



*Limestone is a sedimentary rock composed mainly of calcium carbonate.*

Millions of years passed. At different times other sedimentary layers were deposited on the limestone. The limestone was buried deeper and deeper. Things began to heat up. The limestone became warmer and warmer as it was more deeply buried. Finally it got so hot that the atoms and molecules began to flow a little bit, but without really melting. The calcium-carbonate molecules formed larger crystals. These crystals had different properties than the calcium carbonate making up the original limestone. These rearranged crystals are called marble. Marble is a metamorphic rock that forms when limestone is put under intense pressure and raised to a high temperature.

Once again forces deep in Earth pushed the rocks up to the surface. Weathering and erosion removed the rocks that were on top of the marble. What we see today is the metamorphic marble cliff.

Some marble becomes hard enough during recrystallization to be used for buildings and monuments. This Wrightwood Marble is not that hard. About 50 years ago, people decided to use the attractive, sparkling marble for decorative crushed rock. They used dynamite to blast the rock free from the side of the mountain. Trucks hauled the rocky debris away. When the cost of removing the marble became greater than the price they could get for it, the miners abandoned this small marble deposit, leaving it the way we see it today.

The central part of the San Gabriel Mountains are on one side of the marble. These are igneous rocks. On the other side of the marble are shales and sandstones—sedimentary rocks formed from the mud and sand washed onto the marble.

In between is the marble, which used to be limestone.

...which used to be part of a shell of a clam.

...which used to be many calcium atoms in the ocean.

...which used to be a feldspar crystal on a beach.

...which used to be part of a gabbro in a mountain.

...which used to be part of a magma deep inside Earth.

This process is called the rock cycle. It has been going on since Earth formed, it is going on now, and it will continue. The rocks you see today at Earth's surface and all the rocks you can't see in the crust will continue to change from one type of rock to another for billions of years to come.