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**CHALCEDONY AND CHILDBIRTH: PRECIOUS AND SEMI-PRECIOUS
STONES AS OBSTETRICAL AMULETS****

It is also profitable to wear about them gemmes and precious stones, as the Saphire, Iacint, Corall, the precious stone Corneola, Adamant, Thurchese.¹

The custom of wearing or holding an amulet during pregnancy and childbirth is probably as ancient as the need for comfort and reassurance. For reasons not entirely clear, precious and semi-precious stones throughout recorded time have been considered to possess protective virtues.^{2,3} The medical benefits ascribed to each stone were listed in medical and lapidary manuscripts and books. This review is concerned chiefly with the records from Western Europe.

THE EAGLE STONE

The *aetites* or eagle stone was perhaps the best known obstetrical lapidary amulet. Although the *aetites* is not a gem, it was prized for its supposed efficacy not only in preventing abortion and easing childbirth but also in detecting thieves and poison and in treating epilepsy. The stone, in a sense, is "pregnant," for it is hollow and contains a pebble, sand, or other material, as can be demonstrated by the rattling which occurs when the *aetites* is shaken. It has been known since the days of the Assyrians.^{4,5} Bromehead⁶ points out that there are at least a hundred references to the *aetites* between Dioscorides' manuscript in the first century A.D.⁷ and Quincy's *Pharmacopoeia* in the eighteenth.⁸

The stone acquired its name because it was said to be found in the eagle's nest. Pliny gave authority to this idea; he states that the *aetites* are of both sexes and that a male and a female are always found together in the nest.⁹ Lucan (39-65 A.D.), the Roman poet, perhaps with his tongue in his cheek, referred to eagle stones which explode noisily when heated by

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the female bird's body.¹⁰ Conrad of Megenberg stated that the stone prevents the great heat of the eagle from burning the nest and that the parent bird was willing to journey to far lands to find an *aetites*.¹¹ Isidore, Bishop of Seville (ca. 570-636), was convinced that the young eagles could not escape from the eggs unless the stone were present.¹² It helped the female to lay her eggs, and it protected the young from snakes. Icelandic legend told how to obtain a *Lausnarsteinn* or *Lösestein*: one finds an eagle's nest and binds the beaks of the young. When the father returns and sees their predicament, he at once flies off, returning with several stones of different colors. He touches one after another to the bound beaks; that which frees them is the *Lösestein*. Such objects are now believed to be the dried fruit of the plant *Mimosa scandens*, washed up on the coast of Iceland.¹³

Pliny described four varieties of *aetites*, coming from Africa (a female stone), Arabia (a male), Cyprus, and Taphiusa. He also mentioned the *cyitis*, which contains an embryo stone, and the *gassinade*, which conceives, as does the *gaeanis* or *paeanitis*.⁹ The latter, "the gem of parturient women," had been described long before by Theophrastus (371-287 B.C.).¹⁴ Pliny's ideas were repeated, sometimes with embellishments, for at least 1,600 years.

Bromhead⁶ has summarized various descriptions of the appearance of the eagle stone, beginning with that of Bishop Isidore.^{3, 12} In addition to the authorities listed, Agricola,¹⁵ Thomas Bartholin,¹⁶ and Baier¹⁷ also give careful accounts, based mostly on Pliny. Gesner distinguished between the *geodes*, containing earth, the *aetites*, enclosing sand or a stone, and the *enhydros*, containing water.¹⁸ Adams, a modern scholar, says that the *aetites* is formed by successive concretions of various soluble materials around a nucleus.¹⁹ If the mass solidifies and some of the layers are subsequently redissolved, the central portion may be freed. The *geodes* contains free minerals. The writer was shown six *aetites* (two of them so labeled) in the Natural History Museum, London. Four were described as limonite, one as flint, one simply as a "hollow, calcareous nodule." All were dark in color, and all rattled when shaken!

