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Magic Gems, Minerals, and Fossils

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SMITH ALUMNAE COLLEGE

**MAGIC GEMS,
MINERALS,
and FOSSILS**

— An Exhibit with Brochure —

by

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and

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PART I. GEMS AND MINERALS¹

Introduction

From ancient times to the present, gemstones and minerals have been thought to have extraordinary powers and virtues which far exceed their physical and purely aesthetic qualities. The peculiar characteristics of gems and minerals, particularly their mystery of origin, rarity, durability, beauty, and true permanence, always have appealed to man's sense of the supernatural. As such, minerals and especially gems have played a prominent role in the practice of magic and the occult.

Because of their allure, gems and minerals have been important in the early scientific, medical, and religious histories of virtually all societies. As a result, it is often difficult to distinguish between the magical uses and the less occult uses of gems. For instance, the drugs of medieval apothecaries consisted largely of powdered gem material to be swallowed by the afflicted person. Although the anticipated cures were often expected to be instant and complete, the use of gems in this way was more medical than magical. However, when gems and minerals are worn as amulets or talismans to ward off evil or to enable the wearer to attain supernatural powers, the intent of their use is clearly magical.

The magical uses of gems and minerals can be summed up as follows: 1) as amulets to ward off evil or bad luck, 2) as talismans to attain extraordinary or supernatural powers and capabilities, 3) as zodiacal gems or birthstones, and 4) as the raw materials used by the alchemist in transmuting base metals into gold.

Gems as Amulets and Talismans

An amulet is an inanimate object, frequently a carved gemstone, which is believed to be the dwelling place of a spirit. The amulet is worn with

¹Exhibit and text on gems and minerals prepared by Mary Margaret Murphy.

the hope that the spirit within will be active in warding off the forces of evil. As a general rule, amulets are oddly shaped or marked objects, for it is believed that such objects are more likely to attract a wandering good spirit in need of a home than would smooth, ordinary shaped objects.

Whereas amulets are used to ward off evil, talismans are worn to attain supernatural powers and capabilities. Talismans are often engraved with signs, symbols, or words to intensify their magic powers.

Gems as Birthstones

Today one of the most popular magical uses of gems is as birthstones. The wearing of birthstones stems from the belief that a special stone has been assigned to each month of the year and that this gem is endowed with a peculiar virtue for those born in that month. Although the notion that each month has its special gem can be traced back to ancient times (at least the first century A.D.), the wearing of birthstones is a comparatively recent tradition, originating in Poland sometime during the 16th century. The twelve birthstones are exhibited on the top shelf of one of the small cases.

Astrological Uses of Gems and Metals

One of the most pervasive uses of gems and metallic minerals through the centuries has been the wearing of them for their planetary or zodiacal influences. Astrology holds that of all earthly materials, the precious stones and metals are those most closely related to the planets and the stars. According to astrologists, gems and metals were formed in the earth by the heat of stellar and planetary rays, and emanations from the stars and planets continue to be absorbed by minerals and to radiate from them. Thus, the jewels of gemstones and metal afford a sympathetic medium for the transmission of astrological influences. The influence over human fortunes ascribed by astrology to the heavenly bodies is thought to be strengthened by wearing the gem or metal appropriate to certain planets and signs, parti-

cularly the zodiacal sign under which one is born. The twelve signs of the zodiac and their corresponding gems are given below, and the gems are further described in the systematic section of this pamphlet.

Aquarius.....garnet	Gemini.....agate	Libra.....chrysolite
Pisces.....amethyst	Cancer...emerald	Scorpio.....beryl
Aries.....bloodstone	Leo.....onyx	Sagittarius....topaz
Taurus.....sapphire	Virgo...carnelian	Capricorn.....ruby

In addition, seven planetary bodies have been assigned metals, each of which is thought to reflect the rays and influence of its ruling body. Gold, because of its color and extreme luster, corresponds to the Sun; silver, for the same reasons, to the Moon. Iron, the metal of war, is associated with Mars; quicksilver (mercury), the only liquid metal, with the fastest moving planet, Mercury; dull, heavy lead with slow moving Saturn; and tin and copper with Jupiter and Venus. (See numbers 42, 43, 44, 46, 47, 49, 50 in the exhibit.)

