

## **Turquoise in the Life of American Indians**

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Turquoise is a unique mineral which has been popular since ancient times. Humanity has known it for more than ten thousand years. It occupies a place in the history of human civilization that no other stone has ever occupied. It was especially esteemed by Egyptians, American Indians and the peoples of the Orient. This is the only “live” mineral able to change its color depending on the environment. It has been surrounded by numerous legends and superstitions in most cultures, and in the distant past inspired awe and worship. All peoples believed turquoise to be the happiest stone. It was used both in jewelry and for ritual purposes on all the continents. Records of it are met in the very first works about gems, as well as in a number of myths (especially those of the Navajo Indians). However, in spite of the amount of research into it, most of the books and articles on turquoise are either narrow-aimed or simply list well-known facts without describing the peculiarities of its use by any particular culture. The aim of this paper is to explore the role of turquoise in North American Indian cultures.

For the beginning let's advert to mineralogy. Turquoise is an opaque, blue, greenish, dark-blue, or white (depending on its structure) hydrated copper aluminium phosphate mineral according to the chemical formula  $\text{CuAl}_6(\text{PO}_4)_4(\text{OH})_8 \cdot 5\text{H}_2\text{O}$ . It is considered a semiprecious stone. Its hardness is not very high – only 5-6 on the Mohs scale. Sometimes it has inclusions of pyrite or dark veins of limonite resembling spider-web. Many people believe that turquoise can be young (tender-blue or whitish), mature (bright- or dark-blue) and old (green), but in reality its color depends on the chemistry: copper gives it the blue tint, and the inclusions of iron the greenish color. As turquoise is rather an unstable compound, it reacts to many substances and liquids, which can lead to turbidity and the spoilage of the mineral. It also fades from the sun and high temperature.

The name of the stone originates from the Persian “piryzen” and means “victorious, prospering, bringing happiness.” The English word “turquoise” came from French in about the 16<sup>th</sup> century, probably meaning “Turkish stone” (Turquoise) as it was brought to the European market mainly through Turkey, though there are no deposits in that country. This gem has many other “speaking” names proving a special attitude to it by different peoples: “the favorite stone of the Orient,” “the sacred stone of Tibet,” “the royal stone of Egyptian pharaohs,” “the sky stone of American Indians,” “the stone of the green tree,” “Arabic stone,” “Aztec stone,” etc.

The major turquoise deposits are in Iran, the USA, and China. They are also in Afghanistan, Peru, Chile, Mongolia, Bulgaria, Australia, Egypt, Ethiopia, Tanzania, Sudan, Poland, Great Britain, Middle Asia, Kazakhstan and Armenia. Those in Iran and Arizona, USA are considered the best. In the USA turquoise is mined in the states of Arizona (the main supplier), Nevada (the second main supplier in the country, more than 120 mines), New Mexico, Arkansas, Alabama, Georgia, Virginia, California, Colorado, Pennsylvania, and New Jersey. Many of these mines used to be developed by American Indians. The oldest one is Cerrillos in New Mexico: no wonder that in the myths of the American Indian tribes of the

Southwest turquoise is mentioned more often. A separate type of turquoise especially valued in the Southwest of the USA and the Far East is mined in Nevada; its pattern reminds spider-web formed by the veins of limonite. In general, there are more than 20 types of North American turquoise which differ in color and pattern.<sup>1</sup>

Turquoise jewelry has been found in many burial places all over the world – in tombs of Egyptian pharaohs, shahs of Persia, American Indian chiefs. The oldest jewelry with this semi-precious stone (from Sinai mines) in gold setting was found in Egypt. The age of the mummy with these four bracelets dates back to 6000 B.C. Ancient Egyptians valued turquoise so much that, according to some researchers' assumptions, it appeared the first gem to be forged. Scarab figures were often cut from it. The famous burial mask of Tutankhamen was also inlaid with turquoise. There was even a goddess of the desert and Sinai turquoise mines called Khator.