Barb makes the important point that the "great majority of eagle-stones are iron oxides, either limonite ('brown' haematite) or haematite proper ('red' haematite)," and that the latter, in the ancient mind, checks bleeding "not only of wounds, but of menses also; it therefore helps conception and is a protection against miscarriage."⁴ Both Dioscorides, Nero's Greek army surgeon,⁷ and Plutarch²⁰ believed that the *aetites* is useful in preventing abortion and facilitating delivery. By this time the idea had developed that

the eagle stone actually attracted or pulled on the unborn child. Dioscorides directed that the stone be bound to the woman's left arm to prevent loss of the fetus but that at term the stone be removed from the arm and fastened to the hip. Plutarch explained, "the midwives place [the eagle stone] on the lower abdomen of women who are giving birth with difficulty, and they at once deliver without pain." In the sixth century Aetius of Amida made a nearly identical statement.²¹

The obstetrical virtues of the stone were extolled not only by St. Isidore but by Marbode, Bishop of Rennes from 1067 to 1081;²² to these two celebrated lapidarists and clerics Evans and Serjeantson attribute "the main stream of the mediaeval tradition of the virtues of stones. . . ."²³ Trotula of Salerno, legendary woman physician of the eleventh century, recommended the eagle stone.²⁴ Thirteenth century authorities who reiterated the wonderful powers of the *aetites* included Bartholomew the Englishman²⁴ and Petrus Hispanus, the Portugese physician who was probably also Pope John XXI in 1276-1277.²⁵ The fabulous Sir John Mandeville (died 1372) described the stone at some length in his work, *Le Grand Lapidaire*,²⁶ published in Paris in 1561. He specified that the amulet should be worn on the left side of the body. From the sixteenth until well into the eighteenth century, the virtues of the *aetites* were urged with monotonous regularity. A touch of imagination, indeed, is welcome. Leonardus' *Speculum Lapidum* said the stone is scarlet in color.²⁷ Gesner recommended application of the *aetites* to speed delivery in animals as well as women.^{18, 28} Bausch and others suggested that it would cure sterility.^{2, 27, 29}

Accounts of clinical experiences were not lacking. Vallerioli, a physician, told of a patient from whom, due to carelessness, a large eagle stone was not removed promptly following her delivery; after a few hours the uterus prolapsed, with a fatal result.³⁰ One of Lemnius' patients:

a Noblewoman wore this at her neck all the time she went with child, and was in very good health, and when she was in labour forgot to take off this jewel from her breast, she found presently a difficulty in her labour, and that the child was slow to come forth. Wherefore taking off the Eagle-stone from her neck, and applying it to her thigh, upon the inward part not far from the privities, she had an easy and quick delivery. . . . By what vertue it doth this. . . . I believe it doth it by an attractive vertue, as the Loadstone draws Iron; Jet, and Amber, draw straws and chaff.³¹

Mrs. Jane Sharp, a famous English midwife, had, she said, "proved it to be true, that this stone hanged about a woman's neck, and so as to touch her skin, when she is with child, will preserve her safe from Abortion, and will cause her to be safe delivered when the time comes. . . ."^{32, 33}

In addition to the notions that the *aetites* could protect against poison and was a useful remedy in epilepsy, there was a well established belief that the stone could detect thieves. Dioscorides had stated that such a criminal could not swallow bread in which (powdered) eagle stone had been mixed.⁸⁴ It remained for that shrewd and fascinating Neapolitan, Giovanni Battista della Porta (1536-1615), inventor, optician, botanist, magician, author, and cryptographer, to explain the empirical basis for the procedure:

There is a stone called *aetites*. . . . Whoever crumbles it, and mixes it into unleavened bread, and offers the mixture to the thief, the latter is unable to swallow what he has chewed, wherefore the thief must decide whether to be choked or to be found out. . . . The real reason for this is that the [*aetites*] powder which is contained in it [the bread] is dry, so that the bread is made very dry, and pumice-like, and cannot be swallowed even with the greatest effort by he who has it in his throat. It happens that he who seeks to find the thief should say to the bystanders who are suspected to be thieves that he will perform a miracle, and he extols it vigorously, for then the throat of the man who has stolen is parched with terror and dismay, and thirst seizes him, until he in nowise can swallow the powdered bread, for it sticks to his throat, while if there is another without fear, he may swallow, although with difficulty.⁸⁵

Thus, unleavened bread functioned empirically as a kind of "lie detector." The modern polygraph also depends for its success on autonomic responses.

