

GEMS AND MINERALS IN THE MCFERRIN FABERGÉ COLLECTION:

A GLOSSARY

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Fabergé Sorting Loose
Stones, ca. 1915

Carl Fabergé (1846-1920), Russian Court Jeweler, used organic materials created by Mother Nature as well as gems and minerals mined from the earth to fashion *objets d'art* for his world-wide clientele. In 1908, he opened a lapidary workshop at 44 Angliskii Prospekt in St. Petersburg, Russia, employing 30 craftsmen within four years of its founding. Hardstone animals and Russian folkloristic hardstone figures are not

always marked Fabergé, unless they have added gold or silver decorations. Stylistic characteristics have to be used to determine if they are Fabergé. Early Fabergé scholar, A. Kenneth Snowman (1919-2002), suggested if the animal is about to show an emotion, cocking its head listening to a sound or a cat about to pounce on a mouse, the animal most likely is a genuine Fabergé.

I. Organic Materials from Trees and the Oceans

The casemaker Simon & Matilda Käki made the wooden parts of the frames and cases for Fabergé. Favored woods included:

Karelian Birch – A hard wood growing in Sweden, Finland, and western Russia, named after Karelia (first a part of Russia, then after World War I, a part of Finland, and after World War II, part of the Soviet Union). Its bulbous growth is caused by a genetic defect of a tree growing in a sub-arctic climate. Frequently used in combination with silver decorations for boxes, spoons, letter openers, etc. Among St. Petersburg jewelers and silversmiths, this wood art tradition was a part of the late 19th century revival of the Russian style.

Palisander (Rosewood) – A type of hard dark, black-streaked wood from Brazil, also referred to as Brazilian rosewood.

Holly Wood – Excellent for turning, carving, and inlay, slow growing with color variations from white to ivory, and is best cut in the winter to avoid blue-stain or graying of the wood.

(Further Reading: McCarthy, Kieran, “Luxury in Wood: Forgotten Fabergé.” *Antique Dealer and Collectors Guide*, May/June 2004, 40-2)

Tortoise Shell – Hawksbill sea turtles are harvested for their shells used in decorations, eye glasses, and jewelry, and the style is known in the fashion world as “tortoiseshell”. The blond part of the turtle shell is the most expensive and only the light flakes were used in fan montures.

Sea Shells – The earliest prevalent use of shells for cameo carving was during the Renaissance in the 15th and 16th centuries. Before that time, cameos were carved from hardstones. Women wore cameos at their throat on a high lace collar in the Edwardian style.

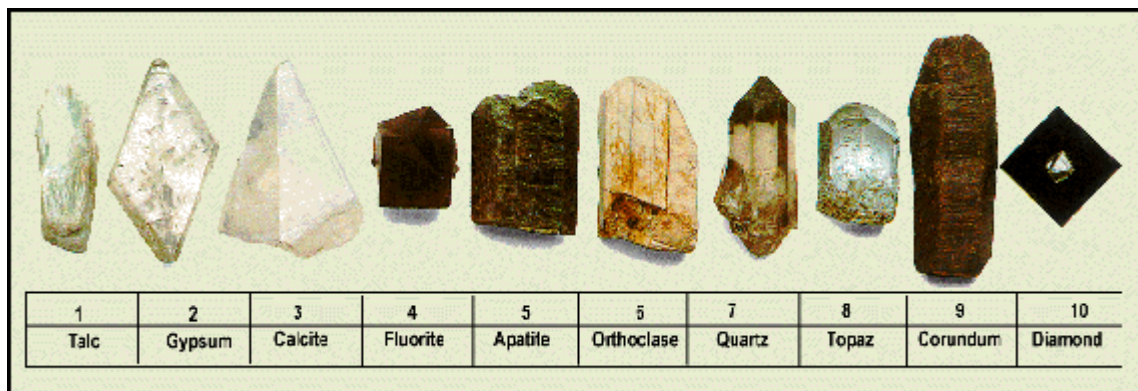
Mother of Pearl/Pearl [3.5 in the Mohs Scale, organic material] Gem quality pearls are made of nacre, a calcium carbonate, have a hard, lustrous, and smooth surface. “Mother of Pearl” comes from the iridescent shell lining found in large pearl oysters, abalones, and pearl mussels.

Seed Pearl [China, India, Japan] is a tiny natural pearl weighing less than a quarter of a gram, and is less than 2 millimeters in diameter. It takes great skill to drill such a small pearl.

