

Appendix
(C.)
1847.

times, however, happens in the red variety, that crystals of feldspar, larger than the average size, will be disseminated through the mass, giving it a porphyritic aspect; and in some cases epidote appears to be diffused through the rock as a constituent mineral. Occasionally the rock presents a double system of joints, very regularly parallel for considerable sections of the coast, giving it in some degree the appearance of stratification; but it was not observed that the joints were always in parallel directions in sections distant from one another.

2. Gneiss.

The granite appears to pass gradually into a gneiss, which seems to participate as often of a syenitic as a granitic quality. In general the layers are corrugated, sometimes so much so, that it is difficult to ascertain their average strike or dip, but they are sometimes beautifully regular. Each layer was not in general observed to be monopolized by one mineral, but was usually made up of several, some one strongly predominating. The feldspathic beds are often a perfect granite or syenite with precisely the character of the massive granite beneath, and are sometimes many feet thick. The micaceous beds usually present the form of mica slate, and the hornblende of hornblende slate. All of these occur interstratified with one another in various relations; and when the beds are thin and regular, and the feldspar deep red, this colour alternating with the gray micaceous and the black hornblende bands, forms a ribbon-like rock of great beauty.

Both the gneiss and the granite are very often traversed by an ancient system of dykes or veins of a granitic character. They are in general large grained, very feldspathic or quartzose, sometimes wholly the one or the other, and they frequently so cut up one another as well as the rock, forming a complete net work on its surface, as to present relations of a very complicated description. In the gneiss this complication is enhanced by the stratification, particularly when this is in a contorted condition. These dykes or veins are usually firmly soldered to their walls, from which they have no peculiar tendency to split off, and they sometimes appear to constitute for limited areas, nearly as much of the mass they cut as the original rock itself. There do not appear to be any metalliferous minerals associated with these veins.

3. Chloritic and partially Talcose and Conglomerate Slates.

The gneiss is succeeded by slates of a general exterior dark-green colour, often dark-gray in fresh fractures, which at the base appear occasionally to be interstratified with beds of a feldspathic quality, of the reddish colour belonging to the subjacent granite and gneiss; sometimes they are a combination of feldspar and quartz, occasionally with the addition of hornblende, making syenitic beds; and in some the hornblende preponderating, will give the syenite a general green colour. Some of the beds have the quality of a greenstone, others that of a mica slate, and a few present the character of quartz rock. Rising in the series, these become interstratified with beds of a slaty character, holding a sufficient number of pebbles of various kinds to constitute conglomerates. The pebbles seem to be of various qualities, but apparently all derived from hypogene rocks. They greatly vary in size in different places, and occasionally measure a foot in diameter. Where the conglomerate slates have been worn by the action of the water, the pebbles are generally worn equally down with the rest of the surface; and though a very distinct picture of them is presented on such a surface, where the water or weather appears to

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have had an influence in bringing out a distinct relief in colours between that of the pebble or boulder and the slate, at the same time producing a contrast of parallel lines on the terminal edges of the laminæ of this, it sometimes happens (unless the pebbles are of white quartz) that they are very obscurely distinguishable on fracturing the rock, both the pebbles and the matrix giving a gray colour, in which very little difference of mineral quality is perceived. On some of these pictured surfaces, small opaque-white feldspathic crystals will occasionally spot the whole rock, the pebbles equally with the slaty matrix. The rock nowhere within my observation displayed true slaty cleavage independent of the bedding; but it often exhibited a jointed structure, and the divisional planes resulting cut clean through the pebbles, where any were shewn, without the smallest deflection.

A considerable thickness of these conglomerate or pebbly slates is exposed at the mouth of the River Doré, near Gros Cap, about five miles from the mouth of the Michipicoten River. The strike of the rock is very regular, being about E. and W., while the dip is very highly inclined, the beds being not more than ten to fifteen degrees removed from a vertical attitude; but the slope is for part of the distance to the north, and for the remainder to the south. There is not, however, supposed to be any repetition of the measures, which are here given in descending order:—

	Fect. In.
Green slaty rock with a few scattered pebbles through some parts of it, which in other parts become sufficiently abundant to entitle the rock to the name of a conglomerate slate; the sedimentary layers are not distinctly marked; the rock has a jointed structure and the planes of division, which are very even, cut clean through the pebbles without any deflection,.....	40 0
Green pebbly slate: the edges of the laminæ are better marked than in the preceding by different shades of green and gray or black, giving the rock a ribbon-like aspect; the pebbles, which appear chiefly of primary rock, are worn smooth with the rest of the surface; they are more numerous at the top than at the bottom,.....	300 0
Green slaty rock, with a considerable number of pebbles towards the top and less in the lower part; several hollows are worn at intervals, running with the strike, which are covered by sand; the rock is probably softer in those parts, and may be partially talcose,.....	550 0
Green pebbly slate with large and small boulders of the same quality as before; some of the boulders may be a foot in diameter; iron pyrites is disseminated in some parts of the mass,.....	170 0
Measures not seen, being covered by sand,.....	90 0
Green slaty conglomerate with large primary pebbles; the colours of the edges of the slaty layers are green, black and red, and are very distinctly marked,.....	15 0
Green slaty rock with many pebbles; the arrangement of the different colours of the thin edges of the slaty layers sometimes partially conforming to the pebbles, and running round them, gives to the smooth surface a ligneous aspect, like a planed surface of wood, shewing its fibres and knots,.....	30 0
Green slaty rock with fewer pebbles,.....	40 0
Green slaty rock with scattered large pebbles,.....	10 0
Green slaty rock of the same quality as before, with sometimes a greater and sometimes a smaller number of pebbles, but all shewing some,.....	130 0
Green conglomerate slate, containing a collection of boulders, some of them a foot in diameter, in the same slaty green matrix as before,.....	5 0
Measures concealed by sand,.....	30 0
Green slaty rock with many primary pebbles, some of them six to eight inches in diameter; some of the granitic quality have a reddish hue; the stripes of the slate are green, black and red; many of the pebbles are of the same green as the slates; they appear to be of various shades of gray when fractured,.....	30 0
Green slaty rock containing a larger number of pebbles in the middle than at the top or bottom,.....	30 0
Measures concealed by the sand,.....	20 0