Turquoise is also mentioned in the Bible (Exodus): the twelve gems including turquoise on Aaron's breastplate symbolized the twelve Israeli tribes. In the Orient turquoise has always been highly esteemed. It was used for the decoration of mosques and important buildings; jewelry with it was found in the Tadj Makhal and other palaces. This is the favorite stone of Islam: "All life, sermons and miracles of Mohammed are recorded on one turquoise bead."<sup>2</sup> For centuries turquoise jewelry was greatly valued in Tibet and Mongolia. In Tibet it is predominantly silver-mounted. There it was considered a deity, and famous Tibetan families even took last names containing the name of this gem thus trying to draw good luck to their houses. In China it has always been the second favorite stone after nephrite, but in Europe turquoise in jewelry became popular only starting from the 14<sup>th</sup> century, after the Roman Catholic Church had allowed its use in secular jewelry. At first it was worn exceptionally by men in seal-rings.

In South America turquoise was used by the Inca, and in Mesoamerica by the Aztec and Maya. On a par with gold, quartz, malachite, jade, coral and mother-of-pearl, the Aztec inlaid ritual objects with turquoise such as knives, warriors' shields, royal crowns, and masks (human skulls often used as the basis for the latter). It is present in the portrayals of their gods. It was called "Chalchihuitl," and it was believed that these were the tears of the Sky Goddess turned into stone. "The Fire God was called "Master of Turquoise" (Xiuhtecuhtli). Sky-blue turquoise often symbolized the unity of the heavenly (Sun) and earthly fire. His adornment was "Turquoise serpent" (Shiukoatl), who was at the same time its "second self", and the Aztec emperor was seen as his reflection on the Earth."<sup>3</sup> The Aztec mined turquoise since 900 A.D.<sup>4</sup> It symbolized health, prosperity and was the symbol of love. It was almost always put into the tombs of chiefs: "In [their] burials ... about five thousand turquoise articles were found."<sup>5</sup> An exquisitely carved serpent inlaid with turquoise was found among Montezuma's treasures. Only jade was considered more precious by the Aztec. Green jasper cost more than gold, and from nephrite they not only made unique wares, but also filled teeth with it as early as twelve centuries ago.<sup>6</sup> The Maya predominantly used

<sup>1</sup> Николаев, С.М. *Камни и легенды*. Новосибирск: Сибирское университетское изд-во, 2007. С. 65.

<sup>2</sup> *Бирюза используется с древних времён // Каталог минералов*. Retrieved Aug. 13, 2008 from <http://www.catalogmineralov.ru/article/6.html> .

<sup>3</sup> *Камень счастья – бирюза*. Published Jan. 16, 2008 at <http://gorod.tomsk.ru/index-1200472149.php>.

<sup>4</sup> Афанасьева О. *Тайны камней*. СПб: «Тригон», 2007. С. 101.

<sup>5</sup> *Бирюза используется с древних времён // Каталог минералов*. Retrieved Aug. 13, 2008 from <http://www.catalogmineralov.ru/article/6.html>.

<sup>6</sup> Гоникман Э.И. *Лечебная радуга камня*. М.: Изд. Дом МСП, 2004. СС. 54, 60.

nephrite and jade for small sculptures and also “mined and skillfully treated quartz, rock crystal, [obsidian], slate, alabaster, mica, iron pyrites and other rocks and minerals...From crystals of topaz they made small sticks for putting into the nose cartilage. From turquoise they made beads and mosaic.”<sup>7</sup>

