

VARIATIONS IN BRICK AND STONE.

Our attention was called a short time since to the remains of what had once been a house dating from the Colonial period. The chimneys had been built supposedly of very excellent brick and their remains had been lying exposed to the weather throughout the whole winter and were now in such condition that hardly a single piece of burnt clay was intact. The query was raised, why brick should disintegrate, and that brought out the very commonly heard statement that our questioner assumed all bricks were alike and that almost any brick is fit to use in a building if laid properly. It is never safe to assume that brick is enduring and suitable for building operations unless we know its composition. The most potent factor which must be guarded against is the presence of salts of magnesia. It is only a question of time when brick in which these salts are present in any appreciable quantity will be badly influenced by the weather, and we have seen brick which, when fresh from the kiln, gave every mechanical evidence of being of best quality, so shattered and disintegrated by the combined effect of moisture, frost, and the chemical action of the magnesia, that a knife could be thrust

straight into the heart of the brick with very little effort.

There is a common conception that granite is one of the most enduring stones, but it certainly is not so in our climate, and as a matter of fact most granites would be outlived by thoroughly first quality hard burned brick. A pure syenite, free from iron or mica, constitutes the most enduring of the granites. A granite quarry may have good stone in some portions of the deposit and be utterly worthless in others, and as a general rule it is not safe to use a granite unless the architect knows absolutely its composition and the part of the quarry from which it is taken.

Sandstones, which were formerly so much used in the East, are really the poorest building material in the market. The cementing material in sandstone has a very slight value, and it is probably the poorest material extensively used, as far as resisting the action of frost is concerned, while the presence of iron constitutes an almost fatal defect. It may be said also that very little sandstone is free from iron.—The Brickbuilder.

Nature has been exceptionally kind in furnishing heat at several points in South Dakota, there being artesian wells which furnish hot water, so that buildings are kept well heated by the water being piped through them, without the use of other heat.

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