Alchemic Uses of Metals

The relationship between the planetary bodies and the seven metals was of great significance in the ancient and medieval art of alchemy. The primary aim of alchemy was transmutation or the changing of one substance into another, such as changing a common base metal into gold. Positions of the sun, moon, and planets were believed to influence transmutations involving their related metals so that often the alchemist felt the necessity of consulting the heavens before performing his labors. One famous alchemist went so far as to say that the action of the planets constituted one of the greatest difficulties in regulating the chemical operations.

Mercury captured the imagination of alchemists because it is the only liquid metal. They believed that mercury was liquid because of contamination by impurities, and that if these impurities were separated out, the remaining refined substance would be a solid, or "fixed mercury." Sulfur,

because of its flammability, likewise fascinated alchemists, and a fundamental part the alchemist doctern was the notion that all metals, including gold, could be made from "fixed mercury" and varying amounts of sulfur. Thus, much of the alchemist's labor consisted of attempting to "fix mercury."

The Magic Properties of Gems and Minerals

The following section describes some of the magical properties attributed to the gems and minerals of this exhibit. Specimens are keyed to the exhibit by the numbers in parentheses.

AGATE (24): If bitten by a poisonous insect or snake, press an agate on the spot, and the bite will come to no harm. Agate is an example of the common belief that evil can be transferred to stones. Agate also averts ~~thunder and lightning~~.

AMETHYST (13, 18): Prevents drunkenness and turns away evil thoughts.

AQUAMARINE (2): Is a variety of beryl and possesses beryl's virtue of ensuring a happy marriage. As such, aquamarine is the ideal gift for a bridegroom to give his bride on their wedding day.

BERYL (20): Reawakens the love of married people.

BLOODSTONE (27): Is also called heliotrope and is the soldier's talisman as it bestows courage and shields the bearer from danger. A bloodstone applied to a wound stops the flow of blood.

CARNELIAN (23, 35): The wearing of carnelian is recommended for those who have a weak voice or are timid in speech. This warm-colored stone will give the courage they lack so that they will speak both boldly and well.

CHALCEDONY (29): Drives away phantoms and visions of the night.

CHRYSOPRASE (28): If a thief sentenced to be hanged or beheaded places a chrysoprase in his mouth, he will immediately escape from his executioners.

CORAL (30): The eyes, which reveal thoughts and feelings more clearly than any other part of the body, have always been considered vehicles of strong spiritual power. Every civilization has believed that evil can be effected through a mere look or glance. Unfortunate individuals who suffered from some peculiarity affecting one or both eyes often were marked as possessing the dreaded EVIL EYE. The basic fear is that such persons can bring misfortune or illness to humans and animals and destroy or damage inanimate objects simply by looking at them. Charms for protection against the EVIL EYE were and still are many in number, but since antiquity one of the most popular has been red coral.

CRYSTAL BALL (45): Since ancient times crystal balls have been used to see into the future. Crystal gazing may be a very simple or a very elaborate performance depending on the period in which it was practiced, but the ball is always used to induce in the clairvoyant a form of hypnosis enabling she or he to see visions in the crystal ball.

DIAMOND (4): Is one of the purest substances in nature. It is interesting to note that long before this fact was established by modern science, the ancients held diamond in the highest esteem as a symbol of purity and as the most powerful of all jewels in its influence against the forces of evil. Diamond is also one of the most powerful gems for bringing good fortune, but these powers are exerted only for the pure of heart. When the faithless, the degraded, or the criminal possesses diamond, the gem will cause its owner bad luck.

EMERALD (11): Has the special virtue of preserving the eyesight. The great Roman natural historian Pliny the Elder tells us, "If the sight hath dimmed and wearied with intense poring over anything, the beholding of an emerald doth refresh and restore it again."

