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FOLK-LORE OF PRECIOUS STONES.

BY GEORGE FREDERICK KUNZ.

EARING and carrying charms is a form of superstition which undoubtedly existed in the earliest times, originating with primitive man, perhaps, as soon as he wore his first ornament, and the habit is still persistently clung to by men and women who would scoff at the idea that they were at all superstitious. tendency is strikingly shown by the estimation in which is held one of the most beautiful of all gems—the opal—which is often not selected as a gift, not perhaps because the giver really believes that it would bring ill luck, but certainly because he would feel that his lack of superstition might be held answerable by others for any harm that should befall the loved one to whom he would give it. Yet the same person would offer as a gift the moonstone or a natal stone to insure to the wearer the benefits supposed to be derived from their possession.

The use of the quaint amulets was well illustrated by the remarkable series of charms consisting of arrow-points, sharks' and boars' teeth, and various odd and curious things, used in Italy and France for many preceding centuries, shown by Belucci, of Genoa, at the Paris Exposition of 1889.

Until the beginning of the present century, and even to-day in Italy, arrow-points made by primeval man have been known as fairy darts, and worn as amulets or charms. The celts and stone hammers, strange to say, were called pierres du foudre, thunderbolts. The crystals of staurolite that are found in Brittany were believed to have fallen from the sky, and to them were attributed certain powers to charm.

In early times, and as late as the seventeenth and eighteenth centuries, it was believed that there was a stone either in the head or in the stomach of nearly every animal. When in the head, these were evidently hard concretions of bone; when in the stomach of herbivorous animals, calcareous concretions, generally having for a nucleus hair or some other indigestible substance. The stone from the head of the dragon was called Draconius; the Greeks and Romans called that from the eagle Actives; that from the kidneys of cervicapra, an antelope of Arabia, was called Bezoar, and was believed to consist of the poison of serpents and to be a potent charm against poison, the dragon, etc.,—and to all these stones was ascribed marvelous power to charm and to cure. This superstition was prevalent in Asia as well as throughout Europe.

Much valuable and interesting information has been drawn from the folk-lore and superstitions of the East Indians by Mohun Souhindro, the Maharajah of Jagore, in the two volumes of his "Mani Mali," or "Necklace of Gems;" from Europe, by the late Rev. C. W. King, in his "Engraved Gems," "Antique Gems," "Precious Stones and Metals," etc.; and by William Jones, in his "History and Mystery of Precious Stones," "Finger-Ring Lore, Credulities and Superstitions," etc. We are informed also as to the notions regarding precious stones by many ancient writers, among others—

Theophrastus and Aristotle, Greek philosophers, of four centuries before Christ.

Pliny, the Roman author of the first century.

Avicenna, the Arabian philosopher of the tenth century.

Marbodeus, of the eleventh century.

Albertus Magnus, the learned German Bishop of Ratisbon, in the thirteenth century.

Leonardus Camillus, an Italian physician, in the fifteenth and sixteenth centuries.

Boetius de Boot, the court physician of August II. of Saxony, of the seventeenth century.

Thomas Nichols, professor at Jesus College, Cambridge, 1650. Ernestus Bruckman, a German physician, 1770, at the court of the Duke of Brunswick.

Each precious stone was supposed to have special medicinal powers; and the pharmacopœia of the ancients had, among its most potent remedies, a very costly compound called the "Five Precious Fragments," supposed to consist of powdered ruby, topaz, emerald, sapphire and hyacinth. As their patients were not likely, nor competent, to analyze the mixture, it may have happened that the physicians pocketed the real gems, as well as the fee, using other substances in their place.

This faith in the virtue of certain precious stones for the cure of diseases was held to a comparatively late period and prevails somewhat even yet.

