

carbonate $5.95 = 99.75$. The pale yellow veins in the Italian black marble, called "Egyptian marble," are dolomite, according to Hunt.

HYDRAULIC LIMESTONE. — A limestone containing 20 to 30 per cent of clay, and affording a quicklime, the cement from which will "set" under water. It is often magnesian. An analysis of a kind from Rondout, N. Y., afforded carbonic acid 34.20, lime 25.50, magnesia 12.35, silica 15.37, alumina 9.13, sesquioxide of iron 2.25. In making ordinary mortar, quartz sand is mixed with pure quicklime and water, and the chemical combination is mainly that between the water and lime, together with an absorption subsequently of carbonic acid. Evaporation to dryness is necessary to hardening. With "hydraulic cement," silica and alumina (that of the clay) are disseminated through the lime, and hence these ingredients enter into chemical union with the lime and water, and make a much firmer cement, and one which "sets" under water. *Portland cement* is made by mixing 70 per cent of chalk with 30 of fine mud from the Thames.

OÖLYTE. — Limestone, either magnesian or not, consisting of minute concretionary spherules; looks like the petrified roe of fish, and hence the name, from the Greek *ὄβον*, egg.

CHALK. — A white, earthy limestone, easily leaving a trace on a board. Composition, the same as that of ordinary limestone.

MARL. — A clay containing a large proportion of carbonate of lime — sometimes 40 to 50 per cent. If the marl consists largely of shells or fragments of shells, it is called *shell-marl*. Marl is used as a fertilizer; and beds of clay or sand that can be so used are often in a popular way called *marl*.

SHELL LIMESTONE, CORAL LIMESTONE. — A rock made out of shells or corals.

TRAVERTINE. — A massive limestone, formed by deposition from calcareous waters, and largely through the agency of fresh-water Algæ, as at the Yellowstone Park (W. H. Weed). But part is a deposit from solution. The rock abounds on the river Anio, near Tivoli, and St. Peter's, at Rome, is constructed of it. The name is a corruption of *Tiburine*.

CRYSTALLINE LIMESTONE.

STALAGMITE, STALACTITE, DRIPSTONE. — Depositions from waters trickling through the roofs of limestone caverns form calcareous cones and cylinders pendent from the roofs, which are called *stalactites*, and incrustations on the floors, which are called *stalagmite*, and sometimes also *dripstone*. The waters, filtering down from the overlying soil, contain a little carbonic acid or some organic acid, and are thus enabled to dissolve the limestone, which is deposited again on evaporation. The layers of successive deposition are usually distinct, giving the material a banded appearance.

GRANULAR LIMESTONE, CALCYTE (statuary marble). — Limestone having a crystalline granular texture, white to gray color, often clouded with other colors from impurities. It is a *metamorphic* rock. Its impurities are often *mica* or *talc*, *tremolite*, *white* or *gray pyroxene* or *scapolite*; sometimes *serpentine*, through combination with which it passes into ophiolyte (p. 89); occasionally *chondrodite*, *apatite*, *corundum*.

Varieties. — a. *Statuary Marble*; pure white and fine grained. b. *Ornamental and Architectural Marble*; coarse or fine, white, and mottled of various colors, and, when good, free not only from iron in the form of pyrite, but also from iron or manganese in the state of carbonate with the calcium, and also from all accessory minerals, even those not liable to alteration, and especially those of greater hardness than the marble, which would interfere with the polishing. c. *Verd-antique*, or *ophiolyte*. d. *Micaceous*. e. *Tremolitic*; contains bladed crystallizations of the white variety of hornblende called tremolite. f. *Graphitic*; contains graphite in iron-gray scales disseminated through it. g. *Chloritic*; contains disseminated scales of chlorite. h. *Chondroditic*; contains disseminated chondrodite in large or small yellow to brown grains.

DOLOMYTE. — Not distinguishable by the eye from granular limestone. The dolo-