In North America the Southwest region is the most famous for archeological gem finds. In Pueblo Bonito (Chaco Canyon in New Mexico), “the most beautiful turquoise jewelry was found including the necklace made of 2500 turquoise beads.”<sup>8</sup> Also, there were found “500 000 pieces of turquoise many of which were beads or pendants” or were set into ear-rings of different forms. According to the version of some researchers, this find shows that for the Anasazi turquoise was “currency,” i.e. besides jewelry it served as the equivalent of money.<sup>9</sup> In one of the tombs “pendants were found in the forms of a rabbit, a bird, an insect, a human sole and a boot.” Especially interesting is “the turquoise basket – a cylindrical basket three inches in diameter and 6 inches long made of thin pieces and rubber covered with 1214 inserted small turquoise pieces. They are set very close to each other and look like mosaic completely covering the basket.” In Navajo legends mention is made of “precious turquoise baskets.” In Arizona archeologists found an ancient Zuni amulet, consisting of “a sea-shell covered with black tar inlaid with turquoise and garnet in the form of a toad, Zuni sacred emblem.”<sup>10</sup> The Navajo, the Zuni, the Hopi, the Pueblo, and the Apache have used turquoise in mosaic, small sculpture, and jewelry for centuries.

In North American Indian myths, turquoise is most commonly mentioned by the Navajo, the Apache, the Hopi, and the Pueblo. This stone is considered by these peoples one of the most important for body and soul protection, a symbol of heavenly purity, and the most important stone of medicine men capable of causing rain and protecting from sickness. “In Hopi tradition it is said that the Earth freed itself from the water which used to cover it only thanks to turquoise,”<sup>11</sup> which can hold back floods. According to Hopi myths, turquoise is the excrement of the lizard who travels between the above and the below. Hopi miners “took a piece of turquoise with the inclusions of parent material when they were going to pit-face, believing that it would help them to crush rock and will give security to the miner.”<sup>12</sup> The Zuni carved amulets out of turquoise and decorated limestone-carven figurines of idols with it. Blue turquoise was considered male and symbolized the sky, while green was female and symbolized the earth. “For ritual offerings they used the mixture of turquoise with cornmeal with which they filled the ritual cup inlaid with turquoise.”<sup>13</sup> The Pima Indians believe that this mineral gives strength and helps to cure diseases. And in the Creation myth of the Acoma Pueblo the Creator, Iatiku, taught people to use obsidian as a knife and to make holy beads from turquoise and shells. Since then “turquoise has had great power, the power to make the person attractive and beloved,” and became “sacred and highly valued.”<sup>14</sup> “The Apache believed that if you reach the end of the rainbow after a thunderstorm, you will find turquoise

<sup>7</sup> *Мифы исчезнувших цивилизаций*. Саратов: «Надежда», 1996. СС. 150, 151.

<sup>8</sup> Керам К.В. *Первый американец. Загадки индейцев доколумбовой Америки*. М.: Вече, 2005. С. 195.

<sup>9</sup> *Строители погребальных холмов и обитатели пещер. Энциклопедия «Исчезнувшие цивилизации»*. М.: «Тerra», 1997. С. 126.

<sup>10</sup> *Бирюза используется с древних времён // Каталог минералов*. Retrieved Aug. 13, 2008 from <http://www.catalogmineralov.ru/article/6.html>.

<sup>11</sup> Николаев, С.М. *Камни и легенды*. Новосибирск: Сибирское университетское изд-во, 2007. С. 61.

<sup>12</sup> *Ibid.*, 62.

<sup>13</sup> *Ibid.*, 61.

<sup>14</sup> Stirling, M.W. *Origin Myth of Acoma and Other Records*. Wash.: Bureau of American Ethnology, Bul. 135, 1942. PP. 32, 33. Retrieved July 15, 2008 from: <http://www.sacred-texts.com/nam/sw/oma/oma11.htm>

in the wet soil which, if tied to the bow, will make you an invincible hunter,”<sup>15</sup> and will help you to hit the target. Several tribes have wedding belts intricately decorated with turquoise which symbolizes the future happy life of the couple. Such belts are used nowadays as well. Dreamcatchers (first made by the Ojibwe, and popular today with many North American tribes) are also often decorated with a piece of turquoise symbolizing the spider sitting on its web.