II. Gems and Minerals Mined from the Earth



Geographic Mining Locations and Karelian Birch Forests (Wikipedia)



Mohs Scale of Hardness

Mohs Scale of Hardness characterizes the scratch resistance of various minerals through the ability of a harder material to scratch a softer material. [Legend: Average Range Values from the Mohs Scale, Geographic Mining Locations]

GOLD [2.5 Ural, Caucasus and Altai Mountains in Russia, Siberia] is an element found in igneous rocks. It rarely combines with other elements, is very malleable, does not tarnish or corrode, and is a perfect metal for the jeweler's art. Gold standards: A zolotnik is a Russian unit of weight with one zolotnik/zol. equals $\frac{1}{4}$ carat/ct. (56 zol. = 14 ct. 72 zol. = 18 ct. 88 zol. = 20-22 ct. 96 zol. = 24 ct.)

Multi-colored golds is an 18th century technique of alloying gold with other metals to change its natural yellow color, and is often used by the Fabergé firm. When alloyed (mixed) with copper, red or “rose” gold is created, silver creates “green” gold, and nickel, palladium, or zinc make “white” gold. (Eight alloyed varieties are discussed in Lowes and McCanless, *Fabergé Eggs: A Retrospective Encyclopedia*, 2001, 275.)

Samorodok, a technique of heating gold or silver to the point it is about to melt, then rapidly cooling it down, results in a rough nugget or molten-lava-look finish.

SILVER [2.5 Ural, Caucasus and Altai Mountains in Russia, Siberia], a white metal second only to gold in terms of malleability, is easily worked in great detail. It can be polished to a high luster and was more precious than gold to the ancient Egyptians. Silver standards: 84 zolotnik = 875/1000 88 zolotnik = 916/1000 91 zolotnik = 947/1000

Chasing and Repoussé – Jeweler's technique of adding intricate details to metals by working the front (chasing/drive out) and the reverse of an object (repoussé/push up) with very fine tools. Because gold and silver are so malleable, the metalsmith places the semi-finished back side in a pitch bowl to prevent piercing the metal. In the final step the object's front is chased to emphasize the outlines of the motifs and create finer details. Repoussé is pounding from the back by hand to create a raised design rather than using a die or stamp as in the embossing process.

BOWENITE [3 Ural Mountains in Russia, Siberia, Afghanistan, China, USA] is a member of the serpentine family, and is often mistaken for jadeite or nephrite. Bowenite colors vary from yellow to brown, and grayish-green to yellow-green. It is named after G.T. Bowen, an American mineralogist, who identified it as a variety of the serpentine family. The confusion with jadeite or nephrite exists because of the similarity in color and transparency, however, bowenite is not as hard or valuable as jadeite.

MOTHER OF PEARL/PEARL [3.5, organic material discussed above, pearl is the birthstone for June]

PLATINUM [4 Ural Mountains in Russia] is a heavy white metal almost twice as heavy as gold, and has a bright white luster when polished and is resistant to tarnish - highly desirable qualities. It is more rare and expensive than gold, and it takes ten tons of ore and five months or more of labor to create one ounce of pure platinum. Its very high melting point is a jeweler's challenge. An alloy made of platinum and silver was used in the Fabergé snowflake creations designed by Alma Pihl (1888-1976) for Fabergé's frequent and illustrious client, Dr. Emanuel Nobel (1859-1932).

Carving, Polishing, and Engraving – Techniques used to fashion raw natural material into sparkling gems, three-dimensional objects, or an object with a raised image. Carving and engraving require tools harder than the material being worked.

NEPHRITE [5 Ural and Altai Mountains in Russia, Siberia, China], a dark green stone also found in white, yellow, brown, and black, has been mined in Russia since 3000 B.C. It is the toughest natural stone which has to be ground using abrasives because it is very difficult to chisel, and is often confused with jadeite because of their similar appearances and properties. In 1894, Emperor Alexander III's sarcophagus was created from nephrite. François Birbaum, Fabergé's chief designer, recalls in his memoirs that nephrite was the most widely used semi-precious stone in the House of Fabergé, because of its noble qualities and beauty. Kidney specialists are still today called nephrologists, because ground nephrite was used to treat kidney problems.

OBSIDIAN [5 Caucasus and Altai Mountains in Russia, Siberia, Afghanistan] is natural volcanic glass of gray-black color with a soft velvety sheen when polished and its qualities of reflecting light were used by Fabergé's workmasters to represent wet fur on animals. Its glassy black surface can be very sharp, and in the past was often used for making arrowheads and knife blades.

