

made up of the same colored felspar however usually light colored. Minerals, among which and beryl. Graphic arranged through the ters in the ancient

dish or gray. This from it only in the quartzless granite. The presence of quartz, site is in a considerable of intermediate of granite and the ng rock known as ounty of Hastings, t of a felspar.

rock and darker in plagioclase instead of consists essentially of

ly dark in color. typical specimens variety of pyroxene an essential con- related to gabbro, ten for crystalline magnetite, and it is s found associated at the same time they are associated. f the nickeliferous bbro like rocks.

e cases, a volcanic e in chemical com- e other a coarsely fference in origin. by the gradual or ten material from arth and lost heat nerals to arrange lid in a compara- on position, but is als of orthoclase

192. Pumice. This rock is a porous or vesicular obsidian. Pitchstone, which is resinous in appearance, may be looked on as a devitrified obsidian. The name felsite is sometimes given to a devitrified glassy rock, fine grained compact in structure, and consisting of orthoclase intimately mixed with some quartz. It has a flint-like fracture, and sometimes is very dull or stony in appearance. The term felsite is however, like the names of some other rocks, so differently used by different writers that its reputation as a rock name is lost.

193. Trachyte. A volcanic rock which corresponds to syenite in chemical composition, light gray in color and presenting a dull appearance. Sometimes looks somewhat like a fine-grained limestone.

194. Andesite. This is the volcanic representative of diorite.

195. Basalt. Corresponds in chemical and mineralogical composition to gabbro, and is one of its volcanic representatives. It is a dark, heavy, close-grained rock, and is often known under the name of trap. It often possesses a columnar structure, and frequently contains cavities through it which are filled with agates, zeolites or other minerals. Basalt is a characteristic rock on the north shore of lake Superior.

196. Columnar Trap.

197. Diabase. This is another volcanic representative of gabbro. It differs from basalt in structure. Typically it consists of the two essential minerals, plagioclase and augite, but olivine may also be present, when the rock is known as olivine diabase. Diabase tends to weather at the surface of the ground into spheroidal or ball-like masses. When examined in thin sections or slices under the microscope the plagioclase is seen to be in lath-like strips which are set into the augite. On a weathered surface of the rock, in hand specimens, the plagioclase laths may be seen as very fine short white lines, a characteristic by which the rock may be distinguished. Of course if the surface examined is much rusted or decomposed the lines do not come out. Various accessory minerals are found in the rock. It forms dikes and masses in different parts of Ontario, notably in the vicinity of Sudbury.

#### AQUEOUS ROCKS.

198. Conglomerate. This is composed of rounded fragments of various rocks or minerals cemented together by calcium carbonate, iron oxide or other material. A mass of it may be called a solidified gravel bed. Samples of Aqueous rocks.

199-200. Sandstone. Composed typically of quartz grains of various colors cemented together, but the rock may be more or less impure from the presence of other minerals. It possesses a bedded or stratified structure.

201. Shale. This rock is composed typically of clay. It is very fine-grained and occurs in very thin layers.

202. Clay. The character and uses of this material are well known.

203. Kaolin. Ordinary clay is an impure form of this substance.

204. Limestone. Rocks of this class differ much in color, grain and composition. Typically they are composed of the mineral calcite, together with more or less dolomite. They are formed through the accumulation of