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The earliest known objects made of rock-crystal, hematite, jasper, and other materials deemed valuable at the time, are undoubtedly the curious rolling Babylonian cylinders on which were engraved seals These date back with a certainty to 2800 B. C., and come down to nearly the beginning of our era; the conoid seals, from 1000 B.C. to after the Christian era. The ancient Egyptians carved out of hard stone from over 2000.B.C. The use of these as intaglios reached their greatest perfection during the highest period of art in Greece and Rome, from about 5 B.C. to the second century after Christ; in Rome, then degenerating in artistic spirit, until the fifth century of our era, when the Gnostics and others re-engraved the backs and frequently the faces of their antique gems with their mystic and often apparently meaningless inscriptions. After this time, during the period of Venetian commercial supremacy, and during the Crusades, the beads of precious stones from the Orient were disseminated throughout Europe. The table-cut stones date from the fourteenth to the seventeenth centuries, when the rose-cut and brilliantcut stones made their appearance, simultaneously with the introduction of which superstition seemed to wane. These various forms of cutting as well as the savage forms will be found in the collection * exhibited by me for the New York branch of the American Folk-Lore Society in the Department of Ethnology, which contains a few of the more interesting objects that it has been my good fortune to obtain, and with it a collection of the more important literature that has appeared since the fifteenth century, among which we have editions of Aristotle, Pliny, etc., ending with what may seem remarkable at the present time, a prospectus of a work on the medicinal properties of precious stones by Dr. de Lignieres, of Nice, who has a volume of 641 pages in press that will treat of this subject. In this work the Doctor seriously discusses the medicinal virtues of various precious stones.

The star sapphire (asteria)—one set in a ring with Persian mounting—was supposed in the seventeenth century to bring good fortune to him who wore it; called Slegstein by the Dutch. It is also said to have been good for apoplexy. Captain Burton, the great oriental traveler, had a star sapphire which he always carried with him, and in the heart of Arabia, or on the deserts of Africa, the sight of the gem always inspired respect akin to reverence. It proved to

^{*} At the Columbian Exposition.

him a talisman of unexampled power which the people believed would render him all possible assistance in case they incurred his vengeance.

Cat's-eye chrysoberyl; Ceylon; used by the natives as a charm against evil spirits and believed to bring good luck.*

Moonstone from Kandy, Ceylon; believed to bring good fortune and considered holy. Never sold on any other than yellow cloth, the sacred color. Supposed in the seventeenth century to be a cure for epilepsy and also to make trees fruitful. Of special lunar attraction. It daily waxes and wanes according to the moon's state. It was a very sacred stone and contains an image of the moon, which grows very clear upon fortunate days and occasions and the reverse under evil influences. A stone of warning and friendship; cures epilepsy; makes trees fruitful. Called a "sacred" stone.

Lodestone; native magnet; bound with brass and soft iron to preserve its strength. The property of an European physician in the fifteenth or sixteenth century. In the seventeenth century lodestone was used as a remedy for headaches, convulsions, as an antidote for poisons; supposed to produce love and concord, to drive away fear and render the wearer invisible. In the East Indies it is said that the king should have a seat of lodestone at his coronation.

Lodestone, a native oxide of iron having magnetic properties. Worn for centuries for the power it was supposed to possess and for the charm it was believed to give the wearer. Large quantities of it are found at Magnet Cove, Arkansas. It is estimated that from one to three tons are sold annually to the negroes, to be used by the voodoos, who employ it as a conjuring stone. In July, 1887, an interesting case was tried in Macon, Georgia, where a negro woman sued a conjurer to recover five dollars which she had paid him for a piece to serve as a charm to bring back her wandering husband. As the market value of this was only seventy-five cents a pound, the judge ordered the money refunded. A very strong natural mass found at Magnet Cove, Ark.

Hydrophane (magic stone); is quite remarkable for its power of absorbing liquid. When water is allowed to drop slowly on it, it first becomes white and chalky and then gradually perfectly transparent. This property is so strikingly developed that the finder has suggested

^{*} See Notes on Alexandrite, Aqua Marine and Chrysoberyl, Trans. N. Y. Acad of Sciences, Vol. V., No. 6.

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its use in rings, lockets, charms, etc., to conceal photographs, hair, or other objects which the wearer wishes to reveal only when his caprice dictates; evidently the Occulis Mundi of the gem writers of the fifteenth to eighteenth century.*

Tabasheer, a vegetable opal that forms in the joints of the bamboo; purchased at the bazaar held in Calcutta, Hindostan, 1888; used in India for medicinal properties and suggested by the exhibitor, George F. Kunz, to have been the snake stone mentioned by Tavernier as possessing the power of neutralizing the poison of the cobra di capello.