LAPIS LAZULI [5.5 Ural and Altai Mountains in Russia, Afghanistan, Tajikistan, Pakistan] is a beautiful translucent azure-blue stone sprinkled with gold flecks of pyrite or white flecks of calcite. It was used to make ultramarine-blue pigments for Renaissance paintings, and is found in the jewelry of ancient Mesopotamia and Egypt.

RHODONITE [6 Ural Mountains in Russia, Siberia] also known in Russia as "orletz", is a pink and black marble stone. The name comes from the Greek word *rhodo* meaning pink. Quite popular in the 18th century Russia for use in architectural elements, Siberian rhodonite became the state gem of Russia in 1913.

QUARTZ and its varieties [7 Russia, world-wide] are the world's most abundant minerals. Clear or in a rainbow of colors and shapes, and made of silica, they are the basic materials for the glass and ceramic industries.

Stones belonging to the quartz family include:

Amethyst [Ural and Altai Mountains in Russia, Siberia, South America, Africa, birthstone for February] is a transparent quartz variety in various shades from lilac to very deep purple. Some of the finest deep purple stones come from Siberia.

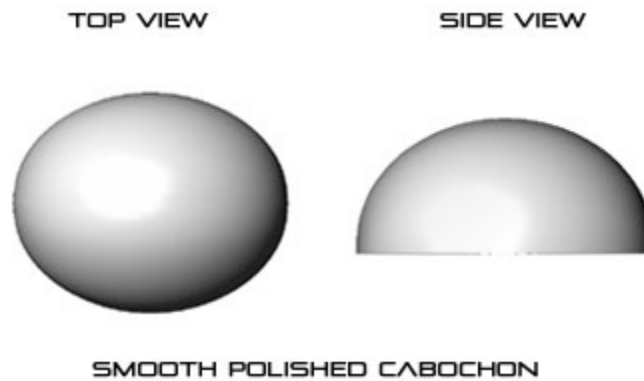
Faceting – Fashions a stone by cutting its surface into a number of flat faces, or facets.

Rock Crystal [Russia, Brazil, Switzerland] is the most common variety of quartz - colorless and transparent, has the appearance of glass and can be etched like glass, and is used in the making of crystal balls. Thinly cut, rock crystal is almost as transparent as window glass, and when engraved or given a brushed finish, becomes frosty white. Rock crystal was believed to have healing and divining powers for thousands of years, and the Romans thought it was permanently frozen ice.

Smoky Quartz [Ural Mountains in Russia, Brazil, India, USA] has a light brown to dark color, and for the modern market place colorless rock crystal is irradiated to turn it into smoky quartz. Gemologists suggest natural radiation in the ground may have formed genuine smoky quartz.

CHALCEDONY [Russia, Kazakhstan, Ukraine, India, Iran, Europe, Scandinavia], a major variety of quartz, is silica made up of minute, often fibrous crystals densely packed with sub-microscopic pores.

Cabochon-cut – Unfaceted gem cut and polished to a smooth domed upper surface, often used as thumb pushes on Fabergé's objects.



Agate [Ural and Altai Mountains in Russia, Brazil, Germany, China, India, USA] is a very large quartz species of many colors, and is often banded or striped. The most famous area for agate deposits is in Idar-Oberstein, Germany, where it has been collected since 1548 – a connection with Fabergé's lapidary output has been suggested to the Idar-Oberstein lapidary industry and the Denisov-Uralsky stone-cutting workshop in Yekaterinburg in the Ural Mountains.

Moss agate has inclusions resembling tree branches, seaweed, and ferns, often creating scenic landscapes within the gem stone. Clocks and boxes from the Fabergé workshops feature dendritic designs (perhaps a fern or tree branch) painted onto enamel to emulate moss agate.

Fabergé's jewelers were skilled in all the jewelry-making techniques handed down through the ages – transparent enameling developed in the 17th century reached its zenith in the objects created by the House of Fabergé. No one before or since has managed to match the enameling standards or the range of colors.

Enameling – Vitreous material (glass) in powdered form is fused to metal surfaces in a firing process and when cooled produces a hard glossy finish. When mixed with metal oxides, the new surface achieves a rainbow of colors in either an opalescent (rich, milky appearance), opaque (so dense light cannot penetrate), or translucent (allows light to shine through the new material) variety. Fabergé’s enameling techniques and the gemstones in this gem and mineral compilation are discussed in more detail in Lowes and McCanless, 273-279.

