

Those folds, or lines of elevation, run nearly parallel with each other, from the extreme western coast of the Province to the sea shore between Cape Canso and Liscomb Harbor, where they pass beneath the sea. This is owing to a curving of their course, or strike from east and west to south sixty degrees east. In the western section of the Province they also curve considerably to the south-westward.

It will be observed that they do not lie at equal distances apart, which is due, no doubt, to the fact of the strata being folded up to sharper angles of inclination, or dip, in some of them. This is more particularly noticeable in the second line from the sea shore, that passing through Citadel Hill.

Whether the strata were folded in this manner, previous to their being hardened, or solidified, and whether a long period of time was occupied in the process of folding, are important questions, but not easily solved. The evidence, however, seems to preponderate in favor of the supposition that they were folded while undergoing the process of consolidation; and hence the formation of planes of slaty cleavage, and the peculiar grain or reed impressed on the strata, parallel to the direction of the axes of the folds. There is evidence also to show that these impressions were produced in lines horizontal in the direction of the axes of the folds.

This is made sufficiently clear by the exact correspondence of the angle of dip of the fibrous grain with the angle of dip of the arched strata, in the crown of the axes of east and west lines of elevation, where they were broken transversely, and upheaved by north and south lines of disturbance.

Indeed it is mainly by observing the direction in which this fibrous grain of the rocks incline, that the existence and position of transverse, or north and south lines of upheaval, can be made out, when the exposures in which the observations are to be made do not happen to be exactly on the axes of the folds; and the chances of finding such exposures along the axes of the lines of upheaval very seldom occur, because the greater part of the surface of the country is covered by drift.

To find the exact points at which the east and west anticlinal lines are intersected by north and south lines of upheaval, is of the utmost importance, for it is chiefly at such localities that gold-bearing rocks are brought to the surface. This fact is worthy of particular notice, for it indicates, unmistakably, that gold is most abundant in the quartzite group, and in the passage beds from it to the clay slate group. Nor is that the only point, in this connection, deserving the most careful attention; for if it is true that gold is most abundant in a zone lying at a great depth from what was the original surface of the clay slate group, previous to their being upheaved, transversely to the east and west parallel folds, and denuded, it follows that, from the axes of north and south lines of elevation, that zone will be found dipping at the same angle as the grain of the rock, either to the eastward or westward.

Therefore the angle at which it must be followed, by drifting, is measurable, and the depth at which it can be reached, at any given distance from the axes of the transverse lines of elevation, is measurable also by carefully observing the angle at which the grain of the rock dips.

The extent of denudation of strata of the clay slate and quartzite groups, in some localities, cannot be estimated at much below a mile and a-half of vertical depth; one-third part, at least, of this depth may be regarded as poor in gold-bearing quartz.

There must, therefore, be extensive areas between the north and south lines of elevation, comparatively poor in gold. Those barren areas may be almost always known by a greater breadth of the surface being found occupied by clay slate, between the east and west anticlinal lines; and when gold occurs, at all, in areas chiefly occupied by the clay slate group, it is necessarily confined to a narrow belt along the east and west anticlinal lines. There is an instance of this at the Owens Gold Field.

As regards the gold removed from the rocks by denudation, and dispersed through the resulting detritus, it is possible that much of it may yet be discovered, if proper search is made for it, in the direction in which it was removed from its matrix.