EYE AGATE (31): Is a popular charm against the EVIL EYE.

GALACTITE (40): Is also called natrolite and is milky in color and smells like milk. It produces a juice resembling milk when it is moistened and scraped. In a potion this will increase the supply of a woman's milk.

The mineral will also preserve the health of a child if hung around its neck. In addition, galactite has the effect of causing loss of memory to those who wear it and so was also prescribed to induce forgetfulness of sorrow.

GARNET (6,7): Its color is similar to that of blood and was believed to protect its wearer from wounds in battle. By contrast, some Asiatic tribes used garnets as bullets, believing that this blood-colored stone would inflict a more deadly wound than a lead bullet.

GYPSUM (33): In Egypt the silky variety of gypsum called "satin spar" is carved into egg-shaped forms. These are called "Pharaoh's eggs" and are used as good luck charms.

HEMATITE (17): Assures for the wearer a favorable hearing of petitions addressed to kings and a favorable verdict in judgments and lawsuits.

IRON (15,47): Most societies have attributed magical powers to iron. Iron in the shiny form we are most familiar with, that is, not combined with any other element, is exceedingly rare in the earth's crust. Before man learned to smelt iron, it was known only to the rare individual who obtained a meteorite fragment. Primitive man naturally attached strong magical powers to this material which was so rare and which descended from the sky with a streak of fire. When the secrets of separating the metal from its ore became known, iron's superiority over stone and bronze, particularly in making the instruments of war, caused it to be regarded as a magical metal.

JADE (34): Has been highly esteemed by the Chinese since antiquity. It is also the special talisman for the gambler since it gives success in any game of chance, particularly racing.

JASPER (26): Possesses the power to bring its owner rain when crops require it.

LAPIS LAZULI (25): Wearing lapis lazuli cures melancholy.

LODESTONE (52): Because of its unique magnetic properties, lodestone is the special talisman for the sailor who relies so heavily on the magnetic compass in navigation.

MALACHITE (21): Is a talisman particularly appropriate for children because it ensures their well-being.

MOONSTONE (10): Gives lovers the power to determine what their future together will be. To gain this knowledge, the stone must be placed in the mouth while the moon is full.

ONYX (32): Whoever wears an onyx will have terrible nightmares at night and will be tormented by deep sorrow and apprehension by day. He will also have many quarrels and lawsuits. Lastly, whoever keeps an onyx in his house will suffer loss of energy and capacity.

OPAL (39): Is an unlucky gem except for those born in October for whom it is lucky.

PERIDOT (9): To exert its full power, peridot (also called chrysolite) must be set in gold. Worn in this way it prevents nightmares. However, if the stone is to be used as protection against evil spirits, it must be pierced, strung on the hairs of an ass, and then attached to the left arm.

PYRITE (16): Is also called "health-stone" since it is believed to grow pale when the health of its wearer is about to fail.

ROCK CRYSTAL (19): Its powers for good are strongly influenced by the Moon's position in the heavens.

RUBY (5): The wearer of ruby is blessed with health, wealth, wisdom, and outstanding success in affairs of the heart. Wearing a ruby ring on the left hand or a ruby brooch on the left side ensures peace with one's enemies.

SALT (36): Also called halite. Spilling salt at the table will bring bad fortune unless a pinch is picked up and thrown over the left shoulder. The overturning of a salt cellar means that a friendship will soon be broken.

SAPPHIRE (3): Protects the wearer from envy and attracts divine favor.

SARD (22): The red hue of this stone counteracts the malign influence of the dark onyx, driving away the bad dreams and dispelling melancholy thoughts.

SARDONYX (37): If it frequently touches the skin and is placed in the mouth, sardonyx strengthens the intellect, understanding, and all the senses of the body; and drives away anger, stupidity, and undisciplined passions.

SERPENTINE (48): Provides protection from the bites of venomous snakes and insects.

TOPAZ (1): Wearing topaz brings riches and the favor of important people.