Floating stones, found in a branch of Mann Creek, a tributary of the Weiser River, which flows into it near its confluence with the Snake River in Idaho. The so-called floating stones are hollow quartz geodes, with a shell so thin that the air in the cavity more than makes up for the specific gravity of the quartz.

Madstone (aluminous shale) from Western North Carolina; one of many made of similar material. They were formerly and are still believed to possess the power of drawing poison out of wounds produced by the bite of a dog or the sting of a snake.

Eye-agate; natural color; from Persia; one pear-shaped stone 21/2 inches; one round, thick piece; one a double eye set; called Aleppo stone, because believed to be efficacious in driving away Aleppo sores, ugly sores which form on the nose and face; from Aleppo, Persia.

Moss-agate; gray green with black and brown markings; from Babylon; set in silver; ring.

Rainbow agate (Chalcedonix); when this is held perpendicularly and a fixed light is viewed through the stone, it shows a rainbow-like color.

Amber. The tears of Electrides; of great electric and medicinal value when worn in beads about the neck and pulse; cures sore throat, ague; charms away insanity, the asthma, dropsy, tooth-ache; and drives away snakes. A specific against deafness; good for the eyesight when ground up with honey. Oil of amber, or amber dissolved in spirits of wine, soothes and allays pain; also supposed to be the tears of birds of Meleagrides, who weep for their brother Meleager; said to be a concentration of birds' tears.

> "Around thee shall glisten the loveliest amber That ever the sorrowing sea-bird hath wept."—Moore.

^{*} See descriptions by George F. Kunz, American Journal of Science, 3d series, Vol. XXVIII., December. 1887; and Science, Vol. XVIII., No. 459.

String of sixty-one amber beads, with silver clasp (very old), worn by a peasant in Northern Prussia. Evidently given as a wedding present and worn for centuries. The string indicates having been worn for some time.

Amber beads, over one inch in diameter, (very old), crudely cut and faceted. Original made in Konigsberg, Prussia. Worn by a chief in Northern Africa.

Amber charm; oval; drilled; carved in intaglio and leaves; Italian; eighteenth century; worn as a charm.

Amber ornament containing fragment of a leaf; carved; quaint leaf-like form; from Japan.

Staurolite (cross-stone); Fannin County, Georgia; worn in Brittany, France, as a charm. The local legends state that the stone dropped from the heavens.

Chiastolite (macle); Lancaster, Mass.; worn in Switzerland for the charm the cross-like marking is supposed to bring the wearer.

Flint nodule; broken open; each side alike; from the coast of Brittany; containing a staining resembling a shrouded figure; worn as charms in the eighteenth century and known as portrait stones.

Amulet of fossil shark's tooth; mounted in silver; found in excavations at Salzburg, Austria; seventeenth century.

Two arrow-points; from Northern France; called "fairy darts" in the sixteenth to eighteenth century.

Celt; Brittany, France; called *pierre du foudre*, or thunderbolt. Meteorite; mounted as a charm; said by an ancient writer to "preserve the wearer from all harm, even though he be surrounded by enemies."

Jade; human tooth inlaid with lettuce-green jadeite; found by Mrs. Mary Robinson Wright with three other teeth similarly inlaid, in a tomb four feet in depth, in Tacamaca, near Gualajaia, State of Jalisco.

Jade; small fragment taken from the tomb of Tamerlane at Samarkand, Central Asia. The vandal who broke this off left the balance for some enterprising English or American collector.

Earring of jade (Oceanic variety) from New Zealand; made at Oberstein to imitate the earrings worn by the Maoris of New Zealand.

Jadeite; two beads; one circular cup-shaped ornament, drilled and with circular hole in the bottom; one small fragment of a celt showing former drilling; from Valley of Mexico, Mexico.

Jade (and jadeite); was worn in the fifteenth century and later as

a cure for kidney disease; hence its name, Spanish bijada and Greek nepbros.

Jadeite ornament; one-quarter of a celt which had been previously decorated; drilled on one side to be worn as a pendant; Valley of Mexico, Mexico.

Jade; East Indian; pipe top; originally set with jewels; found in Persia; evidently brought to Persia in the loot of India by Nadir Shah.

A cast of the Kunz votive adze now in the Kunz collection in the American Museum of Natural History, New York, N. Y. This object, weighing nearly sixteen pounds, was found in Oxaca, Mexico, and is believed to be the largest known aboriginal object made of jadeite. Two fragments have been cut from the back in prehistoric times for the purpose of extending the material. (See article on jadeite celt.)

