

have a schistose structure. The granite is not arranged in layers, and is called a "massive" rock.

#### IGNEOUS ROCKS.

Classification  
of igneous  
rocks.

The Igneous rocks may be divided as we have seen into three groups—plutonic, dike and volcanic. The members of each group are again subdivided, according to the percentage of silica they contain, into acid, intermediate and basic rocks. If a rock contains over 65 per cent. of silica, it is spoken of as an acid rock; if its percentage of silica is between 50 and 65, it is said to be intermediate in composition. Rocks containing less than 50 per cent. of silica are said to be basic.

The names given to Igneous rocks, unless they are perfect glasses, depend on the minerals they contain—hence also on their percentage of silica—and on their structure, that is on the form and arrangement of their constituent minerals.

The following tabular arrangement of the Igneous rocks shows the way in which they are classified according to the description given above. Only the more commonly occurring rocks are shown in the table, and since many of the dike rocks have been but little studied, and are moreover difficult to determine without recourse to refined methods of investigation, their position is not shown in the table. The pink and light colored varieties of these may be simply called granite or syenite dike rocks, while the name "trap" may be applied in the field to the fine grained basic rocks, whose true character cannot be made out in hand specimens.

Classification of igneous rocks.	Chief felspar=ORTHOCLASE		Felspar=PLAGIOCLASE	
	with usually MICA (or, and) HORNBLende (or, and) AUGITE		with HORNBLende (or, and) MICA	with DIALLAGE.
	+ QUARTZ.	- QUARTZ		
	Granite.	Syenite.	Diorite.	Gabbro.
Plutonic.—(Structure=coarse grained.)	Rhyolite.	Trachyte.	Andesite.	Basalt.
	Obsidian. Pitchstone. Pumice.			Diabase.
Volcanic.—(Structure=more or less glassy.)				

The mineralogical composition of the plutonic rocks can be made out by a glance at the table; e.g., it is seen that we may have a syenite which is composed of mica and orthoclase.