

are therefore probably younger than Devonian. When the boundaries between the eruptive and the surrounding sedimentary rocks have been carefully examined, and when the relation of the limestones in Caswell Sound and other places with the diorites has been clearly made out, it will then perhaps be possible to assign them to their proper place with some degree of certainty. And it may be found that the eruptive diorites of Milford Sound are connected with the greenstone-tuffs of the Route Burn and Greenstone River, west of Lake Wakatipu, which form the type of the Te Anau series of Sir James Hector.

---

ART. XXX.—*Note on the Boulders in the Port Hills, Nelson.*

By Captain F. W. HUTTON, F.G.S.

[*Read before the Philosophical Institute of Canterbury, 4th November, 1891.*]

A GOOD many years ago I pointed out that the Arrow rock, at the entrance of Nelson Harbour, was composed of a conglomerate of large boulders, and that boulders of the same nature were also found in the sandstones forming the northern part of the Port Hills.\* These boulders are rounded, go up to 3ft. or more in diameter, and are composed of a granitoid rock which I took to be syenite. Last July, when in Nelson, I collected a fragment of one of these boulders for microscopical examination, and find that it is a biotite diorite. There is a small quantity of quartz, but it is quite subordinate to the feldspars, which are chiefly plagioclase, which has suffered but little decomposition. The ferro-magnesian constituents are biotite and brown hornblende, the former being the more abundant. There is also a little magnetite.

From this description it will be seen that these boulders differ materially from the syenite of the boulder-bank, in which the orthoclase is more abundant than the plagioclase, and the hornblende much more abundant than the biotite.† I do not know any rock in the district from which these boulders could have come, but probably it will be found near Motueka or Separation Point.

---

\* "Reports of Geological Explorations," 1873-74, p. 49.

† Proc. Royal Soc. of N.S. Wales, 1889, p. 124.