Navajo shepherds “wore turquoise beads as the protection against thunderstorm...When praying to the Rain God and Wind Spirits, they threw turquoise into the water or air considering that wind is looking for this stone when it howls. They believed that with the help of a turquoise stick one could find water which is so necessary in the desert.”<sup>16</sup> It is in the mythology of this tribe where turquoise receives its most elaborate development. The Navajo female head goddess Estsanatlehi (her other names were Changing Woman or *Turquoise Woman*) “appeared in front of the first people as an anthropomorphous drop of turquoise,”<sup>17</sup> or in the shape of a turquoise female figurine, according to other versions.<sup>18</sup> The Sky Goddess became the Sun’s wife and had two twins from him, Monster Slayer and Born for Water, who later became culture heroes. She is the symbol of creation, protection and prolificacy, the ancestor of six first Navajo clans and a number of sacred ceremonies (initiation ceremony for girls and Beauty Way), which are still held, and she is an example for all mothers. In the myth about her, turquoise is mentioned many times: at first Estsanatlehi is herself turquoise; she lives in a turquoise house on the West horizon; she wears turquoise and shell jewelry (similar to which is worn by the Navajo girls during their initiation ceremony); she has two canes on which she leans, the turquoise and white shell ones<sup>19</sup> (according to some versions of the myth she is also called White Shell Woman, in other versions these are two sisters). Perhaps most American Indian exquisite turquoise jewelry is made today by Navajo silversmiths, probably due in part to the great role of this Goddess not only in the mythology, but also in the present-day life of the tribe. It finds reflection in toponymy as well: one of the four mountains sacred for the Navajo and several neighbor tribes, where Turquoise Boy and Turquoise Girl live, Mount Taylor, has the name “Turquoise Mountain.”

Turquoise is widely used in traditional American Indian jewelry. It is thought that a Mexican silversmith was the first to start using the combination of turquoise and silver in jewelry. And though all over the world it is set in gold, in North America almost all jewelry with this stone is made of silver. Often even jewelry from other regions is made in American Indian style or greatly resembles it (in particular in Tibet). The mostly widespread faceting of turquoise is cabochon: the gem is given a convex shape without faces, its back side left flat and unpolished.

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<sup>15</sup> Бирюза – камень счастья // Империя самоцветов. Retrieved July 14, 2008 from: <http://www.imperis.ru/club.php?mark=stone&id=26>

<sup>16</sup> Николаев, С.М. *Камни и легенды*. Новосибирск: Сибирское университетское изд-во, 2007. С. 61.

<sup>17</sup> Токарев С. А. (Ред.) *Мифы народов мира. Энциклопедия*. В 2-х т.т. М.: Советская энциклопедия, 1991.

<sup>18</sup> Zolbord P.G. *Diné Bahané: The Navajo Creation Story*. Albuquerque: Univ. of New Mexico Press, 1984. P. 175.

<sup>19</sup> *Changing Woman: Myth, Metaphor, and Pragmatics*. Retrieved July 15, 2008 from <http://xroads.virginia.edu/~MA97/dinetah/change2.html>

Individual jewelry techniques of different tribes are very interesting. Santo Domingo Pueblo silversmiths create beads and mosaic according to ancient designs. The Zuni have made jewelry for more than 1000 years, and many of the designs used today have hardly changed during this time. The Zuni learned jeweler's art from the Navajo in the 1870s.<sup>20</sup> Zuni technique is described as "complex patterns drawn on small stones with the point of a needle and the use of very delicate silver casing."<sup>21</sup> Silversmiths inlay turquoise in mosaic or join small stones in groups. Zuni jewelry mosaic in handmade jewelry is one of the finest in the world. While Zuni technique starts with silver, Navajo does with the stone (they learned silverwork from the Spanish): "Thus, in the article typical of Navajo technique bigger and more effective pieces of turquoise, often unpaired, are placed in the centre. In Hopi technique turquoise is covered with silver and seems just an addition to the metal."<sup>22</sup> Increasingly, "Since the prices for turquoise have risen, the use of nuggets has started to flourish. Artists cut more stones of maximum size and free shapes. Many beautiful pieces of turquoise are only polished and fit to the casing."<sup>23</sup>