TOURMALINE (12,38): Is a gem to which few occult virtues have been ascribed because the stone was unknown until the early 18th century. Nonetheless, tourmaline possesses physical qualities which render it the most suitable gem for use as a talisman. Tourmaline often contains two, three, and rarely four strongly contrasting colors in a single crystal. Such crystals, when cut, make dazzling gems. Tourmaline crystals which are somewhat cloudy often are cut into gems displaying a streak of light across the surface that resembles a cat's eye. Cat's eyes have long been known in other gemstones and always have been considered to possess strong magical powers. However, the most marvelous property of tourmaline is its electrical properties. When rubbed or heated either by sunlight or body heat, tourmaline becomes electrically charged and attracts light objects such as straw, paper, ashes, etc. at one end while repelling them at the other.

TURQUOISE (41): Is the special talisman for the horseman since it protects the wearer from injury from falling.

ZIRCON (8): The wearer of a zircon (also called jacinth) is protected from lightning.

PART II. FOSSILS²

Introduction

Fossils are the remains of prehistoric life preserved, frequently by petrification, in the sedimentary rocks of the earth's crust. From ancient times to the present, fossils have fascinated man. Today the scientific study of fossils or paleontology is a major subdiscipline of geology. Fossils reveal to us the history of the evolution of life, and they are used as a major tool in establishing a sequential stratigraphic column from the earth's many rock units and in reconstructing the nature of past environments that have existed on the earth's surface.

Among ancient societies, there was always controversy concerning the interpretation of geologic phenomena. Nothing puzzled ancient scholars quite so much as fossils. Were they organic or inorganic, and how did they originate? Some of the first written ideas about fossils came from the works of the Greek scholars Xenophanes, Herodotus, and Aristotle. Large fossil bones were interpreted as relics of a former race of heroic giants. Smaller, apparently marine, invertebrate fossils found in the mountains well above sea level posed an even greater problem. Had the seas retreated or had the fossils "grown" in the rock? Some ancients postulated that the fossils were created in the rock by mysterious "plastic forces."

By Renaissance times, most scholars believed that fossils were organic in nature, but the precise mode of origin was still only dimly perceived. Some argued that fossils formed from the fermentation of slime and "fatty matter" in the earth. Others held that fossils were imperfect forms of life banished to the rocks by the Creator or that they were made by the Devil to deceive man. A most popular view was that all fossil organisms had been killed and deposited in the rock by the biblical Great Flood of Noah's time.

²Exhibit and text on fossils prepared by H. Allen Curran.

Leonardo da Vinci was one of the first to recognize the natural, organic origin of fossils and to oppose the idea that fossils had all been deposited as a result of the Flood. Our modern interpretation of fossils as prehistoric life forms preserved by natural geologic processes had its beginning with the profound observations of da Vinci.

The Use of Fossils in Folk Medicine

Belief in the miraculous curative powers of various types of fossils can be traced back to the time of Stone Age man. Fossils were an important constituent of the tribal medicine man's pharmacy. Common fossils such as ammonites and trilobites were widely used as charms to ward off sickness or in potions to attempt cures.

The use of fossils in medicine reached its peak in the Middle Ages. Apothecaries of the day often prepared fossils for use by grinding them to a fine powder. For internal use, the fossil powder was mixed with wine or water and swallowed. If the powder was to be used in an ointment, it was mixed with honey, wax, or oil. Sometimes the fossil powder was burned to release the curative powers.

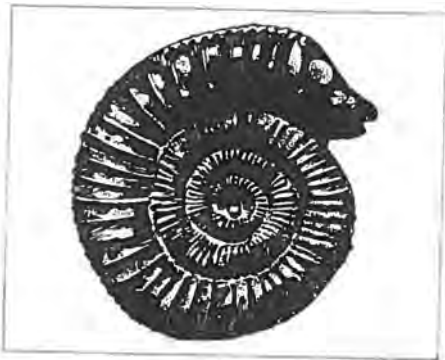
Many types of fossils were simply worn in contact with the body as disease preventatives. Used in this way as amulets, specific fossils would be chosen because of their resemblance to a creature that was supposed to have mysterious powers to benefit man. Fossil forms which look like various parts of the human body were worn to afford protection for that specific body part. An example of this latter use would be the fossil oyster shell Gryphaea (58). It was worn to relieve pain in the joints because its contorted shape seems to resemble a joint deformed by arthritis.