Chloromelanite pendant; originally a whole celt of which this is only about one-half; part of the decoration still visible; Valley of Mexico. Mexico.

Cabot stones from the head of the fresh-water "sheepshead," a fish allied to the drumfish, the stones from the head of which were known by the name of "cabot," and were said to prophesy storms when cloudy, and favorable weather when bright and shiny. Usually found in pairs, peculiarly marked. A lucky stone. Presented to the author by Eugene Blackford of New York.

Eye-stones or ophthalme; are taken from the crawfish in the Sandwich Islands. They have been used from time immemorial for removing dust or other particles from the eye.

Aetites; a stone found in the nest of the eagle; eagle-stone; believed to give the strength of the eagle; fruitfulness; was greatly valued when genuine. When it was scarlet in color it rendered its owner rich and amiable and preserved him from all casualties.

Amber amulet; very ancient; decrepitated through age; found in a cave on the Baltic coast.

Amber ornament; pierced from both sides and ornamented; very old; from Northern Africa.

Alectorius; a quartz pebble taken from the gizzard of a fowl; sacred to athletes; a stone of this kind is said to have been worn by Milo the wrestler.

Beza or bezor stone; taken from the kidneys of the Cervicabra, wild Arabian deer. A potent charm against poisons and plagues; good for gout; in great repute among the ancients, bringing fabulous

prices in India and in the days of Elizabeth and James I. It was believed that it must be set in silver.

Cockstone; a crystal about the size of a bean; extracted from a cock; renders the possessor invisible and prevents thirst.

Coral hand; was supposed in the seventeenth century to show by its change of color the approach of disease; was also worn as an amulet for protection against enchantments, poisons, thunder, tempests, etc. In the East Indies the deep red coral was supposed to bring prosperity to its owner.

Coral; small branch with two small bands; Naples, Italy. Worn to ward off the evil eye; also believed to possess great phallic power.

Coral bead; very rude; west coast of Africa.

Pendant made of rich blue *lapis-lazuli*; drilled at the side; Tur-kestan, Asia.

Malachite; used in the seventeenth century to protect children from danger and disease; also as an amulet to shield the wearer from the attacks of evil spirits.

Four carved steatite talismans; three green with emblematic inscriptions; Persian; modern.

Milargro (miracle); made of silver; used in Peru by the poor, who wear them on the affected part to cure or to ward off disease. (E. E. Olcott, Lima, Peru.)

Jet carving; old Mexican; reproduction of a Spanish caravel.

Sioux peace pipe of catlinite from Pipestone County, Minnesota.

Six pendants made of argonitel; used as charms by the Santa Domingo Pueblo Indians, of New Mexico.

Selenite; cleavage 5x3 inches; used as a window in a pueblo of the Santo Domingo Indian Reservation, New Mexico; taken out by George F. Kunz, August 4, 1890.

Arrow-points; rock crystal; from Waynesville, Georgia.

Arrow-points; rock crystal; from Alexander County, North Carolina.

Gold bead; pre-Columbian; from Orlando, Florida.

Two ornaments; one hemispherical; the other drilled; made of barite; found in Indian mounds near Lexington, Kentucky.

Arrow-points; obsidian, agate, and opalized and yellow agatized wood; from Oregon City, Willamette River, Oregon.

Shells of Anadon containing small figures of Buddha and a string of beads, all of which have been inserted between the shell and the mantle of the mollusk by priests in Central China, who introduce these objects for the purpose of illustrating their power in oppressing the laity.

Pearls taken from the altar of Till Porter Mound, Little Miami Valley, Ohio, by Professor F. W. Putnam. These pearls were originally taken from fresh-water mussels (Unios) of the Miami and adjacent rivers, were drilled and worn as ornaments and were evidently thrown at the time into the fire on the altar of the mound, in commemoration of some great event.

Mummy eye; an eye taken from the eye of a mummy at Cusco, Peru; originally the eye of the giant cuttlefish (*loligo gigas*); taken from the fish by the ancient Peruvians and put in the eyes of their mummies, as they were more durable. (See *Trans. N. Y. Microscopical Soc.*, October 2, 1885.)

