

Jade

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Jade

The word "jade" brings to mind a green, opaque stone. Commercially, it is used to describe two distinct minerals. The first is nephrite, also known as "green stone." If examined under the microscope, it will show a structure of tiny monoclinic crystals well matted together into a tight mass. It is a tough mineral, despite its hardness of only 6.5. Because nephrite is so tough, it was much used in ancient times for tools and implements, some of which have been discovered in Mexico and in the vicinity of lake dwellings in Switzerland.

The color of nephrite largely depends on the amount of iron oxide present in the mineral, and this may vary from near white through light to dark green. New Zealand is one of its chief sources of supply, and it has been used for centuries by the Maori natives of the area to carve weapons, tools, and ornamental objects. Other sources are the Jordano Slaski district in Silesia, Poland (formerly Jordansmuhl, Germany), Central Asia, and North America, where deposits are located at Jade Mountain in northwestern Alaska. More recently, nephrite has also been found north of the Wind River Range of the Rocky Mountains.

Jadeite is the rarer and the more highly prized of the two jades. Chemically, it is a silicate of sodium and aluminum having the formula $\text{NaAl}(\text{SiO}_3)_2$. It consists of a mass of interlocking crystals of the monoclinic crystal system that are granular in nature and show slight differences in hardness. Jadeite is a tough mineral, with a hardness of 7, but owing to the before mentioned hardness variations, its polished surface has a slightly dimpled effect. It occurs in a variety of lovely shades. White, gray, orange, and mauve stones have been found, but the more usual color is green. The finest variety of this color is emerald green, due to the presence of the metal chromium. Today, the best jadeite is still mined in Upper Burma, and most of the production is purchased by the Chinese, whose fine craftsmen carve the stones into ornaments and statues. Chinese craftsmen have worked a tough green mineral material in their workshops for well over a thousand years, and they called this Yu, but it could not have been the jadeite mined in Burma since this material did not enter China before the eighteenth century. The mineral the Chinese worked with before this time was probably nephrite, which they obtained from Central Asian deposits at Khotan.

In the Western world, the jades are not counted among the so-called precious stones, such as the diamond, the ruby, and the emerald, and are mostly used for carved ornamental objects, although attractive jewelry is also designed from this material. On the other hand, in some countries of the East, in particular, in China, where jade has been treasured for centuries both for its beauty in the form of carved objects and for its ritual significance, this mineral ranks equal in esteem and value with the precious stones of our Western society. This is an example of how fashion and custom may determine the value of gems.

Peridot