There are a few indications of the monetary value of the eagle stone. One was among valuables plundered by soldiers from an English home in 1642: ". . . a Cock Eagle stone for which thirtie pieces had been offered by a physician but were refused."⁸⁶ An advertisement in the *London Gazette* for 1-5 April 1686 for an eagle stone lost "between Lincolns Inn fields and the New Exchange" offered a reward of a guinea from the owner, a Mrs. Ellis.⁸⁷ Bromehead⁸ and Barb⁴ cite other examples.

One is glad to discover that at least a few physicians and scholars questioned the alleged powers of the eagle stone. Sir Thomas Browne had his doubts in 1646, but he was not sure enough to take action: "we shall not discourage common practice by our question."^{86, 88} Robert Boyle⁹⁰ and Paul Ammann⁴⁰ were skeptical, as were some eighteenth century writers.^{8, 17, 41-48} Nevertheless, as late as 1887 one prominent French mineralogist is said to have received almost daily requests for eagle stone from pharmacists in Paris and the provinces.⁴⁴

OTHER MINERALS

There are surprisingly few references to the use of diamonds, perhaps because they were too costly for frequent use. Rueff's famous sixteenth

century work on midwifery recommended the *adamant* or diamond (see opening quotation¹) to prevent abortion, as did Culpeper 150 years later.⁴⁴

Several stones now classed as silicon oxides were in favor. Bonner describes a red jasper amulet from the Graeco-Egyptian period. On the stone is carved what seems to be a representation of a parturient woman seated in a delivery chair.⁴⁵ Jasper amulets were also thought to increase lactation.⁴⁷ Dioscorides recommended tying jasper to the thigh of a woman in labor to hasten her delivery,³⁴ as did Marbode.³³ Later in the twelfth century St. Hildegarde, German mystic and abbess of the convent of Bingen, wrote her *Subtilitates*. It had a book on stones and a chapter on jasper:

And when the woman bears her child, from that hour when she conceives it until she delivers, through all the days of her childbed, let her have a jasper in her hand, so that the evil spirits of the air can do so much the less harm to the child meanwhile, because the tongue of the ancient serpent extends itself to the sweat of the infant emerging from the mother's womb, and he lies in wait for both mother and infant at that time.⁴⁸⁻⁵⁰

Petrus Hispanus claimed that jasper would cast out the dead fetus.³⁵ A Dutch manuscript of the Middle Ages and an Italian surgeon in 1500 endorsed jasper as an aid in childbirth.^{51, 52} Leonardus recommended particularly the green variety with saffron colored veins.³⁷ The stone continued to be suggested in the sixteenth^{3, 53-56} and seventeenth centuries.^{45, 57-60}

Chalcedony (varieties were, and may still be, known as agate, carnelian, onyx, *lapis Sardius*, etc.) was one of the gems in a famous birth amulet kept in the abbey of St. Albans, England, since, according to one story, the days of King Athelred.^{51, 52} Rueff mentions *corneola* (chalcedony).⁵⁴ Lovell's formidable *Panmineralogicon* says that "*Corneol. Sardius* . . . applied preserveth the birth."⁵⁵ As recently as the first decade of the present century, cornelians and the white variety of chalcedony were valued by Russian and Italian peasant women as amulets against miscarriage and failure of milk.^{63, 64}

Sardius, a black variety, would, said Rueus in his *De Gemmis* of 1566, "dispel fear, induce courage, rescue the pregnant woman from sorcery and evil charms."⁵⁶ Massaria,⁵⁶ Claudinus,⁶⁶ and Renodaeus³⁷ suggested the *lapis Sardonius* as an amulet against abortion.

