

have less resistance along cleavage planes than across them. Take, for example, the McKellar gold lode near Jackfish bay; it appears to follow in the cleavage of the schists for a long way on locations R 567 and R 568. At the Empress mine, R 569, it shows branches, striking out across the schists, and at right angles to the cleavage planes in places. Therefore, I think it probable that many of the so-called bedded or contact veins are true fissures.

I noticed many years ago that there appeared to be some connection between the granitic eruptions and the gold veins in this district. Since then, as my knowledge of the formations widened, I am more thoroughly convinced that it is the case. In my pamphlet on *Mining on the North Shore of Lake Superior, 1874*, in referring to the Huronian (Jackfish lake) and Heron Bay gold lodes, I remarked, on page 24, "Having seen the granite in about the same position in regard to each of these gold-bearing lodes, which lie about 150 miles apart, I thought it worthy of mention, as it may or may not have something to do with the presence of the precious metals in these veins." Since then I have noticed in the vicinity of gold lodes that branches from those syenitic granite eruptions pass from coarse grain to fine, then into quartz similar to those of the gold-bearing veins in the vicinity—as at the Huronian, at Rossland, Lake of the Woods, and at Wahnapiæ country and many other places. I am not quite sure that I found them carrying the gold, and I have not now time to look up my notes; but I think it quite probable that they do, and that many of our gold lodes will be found to belong to this class.

In these gold localities, I believe that the quantity of gold in a fissure vein will change agreeably to the character of the enclosing strata, whether the gold is of deep origin or not. So that a portion of a fissure may be rich in passing through one stratum of rock, and poor or barren in passing through another, in the same way as is shown in the Animikie strata in the case of the silver veins, and also in many places in other mining countries. The gold veins traverse the Archean strata, which are almost invariably highly inclined and can be followed down to any depth within the same stratum. Therefore they are not liable to change their character downwards so completely as is the case with the silver veins within the flat lying Animikie beds. Below the Animikie the

silver veins will
in places, valu
discovered silv

In the pa
gave my reason
Thunder Bay
the native cop
and adjacent
Animikie and
The ores of i
silver and gold
veins here are
tions of the E
generally, if no
the Archean ag
of these eruptio
they received t

The silver
rocks, near the
the Thunder B
silver both nati
it. The rich sa
ton, resemble t
cording to the
continuous for
its character do
been the genera
to lateral infiltra
be made for silv
able indications
near the great L
showing that the
source than the

The splend
late, as that of