rocks. Masses of the highly crystalline limestone or marble in some cases lie quite isolated in what are, to all appearances, the lower gneisses, as if they had been separated from the parent mass, and had passed outward or downward into the gneissic magma.

The contact of the Fundamental Gneiss and the Grenville series would appear therefore to be a contact of intrusion, in very many cases at least.