Some North American tribes use the following method for making bracelets, rings and other jewelry: "pieces of fine turquoise are set on epoxy into a metal ring as close as possible. Sometimes a fragment of coral is set in the middle of such a composition to create a reddish-pink spot on the blue background. After the epoxy hardens, all the mosaic is burnished and polished conjointly."<sup>24</sup> As turquoise is often met in thin layers, it can be glued to a thicker basis (amalgam) for its reinforcement. This method was invented by American Indians who discovered that without such a support the mineral often cracked. Such stones are called "backed." Turquoise of this type is used in all modern jewelry in the Southwest of the USA, but the technique is unknown outside this region. Used class T battery containers served as the first amalgams, later those were old gramophone records, and recently hard epoxies. All this greatly helps to date old American Indian jewelry. With time American Indian backing technique also started to be used for other gems treated in the USA.<sup>25</sup>

There have been many methods of forging turquoise since antiquity due to the great popularity of the gem and the exhaustion of its natural sources. Egyptians were the first to forge it, and they used faience for this purpose. Later glass, enamel, special ceramics, porcelain, plastic and different other materials were used. Even in Moscow in the 19<sup>th</sup> century "some manufacturers doused bones and teeth of animals in copper salt solutions and sold such imitation as turquoise."<sup>26</sup> Stones with similar color are also sometimes passed off as turquoise. Sellers of the past often refined the gem rubbing it with grease or wax, soaking it in water or giving it to a goose to swallow, thus strengthening the brightness of color, but with time the real color of the stone returned. The imitation of turquoise is such a profitable business that new methods keep being invented, just the enumeration of their names can

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<sup>20</sup> Charles Loloma, Hopi Artist // *Native American Jewelry // Designing Divas Jewelry*. Retrieved Dec. 9, 2008 from <http://designingdivas.blogspot.com/2007/07/charles-loloma-hopi-artist.html>.

<sup>21</sup> *Легенды и мифы о бирюзе // Бирюза*. Retrieved Aug. 23, 2008 from [http://www.shop-gold.ru/art/book3\\_1.php](http://www.shop-gold.ru/art/book3_1.php).

<sup>22</sup> Ibid.

<sup>23</sup> Ibid.

<sup>24</sup> Петров, В.П. *Рассказы о драгоценных камнях*. М.: Наука, 1985. С. 153.

<sup>25</sup> "Turquoise." *Wikipedia: The Free Encyclopedia*. Retrieved July 13, 2008 from <http://en.wikipedia.org/wiki/Turquoise>.

<sup>26</sup> Пыляев М.И. *Драгоценные камни*. М.: «Х.Г.С.», 1990. С. 204.

already be confusing: stabilized, refined, Viennese, synthetic, pressed, bone turquoise, zeolith, etc.

It can be said with certainty that this “sky stone” has fascinated the whole world with its beauty, and has been connected with so many different sciences and spheres of human activity. These are, first of all, geology and mineralogy, archeology, history and ethnography, mythology, which plays an important part in the lives of some peoples even today, religion (the use of this stone for ritual purposes), magic (the use of its magical properties, as well as talismans, amulets and guards from it), alternative medicine (prophylaxis and treatment of some diseases with the help of turquoise), jewelry, toponymy, and others.

Just as deep in each of us there is an archetypical mythological consciousness, so, probably, there is a peculiar attitude towards turquoise, which was laid into us in antiquity and manifests itself up to now. It is true that there is no other mineral in nature with such keen reaction to any changes in the environment and the condition of its owner. Maybe it was this very quality that became fundamental for mythological personification of turquoise as, for example, in Navajo myth about Turquoise Woman.