Abalona shells; two oval drilled pendants from the Indians of Santo Domingo pueblo, New Mexico. The abalona shell (baliotis) is used for ornaments and for decoration in the form of inlays by the Indians of the entire western coast from Alaska to California, including the outlying islands.

Carbuncle. The third stone in the high priest's breast-plate; engraved Zebulum. Sacred to Angel Amriel; light; endowment; guidance; martyrdom; Passion of the Savior; zodiacal sign; constellation. Called Osculan and Chrysolampis. Believed to be the ancient name for garnet (Dana). The Sixth Heaven is composed of it, according to the Koran. Dragons' eyes were of carbuncle; had a special virtue by which it emits a wonderful light which will light a room at night.

String of sixty rude garnet beads without any fastening; drilled from both sides; from ancient Bohemian graves.

Button; small ornament made of bronze containing an encabochon rose-colored tourmaline (Rubellite), from the State of Mainboung, China; set in a metal border of blue feathers from the kingfisher bird. The red tourmaline is called *oxi* by the Chinese and is greatly esteemed for the properties which it is supposed to possess.

Rock crystal amulet; mounted in silver; engraved with the arms and once the property of Count von Walstein, Archbishop of Prague, Bohemia, 1683.

Rock crystal amulet; mounted in silver; engraved with the arms and once the property of Count Eggenberg, Duke of Bohmisch Krumlow, Bohemia; seventeenth century.

Two tablet-shaped rock crystal seals with inscriptions; early Persian.

Rock crystal encabochon with inscription; early Persian.

Rock crystal ornament; cone-shaped; drilled; fastened to a cylindrical jadeite bead; originally used as a pendant from a necklace. Valley of Mexico, Mexico.

Rock crystal labret (lip ornament); made of rock crystal with metallic (silver) border at lower end for the shield; Valley of Mexico, Mexico.

Rock crystal ball; from a grave in ancient Brittany; used for divination in the middle ages.

Rock crystal ball; Japan.

Rock crystal was used in the seventeenth century as a remedy for gout, swoons and headaches. In the East Indies it is supposed to secure the wearer against the attacks of thieves and wild beasts, and as an antidote to poisons. In Europe it was believed to protect the sleeper from bad dreams, to dissolve witchcraft and spells. It was used in divination, as a hypnotic stone, and to induce mesmerism; was much used by the old astrologers, who believed in it; sacred to Diana, Luna, etc.

Rock crystal ball, used in divination by sightseers and others, notably by Dr. Dee and others of his time; apparently in early times, as such balls have been found in old graves in Brittany and England.

Obsidian chipped ornament; semi-circular; crescent-shaped; three inches in length; drilled at both ends; from Valley of Mexico, Mexico.

Two ear ornaments; obsidian; circular; partly finished; from the Valley of Mexico, Mexico.

Ornament of obsidian; duck's head with flat bill; carved; drilled; to be used as a pendant, with small hemispherical discs of rock crystal for the eyes; from the Valley of Mexico, Mexico.

Unfinished ear ornament; obsidian; from Valley of Bravo ve Temaxcaltepec, State of Mexico.

Labrets; Aztec lip ornaments, made of obsidian; from the Valley of Mexico.

Arrow points of obsidian and chalcedony; worn drilled; to be suspended as ornaments. Two with original thongs to hold them together. Worn as fetiches by the Isleta Indians, New Mexico.

Lava dishes containing small fragments of chalcedony, turquoise, obsidian, etc., as they are offered for sale by the Indians of the Santo Domingo pueblo, New Mexico.

Silver charm ring containing turquoise set in copper. This ring was made by the Navajo Indians.

Turquoise amulet, large flat, mill-drilled; used as a charm by the **Ind**ians of the Santo Domingo pueblo, near Wallace, New Mexico; obtained near Los Cerrillos.

Turquoise earrings; turquoise beads on silver wires; from the pueblo of San Domingo, near Wallace, New Mexico.

String of beads and a small animal fetich, made of marine shells, to which are attached drilled ornaments of turquoise and steatite from an ancient Zuni grave near Tempe, Arizona.

Persian turquoise talismans and ring, with inscriptions from the Koran.

Fetich from pueblo of Santo Domingo, New Mexico; prairie dog; made of gypsum with eyes of turquoise; used by the medicine men of the Pueblo Indians in their ceremonies to induce rain.

