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ortly appear.

of the Lower Silurian series, which, like the Upper Silurian and Devonian of this part of the continent, may be supposed to consist chiefly of non-calcarcous sediments.

The rocks of the gold series are affected by undulations running nearly east and west, which have raised the struta to high angles, often approaching the vertical. According to Mr. Campbell there are not less than six principal anticlinals exhibited on a transverse line of section, extending from the sea shore at the southeast entrance to Halitax Harbor, northward to the Renfrew gold district, a distance of about thirty-five miles. The direction of these nearly parallel anticlinals is about east and west; but to the westward they bend towards the south, and to the eastward, in like manner, disappear beneath the sea, between Cape Canscau and Liscombe Harbor, with a strike, E. 30° S.

In addition to the great cast and west folds, the gold series is affected by a second series of more gentle undulations, having a north and south direction, and producing transverse anticlinals, on the crowns of which the gold-bearing portions of the series are brought to the surface, while they are concealed not only in the great east and west synclinals, but also in the north and south synclinals where these traverse the east and west auticlinals. The total thickness of the series, as already stated, is estimated at about two miles, and the amount of erosion on the crowns of some of the anticlinals, according to Mr. Campbell, cannot be less than one and a half miles in vertical thickness, of which the upper half mile, consisting of clay slates, is generally sterile. Since, so far as yet observed, the gold is confined to the quartizite and the lowest portions of the overlying clay slate, it would follow that wide areas of the latter, holding the upper portions of it, will be destitute of gold, or yield it only along a narrow bet where the lower and auriferous portions of the slate may be brought to the surface along the line of an anticlinal, as is observed, according to Mr. C., at the Ovens gold field. When, on the contrary, erosion has exposed a wide zone of the underlying quartzite on the crest of an anticlinal, the breadth of the area in which gold may be sought for is much increased.

Mr. Campbell has called special attention to what he has called the grain or reed-like marking often impressed on the surface of the beds in a direction parallel to the east and west axes of folding, and he points out that the angle of dip, eastward or westward, of these markings on the crown of the great anticlinals enables us to detect the transverse or north and south lines of undulation, which have at a subsequent period disturbed the horizontality of the east and west anticlinal folds. The markings in question often appear as rib-like ridges or flutings, which are most conspicuous on the surface of the auriferous quartz layers and the enclosing beds. On the summit of the anticlinal folds they are sometimes so large, and so well defined as to give to the layers a wrinkled or corrugated form, producing what is designated in the region as barrel quartz, and has by some observers been compared to the ripples on water, and by others to that parallel arrangement of logs which is seen on what is called a corduroy read. The best known samples of this is at Waverley, but it is also seen at Montague, Oldham, and at Upper Stewiacke.

To return to the six cast and west anticlinals recognized by Mr. Campbell in his section from the southeast entrance of Halifax Harbor to Renfrew,—the Ovens and Tangier gold-fields, according to him occur on the first or southernmost anticlinal, while that of Lawreneetown is on the second, Old Tangier on the third, Waverley on the tourth, Oldham on the fifth, and Renfrew on the sixth anticlinal. Farther to the northeastward the gold fields of Wine Harbor, Sherbrocke, Isaac's Harbor and Country Harbor, are by him respectively referred to the second, third, fourth and fifth anticlinals.

Mr. Campbell has described an interesting locality to the north of the anticlinal of Country Harbor, which merits further examination, and may be mentioned in this connection. It is at the Narrows of Country Harbor, and near a range of high granitie hills, which appear on the western side of the harbor, running northward; while the general direction of the rocks in this region is N. 60° W., they have, at the locality in question, a strike of N. 15° W., and dip towards the granite at an angle of eightyfive degrees. Regularly interstratified with the beds, which are here more micaceous than farther southward, are numerous quartz lodes in a band of about 600 yards in breadth, the quartz holding gold, with mispickel and small garnets and zircons. Minute portions of oxide of tin were also, according to Mr. Campbell, found with gold in alluvial washings from this neighborhood.

Having thus acquired a general notion of the geological structure of the region, we