Flint has been worn or placed in the expectant mother's bed to ease labor,^{65, 66} and rock crystal in ancient times was mixed with honey and taken internally to increase the flow of milk.⁴⁷

Of the iron oxide minerals, hematite, limonite, and sapphire have been employed as obstetrical amulets. *Blutstein* or hematite, if held in the hand,

according to an Austrian belief, would protect the parturient woman from uterine hemorrhage.⁷⁰ Limonite (brown hematite) comprised one variety of primitive Italian pregnancy stone.^{69, 71} The lovely sapphire was believed to help prevent abortion, according to a seventeenth century writer,⁷² but Mrs. Jane Sharp said it interfered with conception if worn.³³

Most famous of the iron oxide minerals was the lodestone (loadstone, *lapis Ortites*, oritis, etc.) now known as magnetite.* Trotula advised the woman in labor to hold such a stone in her right hand.³³ Similar counsel was given by Petrus Hispanus and John of Gadesden in the thirteenth century,^{25, 62, 64} by Guainerius in the fifteenth,⁶³ and by a long series of sixteenth,^{37, 73-76} seventeenth,^{45, 65, 77} and even eighteenth century⁷⁸ authorities, but there seems to have been disagreement as to whether the lodestone should be held in the right or left hand. Hucherus included the *lapis magnetis* as an ingredient in a prescription to prevent abortion.⁷³ One expert said that the lodestone helped conception;³³ another, that it would prevent pregnancy!⁷⁹

Malachite, a carbonate, had some reputation as a birth charm.^{47, 80}

Of the silicate group, jade (nephrite, green jasper, etc.) was valued in Egyptian times and also was recommended by Dioscorides as a childbirth amulet.^{47, 81} It was worn by Brazilian Indians to protect against illness, snakebite, and difficult labor.⁸² Jade is still an amulet, fastened to the shoulder of the parturient woman, in Bavaria, China, and India.⁸³ Beryl, said Leonardus, "is a Stone of an Olive Colour, or like Sea Water. . . . It helps pregnant Women in preventing abortive births, and other Incommodities to which they are liable."⁸⁷ The emerald (*smaragdus*), splendid member of the beryl family, was listed by Guainerius in 1500 as one of the gems recommended by still earlier authorities for use in difficult labor.⁸² Paracelsus prescribed it:

The Emerald strengthens women in labor, and is the sovereign arcanum for their ailments if prepared by distillation, [in the same way] as crystal

℞ Of the said Emerald prepared, ℥j [one scruple]

Of the Liquor of Melissa, ℥j [one drachm]

Of Southernwood, ℥ij [two drachms]

Mix. The dose is from three to six drops.⁸⁴

The more usual (and less expensive) method of using the emerald was to wear it on the neck, shoulder, arm, or abdomen during pregnancy and to lay it on the thigh during labor.^{45, 58, 59, 66, 73, 85, 86} The gem was also sup-

*The Latin *magnes* is sometimes translated as *magnet*, but it seems probable that reference was actually to the mineral magnetite, which possesses magnetic attraction.

posed to confer fertility.⁸⁸ Several related stones were employed in the same way as the emerald—lapis lazuli,^{56, 58, 59, 67} *hyacinth* (an ancient name possibly synonymous with sapphire; a variant name is jacinth),^{47, 54, 56, 73, 88} serpentine,^{58, 68, 80, 90} meerschaum,⁷⁶ turquoise,⁵⁴ and borax.⁵⁰ The *De Gemmis* of Epiphanius, Bishop of Salamis, written about 390 A.D., tells a fascinating and impossible tale about an ingenious method for obtaining jacinths from a great gorge into which no man can descend.⁸⁸ And Salmon's popular handbook of remedies includes the following recipe for women with difficult labor: "I gave them Borax, very finely powdered ʒj [one drachm] in Mugwort or Savin water ʒiv. [four ounces] or in strong Wine, or some opening Decoction, or mixed with an Ounce of Syrup of Mugwort, by which they always found wonderful effects."⁹¹

The *galactite* of ancient times, according to Webster, is unidentified.⁹² It may have been a calcium nitrate, yielding a whitish solution. In any case, it was since very early days believed to promote the flow of milk, whether worn as an amulet or taken as a mixture with honey, etc.^{47, 88} "If tyed to the Thigh with a wollen Thread, it facilitates the Birth of a pregnant Ewe," says an early translation of Leonardus.⁸⁷

Jet, related to coal, was the *gagates* of the ancients.⁹⁴ Evans and Serjeantson quote from the Sloane lapidary the recommendation that women in labor drink water in which jet has rested.³ Leonardus concurs.⁸⁷

UNIDENTIFIED STONES

Four pregnancy stones were not identified. The *lapis Armenius*,⁵⁸ *lapis Sidonius*,⁷³ and *lapis Samius*^{87, 89, 75, 87, 95} were believed to prevent abortion and make labor easier, while the *lapis Sarmenius* was expected to hinder birth.⁹⁶

