

ments of antiquity, that have survived the ravages of time, were of this description, and they are now used more extensively than ever. Analogous materials, however, of coarser kinds, answer well for common purposes; and the engineer and architect must make the best selection they can out of materials at hand, taking into account their accessibility, cheapness, and durability.

The following are the rocks generally employed for the purposes of construction, roofing, and flagging, as well as for macadamizing roads: 1. Limestone. 2. Sandstone. 3. Clay slate. 4. Micaceous and talcose schists. 5. Gneiss. 6. Soapstone. 7. Granite, syenite, and trap.

Limestone is, upon the whole, the most important. Sometimes it is simply carbonate of lime, or a double carbonate of lime and magnesia, called dolomite; in both which states it forms beautiful white marble, and is very enduring. In Philadelphia especially, and more or less in other Atlantic cities, this white marble forms the fronts of houses; and in the City Hall in New York, the entire edifice is made of it. The large pillars around Girard College in Philadelphia are of this stone, obtained from Sheffield, in Massachusetts. It is less common in European cities, though the new Houses of Parliament in London are built of dolomite; but it is scarcely crystalline, and comes from the permian formation. The oolite furnishes most of the best building stone in Great Britain, especially from the famous quarries in the Isle of Portland and near Bath. But this rock is entirely wanting in our country. Yet vast beds of the white and gray, or variegated limestones of the azoic rocks, run along the whole length of the Appalachian chain of mountains from Canada to Alabama. Farther west the limestones take argillaceous matter into their composition and form admirable building stones, as may be seen in our western cities.

The great amount of steatite, or soapstone, in the Appalachian chain of mountains, especially in New England, has led of late to its employment for the fronts of houses in New York and elsewhere. It has the advantages of being worked with great ease and of keeping free from mosses and lichens, but it is not handsome, and is easily marred.

Sandstones of various colors, hardness, and of different degrees of fineness from the tertiary to the azoic rocks, are widely employed in most countries. From the well-known quarries of Portland, in Connecticut, and near Newark, New Jersey, large quantities of this rock are carried to almost every portion of the country accessible by water. This rock is red or gray, and belongs to the oolitic or triassic group. Other sandstones, from the palæozoic rocks, are extensively used in many parts of the country. Most of these sandstones are very enduring and beautiful.

In this country clay slate is used almost exclusively for roofing. But in the vicinity of some of the European slate quarries, as in Wales, it is employed for the floors of houses, for doors, fences, troughs, coffins, and almost every thing, in fact, for which boards are used in other countries.

For flagging stones the most usual rocks employed in our country are devonian gritstone and mica and hornblende schists. The beautiful mica schist of Bolton, in Connecticut, and the gritstone of the Hamilton group of rocks along Hudson River, furnish flagstones for a large part of the cities of this country. The first is perhaps the most beautiful, but the latter the most enduring.

In Great Britain gneiss is hardly spoken of as a stone for construction, and hence we conclude that it is not used. But in this country, especially in New England, it is one of the most valuable of all our rocks. Composed of the same materials as granite, it is equally enduring, and it has the advantage of splitting easily in the direction of the stratification, though there is some dif-