

origin, a fine-grained dark diabasic rock, inclined in places to be porphyritic in structure."

The collection contains two specimens from this locality, representing two different varieties of the same rock, one showing a massive and porphyritic character, while the other is scoriaceous.

Under the microscope, the rock is seen to consist of a microcrystalline groundmass composed of minute laths of feldspar, showing a trachytic structure and often a fluidal arrangement. In the groundmass are included well defined phenocrysts of plagioclase, augite and biotite, also a few phenocrysts composed of a microperthitic intergrowth of two feldspars, one of which may be orthoclase. Some of the plagioclase individuals are twinned according to both the Carlsbad and Albite laws, which when examined by Michel Lévy's method were found to have the composition  $Ab_1 An_1$ .

In the second section, which is a highly vesicular variety, the vesicles nearly all show a narrow border of what appear to be zeolites which are just beginning to form in the cavities. The biotite, in this section, is dark brown in colour and contains little black needles arranged in skeleton patterns, which probably consist of rutile derived from the partial decomposition of the mica. The groundmass of this section is relatively more abundant than the vesicles and it is therefore not a true pumice, though it approaches one in appearance.

The rock is very fresh; and, from a comparison with the other rocks described, it would appear that this is a comparatively recent lava flow. It has the character and mineralogical composition of an andesite.

No. 17.—"Reddish-grey rock from the north side of Slate Creek, near its mouth."

Highly decomposed basic igneous rock, having the composition of an augite andesite.

Under the microscope, the rock is seen to possess a well marked porphyritic structure. The groundmass is microcrystalline, consisting of minute laths of feldspar, which often show a fluidal arrangement, and a little chlorite and oxide of iron, representing alteration products of some ferromagnesian constituent. Through this are distributed large well defined lath-