Twenty-one rolling Babylonian cylinders made of hematite, serpentine, calcite, basalt and other stones, dating from 2000 B.C. to 500 B.C.; found at Bagdad, Persia.

Two hematite hemispherical drilled seals carved with different devices; Sassanian; 300 to 400 A.D.; found at Bagdad, Persia.

Two bloodstone hemispherical drilled seals carved with different devices; Sassanian; 300 to 400 A.D.

Ten hemispherical drilled seals made of red and brown sard, carnelian, banded agate and chalcedony; 300 to 400 A.D.

Two hemispherical drilled seals; one Parthian, made of gray chalcedony, and one with the device of the humped bull; 300 to 500 A.D.

Agate cone-shaped seal; Pehlevic inscription; about 500 A.D.; found near Bagdad, Persia. The original color of this agate has been changed to an opaque white by having passed through a conflagration.

Cone-shaped seal of brown and white banded agate; Parthian.

Carnelian; old Persian intaglio; Parthian; 300 to 500 A.D.

Assyrian cone-shaped seal; blue chalcedony (sapphirine); 400 B.C. Assyrian cone seal of red ferruginous quartz; 400 B.C.

Seven engraved almandite garnets; three mounted as rings, intaglios; Persian; Parthian; 300 to 500 A.D.

Twenty-eight sard and carnelian intaglios; Roman; 300 to 400 A.D.; one with figure of Fortuna; stone has a white patina; found at Bagdad, Persia.

One gray chalcedony with Persian Parthian intaglio; three heads; from 300 to 500 A.D.

Two amethyst encabochon intaglios; 300 to 400 A.D.

Onyx; Oberstein, Germany; stained to imitate the ancient East Indian onyx; two oval stones showing two layers of black and one of white.

Ceragate; one polished square; yellowish tint.

Carnelian; oval encabochon stone; East Indies.

Three oval sardonyx stones, regarded in the seventeenth century as symbolizing, in its name, the reconciliation of the law and the gospel, the onyx having been in the breast-plate of judgment, and sard in the foundations of the New Jerusalem.

Three oval pieces of sard; seventeenth century; in the seventeenth century was supposed to render the wearer proof against witchcraft and to make him cheerful and fearless.

Two chalcedony seals engraved with Persian inscriptions. One: "In the name of God, the most merciful. Say! God is one, God is omnipotent. He does not beget nor is begotten; nor has he any equal; not even one Ali! Oh, Ali!" Center inscription: "Victory from God and soon opening."

Three Persian seals; sixteenth to eighteenth centuries; made of red sard, brownish jasper and a black agate.

Persian seals, made of chalcedony and jasper—not ancient. In Persia, to every contract is affixed a seal. Nowhere is the use of seals so universal as in Persia, and every mule-driver or other person who cannot write carries a seal.

Eight Persian seals of brass, iron and copper; from the tenth to the fifteenth century.

Persian lapis-lazuli intaglio with Persian inscription; found at Bagdad, Persia.

Rich red sard seals with Arabic inscription; nineteenth century.

Rude garnet sard seal with Arabic inscription; nineteenth century.

Seven Persian seals; fourteenth to fifteenth century; found in Bagdad, Persia.

Sardonyx, banded agate; three chalcedony and one carnelian.

Chalcedony; was supposed in the seventeenth century to be a protection against evil spirits, to banish melancholy and to procure success for the wearer.

Small charms made of red and white carnelian, agate, etc., in the form of rude arrows; drilled at the barb end; originally worn as charms; found in an ancient Assyrian grave. Similar to those in the Assyrian gallery in the Louvre. Chalcedony cameo; Roman; 300 to 400; found in Persia.

Section of a chalcedony conoid seal; engraved encabochon; Roman; 300 to 400 A.D.; found in Persia.

Section of a hexagonal bead; engraved with an intaglio; the drill hole of the bead is visible all along the back; section of a bead.

String of five charms made of carnelian and silver; worn as a charm in Bohemia in the seventeenth century.

Banded agate; six; two beads, one talisman, two oval stones and one flat section; from Persia.

Chalcedony; three pieces; worn in the seventeenth century as a protection against the evil spirits, to banish melancholy, and to procure success for the wearer.