Guilloché – Engraving metal with a lathe-like machine to create repetitive patterns on the surface of the metal. It is then fired with several layers of translucent enamel which allows the pattern to show through to the surface. The most popular guilloché patterns were moiré (water-like pattern), sun-rays, and swag pattern.



Fabergé’s Guilloché Workshop

(*Fabergé Research Newsletter*, Winter 2009-10 | Spring 2012)



Guilloché before Enameling

(Courtesy of the Artist, Lawrence Heyda)

Cloisonné – A technique of soldering wires onto a metal surface, thereby forming cells (cloisonnes) which are then filled with enamel to create a decorative poly-chrome pattern. Feodor Rückert, working for Fabergé and independently, used this technique for Pan-Slavic style objects.

Jasper and its varieties [Ural Mountains in Russia, Kazakhstan, Crimea, Ukraine] is another type of chalcedony found in a variety of colors and wonderful patterns. It is usually multicolored, striped, spotted or marbled in appearance, and has been used in jewelry as far back as the Egyptian culture.

Purpurine (man-made and now a lost art) is a heavy, deep red, vitreous compound produced by crystallizing lead chromate in a glass matrix. It was first concocted in the 17th century and rediscovered by Russia's Imperial Glass Factory. Fabergé used it often to create hardstone animals and Russian folkloristic hardstone figures collected by Emperor Nicholas II. (Updated purpurine history is in Sotheby's New York, *Important Russian Enamels and Fabergé from a New York Private Collection*, November 4, 2010, Lot 60)

AQUAMARINE [8 Ural and Altai Mountains in Russia, Siberia, Afghanistan, Pakistan, Brazil, Africa, India, birthstone for March] is a member of the beryl family of stones like emeralds. It ranges in color from sea green to sky blue.

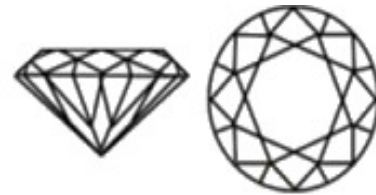
SAPPHIRE [9 Ural Mountains in Russia, Burma, China, India, Thailand, birthstone for September] is a precious gem from the corundum family of stones, as are rubies. Second only to diamonds in hardness, sapphires come in a rainbow of colors from deep blue to bright yellow and pink. Cabochon cut sapphires are often used as thumb pushes on Fabergé cigarette cases.

DIAMOND [10 Ural and Caucasus Mountains in Russia, Siberia, India, Africa, birthstone for April] is the hardest mineral known, nothing even comes close to it. Diamonds are highly refractive and have a strong dispersion – when cut and polished, they sparkle with great brilliance. Only 20% of mined diamonds are suitable for use in the jewelry industry. Most often colorless, they also come in the colors of the rainbow, and are graded by the four C's: Color, Cut, Clarity and Carat (weight).

Two types of faceted diamonds from the Fabergé era:



Rose-cut Diamonds



Brilliant-cut Diamonds

Rose-cut diamond – An old cut with up to 24 triangular facets on a dome-shape terminating in a point and a flat base is “a technique introduced in the 15th century. The name is said to derive from the finished stone’s resemblance to an un-opened rosebud. Small, rose-cut diamonds were a Fabergé trademark and underscored his philosophy that gems should contribute to the beauty of the whole object, and not overwhelm or engulf it ...” (Lowes and McCanless, 278.) The 1913 Winter Egg has approximately 1378 rose-cut diamonds applied on its surface.

Brilliant-cut diamond – A cutting technique begun in the 17th century in which diamonds are cut into a circular shape with facets around a polished table, and on the pavilion (bottom half) of the stone. Light is reflected to the top of the stone and adds more sparkle or brilliance. The brilliant-cuts used at the turn of the 20th century are referred to today as “old European cuts”. Belgian diamond cutter Marcel Tolkowsky (1899-1991), father of the modern round brilliant diamond, developed the optimum proportions for this ideal cut in 1919.

Compilers: Christel McCanless, Annemiek Wintraecken, and Tim Adams have a research study underway on 50 rarely seen folkloristic hardstone figures – the zenith of the Russian art of hardstone carving. Made by the Fabergé firm after 1908, Nicholas II collected them enthusiastically. We enjoy working as a team located on the two coasts of the United States and in The Netherlands!

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