Today fossils no longer are included in the prescriptions of modern medicine. However, around the world people still wear amber necklaces to prevent or ease goiter, and pieces of coal are carried in many pockets to ward off colds. The following section describes the magical and curative powers attributed to the various fossils of the exhibit.

The Magic and Curative Properties of Fossils

AMBER (53): Is the hardened resin of fossil pine trees. No other fossil substance has had a wider variety of medical uses or been in use longer. Pliny the Elder wrote "It is true that a necklace of amber beads worn about the necks of little babies is a great protection against secret poisons and a countercharm against witchcraft and sorcery." Throughout the ages amber has been used as a cure for most of the ailments that afflict humans, including fever, nosebleed, goiter, gout, and asthma. Taken internally, amber was also thought to be useful in easing the pains of childbirth and in preventing miscarriage.

AMMONITES (54): Are extinct fossil cephalopod mollusks. They have been the object of many magical and supernatural beliefs throughout history. Many people believed they were petrified snakes, and ammonites were thought to be the best cure for snakebite.



During the 18th century, English tradesmen improved their sales of "petrified snakes" by carving heads on ammonites.

BELEMNITES (55): Are the internal hard parts of extinct cephalopod mollusks. In the Middle Ages they were thought to be thunderbolts, and they were used as a powder for protection from being struck by lightning or bewitched by demons from the sky.

COAL or JET (56): Jet is anthracite or hard coal. Like amber, it was used in a wide variety of ways to prevent or cure many maladies. Powdered jet was used in many salves and ointments for the treatment of skin diseases

and tumors. Amulets of jet were thought to be effective in driving out depression and warding off evil spells. In the United States, a lump of coal carried in the pocket was thought to help one avoid the common cold.

CORAL (57): Polished fragments of fossil colonial corals have star-like or rose-like patterns and have been widely used as amulets, particularly in Italy where they were called "witchstones."

GRYPHAEA (58): Is the shell of an extinct genus of oysters. Known as the "Devil's Toenail," these shells were thought to be helpful in easing pains of the joints.

PENTREMITES (59): Is the calyx of an extinct genus of echinoderms. This bulbous fossil was thought to be useful as a cure for bladder ailments.

SEA URCHINS (60): Fossil echinoderms of this type were widely used in medieval times as an antidote for poisons. Sea urchins are commonly preserved in the chalk cliffs of Dover, and British seamen prized these "chalk eggs" because, in powdered form, they were thought to be one of the best remedies for stomach ailments.



The Druids said that the magical "snake's eggs" were formed by hundreds of snakes gathered on Midsummer Eve. The snakes exuded a foam which they formed into a ball. With much hissing they would toss this ball into the air. When stolen from the snakes, this ball had great magical powers, but it had to be caught before hitting the ground or else it lost its magic.

SHARK TEETH (61): During the Middle Ages the belief arose that shark teeth were the tongues of serpents which St. Paul had turned to stone while visiting the island of Malta. As such, shark teeth were worn as amulets for protection from reptile bites and as charms against the power of the EVIL EYE.

TOADSTONE (62): Is the fossil tooth plate of a skate or ray fish, but it was once thought that it came from the head of a toad. Toadstones had a wide variety of magical and medical uses.



The most fascinating aspect of beliefs about toadstones was the method required for obtaining them. The stone had to be extracted from an old toad's head while it was alive. To trick a toad into giving up its precious stone, one placed the toad on a red cloth. When the delighted toad began to play on the cloth, it would cast off its stone which could then be retrieved.

TRILOBITES (63): Are extinct arthropods. Trilobites have long been used for their magical and medical powers. Western American Indian tribes believed that warriors wearing necklaces of trilobites would be immune from enemy arrows in battle.

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