Two rings made of carnelian with heart-shaped shield on top; worn in Germany and Southern Europe as love rings.

Coral anchor, cross and heart made at Oberstein, Germany; carnelian; worn as charms in Italy and throughout Southern Europe.

Rings made of carnelian; ornamented with triangular facets; made in Oberstein, Germany, and worn in Italy as charms.

Heliotrope; was supposed in the seventeenth century to procure riches and fame for the owner. It was also regarded as a cure for the bites of poisonous reptiles and for hemorrhages.

Twenty-four cone-shaped pieces of sard from two to four inches long; drilled with an aperture large enough for the finger; heart-shaped, amulet-shaped and bead-shaped objects of carnelian, chalcedony and sard; made for the Tripoli market, where they are resold for the interior African trade. They are generally white and red—so-called tower rings. Those from two to four inches or more in length are most salable; the greatest demand is for light red.

For the Senegal trade they are generally tower rings, six-sided beads, generally from one and one-half to two and one-half inches in length; rings with a square, castle-like protuberance, heart-shaped, diamond-shaped, triangular, round and bead-shaped objects, all of which are drilled; made of sard, carnelian, chalcedony, seragate and chrysoprase.

For the Cairo market, where they are resold to traders who sell them in the Soudan, they are generally banded agate and onyx, striped brown and black in the form of leaf-shaped beads, tower rings and small, elongated, oval amulets. These articles for the African trade are all manufactured at Oberstein, on the Nahe, Germany, where they are especially manufactured for exportation to Africa, the prin-

cipal points being Tripoli, Senegal and Egypt, where they are sold to the tribes in the interior. The demand for each locality is for the special patterns which are made for each country. Since the trade commenced the natives will only buy those patterns which are especially manufactured for them, never caring for any patterns that are sold to the other sections.

Dog's head charm made of banded white and brown agate with a rich green staining at the mouth; found in the Valley of Mexico, Mexico.

Charms; rattles of rattlesnake; made of red and brown obsidian; found in Jalisco, Mexico.

Touchstone; (basanite) black jasper; European jewelers' touchstone of the sixteenth century. The dark color of this material rendered it excellent to compare the various colors of gold.

Egyptian jasper; valued in the eighteenth century for the fancied resemblance to human faces which it contains.

Agate; used in the seventeenth century as an antidote to poison and a preventive of contagion; supposed in the East Indies to cure insanity and also to soften the anger of the wearer.

Two oblong pieces of jasper, one green and one brown; was used in the seventeenth century as a cure for diseases of the stomach, epilepsy, and one variety was supposed to protect the wearer from drowning.

Carnelian; supposed in the East Indies to insure wealth to the wearer.

Charm; small bivalve-shell-shaped object with small protruding point; drilled; to be used as ornament; made of red and black jasper from Jalisco; found in the Valley of Mexico, Mexico.

Charm; a brown, drop-shaped pendant; drilled at one end; made of yellowish-brown chalcedony.

Aztec heart-shaped pendant made of bloodstone (green jasper with red spots); used by the Aztecs in Spain in the fifteenth and sixteenth centuries to staunch the flow of blood from wounds.

Bloodstone pendant; heliotrope; pear-shaped; from the Valley of Mexico, Mexico.

In regard to a communication by water that was believed to exist between Asia and America, we have yet to find a single conclusive evidence that such a traffic existed. There is not a single object of silk, of carved ivory, of gold or silver work, enamel work, or porcelain, of Burmese or other Oriental woods, nor a single diamond, sapphire, zircon, chrysoberyl, alexandrite, or jeweled jade or jadeite, that can be attributed to an Asiatic contact, or of which we can positively affirm a Siamese or Burmese or Chinese or Japanese source, or say that this or that is a Ceylonese, a Burmese or a Cashmere gem. Yet nearly all these objects have been worked in peculiar forms since time immemorial in the oriental countries, with such marked carving of lettering or symbols as to render them unmistakable as having been made in particular oriental countries; while on the other hand there is scarcely an object of Spanish contact, such as Venetian beads, ironworked buttons and other objects, that has not at one time or another been found in graves, often in apparent primeval forests. Jade we have not yet traced to its finding-place, but we surely will. Turquoise, which three centuries ago was only known in one locality, we find now may have been mined at half a dozen places.

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