GEMS OF BIOLOGICAL ORIGIN

Lapidary and medical works often included non-mineral obstetrical amulets. One of the most interesting was coral. Hutchinson has recently discussed the significance of this material in various protective charms.⁹⁷ Trotula recommended a piece of coral hung about the neck as a birth charm.²³ Petrus Hispanus made the more usual suggestion for the time of delivery, that the amulet be tied to the leg.²⁵ Several other authorities gave similar directions.^{45, 74, 75, 79, 98} More commonly, it seems, a prescription containing coral or pearl, or both, was prepared to be taken by mouth or applied as a liniment or plaster. *The Byrthe of Mankynde*, Richard Jonas' 1540 translation of Eucharius Roesslin's earlier work and the first book in English on midwifery, prescribed an electuary, or sweet paste to be taken

by mouth, if the placenta and membranes were not delivered promptly: “then muste ye minister such thinges to her the whych confort the head and the hart as be electuaries whiche are conficte [confect] with muske/amber/and the confectiō of precious stone/as Diamargariton [pearl]/and suche other.”⁹⁹ Ryff gives a recipe of pearls and other ingredients to “strengthen the fetus.”¹⁰⁰ Bayr reports that “The use of coral and pearl before food is profitable,” whether internally or externally is not clear.⁷⁸ Later prescriptions were more elaborate—and more costly. They might contain silk and ivory scrapings,⁹⁹ sapphire, and hyacinth.⁷⁹ (Trotula had suggested “a drink of ivory.”¹⁰⁰) Thus Jane Sharp:

Some remedies are specifical against miscarriage, and if the woman be in danger she may use them, and that in divers ways she may take them; as thus, take Red Coral in powder two drams, shavings of ivory one dram and a half, Mastick half a dram, and one Nutmeg in powder, give half a dram in a rear [raw?] egg. &c.⁸³

Culpeper suggested similar preparations to ward off abortion.⁶⁵ The pseudonymous Aristotle had a delightful recipe “to strengthen the womb and the child” during the first two months of pregnancy:

Take conserve of burrage, bugloss, and red roses of each 2 ounces; of balm one ounce, citron-peel and Sheb's mirobolans candied, each an oz.; extract of wood aloes, a scruple; pearl prepared, half a dr. red coral, ivory, each a dr. precious stones each a scruple, candied nutmegs, 2 dr. and with syrup apples and quinces, make an electuary.⁷⁸

A good many protective liniments and unguents also contained coral and ivory, along with aromatic oils and spices and sometimes such dubious additions as goat's horn, ivory scrapings, or lodestone.^{54, 66, 68, 73, 78, 91, 101-108}

Two other biological substances were sometimes mistakenly regarded as semi-precious stones and were recommended for use in midwifery. Bayrus said that “The stone of ebony with which the goldsmiths clarify gold, if carried facilitates birth and protects the fetus without illness.”⁷⁸ Albertus Magnus, about the same time, spoke of “the *Suetinus* stone, of a saffron color, which the Greeks call amber.”¹⁰⁴ It had several virtues including the easing of childbirth. De Boot agreed, and suggested a dram of the material in wine, or six drops of magistrery of amber in a potion or unguent.⁸⁸ Dr. Thomas Fuller increased the dose. Oil of amber, he said, is:

an extraordinary Medicine for Hysteric People, and is singularly to be noted for Women in Labour. . . In this Case, I say, this useth to bring, as 'twere, Divine Help, beyond almost anything else, if 20 or 30 Drops be ministered in an appropriate Vehicle, and repeated at due Times.¹⁰⁸

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The writer is particularly indebted to the authors of two recent and excellent studies on the eagle stone.^{4,6} References in the literature to the *aetites* are very numerous; only a few can be mentioned here. Many others are cited elsewhere.^{2, 4, 6, 40, 50, 82, 84, 106-107} Identification of some of the old names for stones with their modern equivalents presented problems, partly because of erroneous classical ideas about the relationships of stone. The writer has depended largely on Dana's *System of Mineralogy*.¹⁰⁶

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