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UTERINE AMULETS AND GREEK UTERINE MEDICINE

ANN ELLIS HANSON
Department of Classical Studies
University of Michigan, U.S.A.

SUMMARY

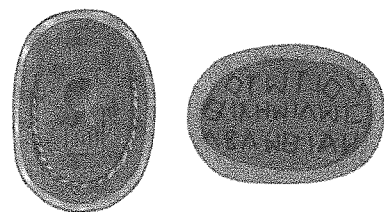
UTERINE AMULETS AND GREEK UTERINE MEDICINE

This article publishes for the first time a hematite uterine amulet in the author's possession. After a brief look at this amulet I offer a summary of previous scholarship on uterine amulets, and then focus on three specific aspects -the amulets' relation to Greek medical texts on gynecological topics; evidence for the use of perishable and non-perishable amulets by Greek women prior to the proliferation of the hematite examples in the Roman period (ca. II CE). I conclude with a discussion of the derivation and meaning of ororiouth, based on my correspondence with Dr. Roy Kotansky.

The small uterine amulet pictured just below is about 1.5 x 0.9 centimeters and it belongs to a well-known type of gemstone whose conspicuous common features are the material, hematite; the iconography, an intaglio carving of the female uterus with pronged lock at uterine mouth, often encircled by a confining and protecting *ouroboros*; an inscription that includes the word $\rho\omega\rho\iota\upsilon\theta$. This example has beveled edges, presumably for inserting in a mounting; it is now set to wear as a necklace¹. Other uterine amulets display additional features: more elaborate iconography, with figures of Egyptian deities and Egyptian symbols surmounting the uterus, or more elaborate inscriptions, expanding with Greek phrases and magic formulae in Greek characters, the latter of which, although at home in the magic practices of Hellenistic and Roman Egypt, also have ties with Hebrew and

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through Hebrew to older Semitic languages of the Near East. The additional features help to demonstrate the range of prophylactic and therapeutic functions a generic uterine amulet, such as the following, might be expected to perform.



OBV.

REV.

ΟΡΩΠΙΟΥ
ΘΙΑΗΩΙΑΩΣ
ΑΒΑΩΘΙΑΩ
(ορωπιου|θ ιαηω²
ιαω σ|αβαωθ ιαω)

Although the majority of incised amulets have entered museum collections with scant record of the archaeological contexts in which they were found, many uterine amulets, similar to the one pictured above, have been assigned an Egyptian provenience, since it is clear that the fashion of wearing hematite uterine amulets flourished in Egypt during Roman times³. Morton Smith notes that carved magic gemstones are never found in excavations levels earlier than the 1st BCE or the 1st CE and calls attention to Galen's evidence for the earliest reference to a recognizable type of amulet from about 150 BCE; Roy Kotansky suggests that the manufacture of inscribed amulets began to flourish between the Hellenistic period and the High Roman Empire⁴. Campbell Bonner's study of uterine amulets in 1950 remains fundamental, although many improvements have been made in matters of detail⁵. Robert Ritner has explained the meaning of uterine gemstones on the basis of Egyptian sources, drawing attention, for example, to the beneficent triad of Egyptian deities often depicted above and around the uterus - Osiris, Isis and Nephthys, all connected to childbirth through the birth of Horos, whose image also appears. Present at times are Bes, regarded as a protector of women and children, and the ram-headed Khnum, often in his Hellenistic guise as the serpent Chnoubis, actually touching the handle of the uterine lock on several examples, as if to manipulate it⁶. Many of the Egyptian texts to which Ritner appeals, including the medical

ones, are, however, separated by more than a millennium from the gemstone amulets, and the medical texts, in particular, lack the highly developed series of explanations for uterine anatomy, physiology, nosology, and therapeutics that characterize Greek gynecological texts that are likewise closer chronologically to the proliferation of the hematite amulets⁷. Use of carved gemstones, in fact, coincides with the time when the upper classes among the urbanized populations of the eastern Mediterranean were increasingly speakers of Greek, in addition to their native languages, in the wake of conquests first by Alexander and later by the Romans. In all likelihood, the amulets' messages, written in Greek characters, intended to appeal to the womenfolk of these city-dwellers. This is not to claim that the uterine amulets were solely the product of Greek thinking about the womb, but rather to suggest that the complex amalgam of language and iconograph that uterine amulets exhibit is more simply viewed as developing and modulating over time within the matrix of the entire eastern Mediterranean, catering in the gemstones' considerable variety to the tastes of an audience that was becoming increasingly familiar with the Greek language and Greek ways of thinking⁸. Jeffrey Spier's recent study of Byzantine uterine amulets likewise suggests that a highly complex amalgam of influences resulted in energetic production of uterine amulets in lead, iron, precious metals, and enamel in tenth-century Constantinople⁹.

Modern scholarship on uterine amulets essentially begins with Armand Delatte in 1914, who identified the pot-shaped vessel with lock as its mouth as a representation of the female womb. The painter Peter Paul Rubens and his friend Nicholas Claude Fabri de Peiresc, antiquarian and scientist, correctly recognized the pot-shaped vessel as a uterus in 1623; nonetheless, subsequent students of the gemstones prior to Delatte conjured up more fanciful images, such as a stove, a vessel of sins, a pot from a Nile water-wheel, a pneumatic organ, a reliquary for the head of Osiris¹⁰. Additional probing of these amulets led Bonner to emphasize the closing functions of the lock at the uterine mouth and he sees the amulets' major purpose as protective - to seal off the womb from evil influences; Barb's discussion, well aware that a lock can open, as well as close, considers their pri-

mary purpose as facilitators of childbirth¹¹. Ritner's reassessment stresses the fact that both opening and closing are necessary uterine functions over which the amulets exercise control: opening to expel menses, to receive seed, and to provide path of exit for the child at birth; closing to hold the child during gestation. Closing of the womb cures menorrhagia and uterine hemorrhage, while untimely openings and closings, such as an opening during the pregnancy, causes abortion¹².

Uterine Amulets and Greek Medical Theories

Greek medical texts enunciate with considerable clarity the interrelations between uterine anatomy and physiology, etiology and uterine therapies, creating a unified system well able to answer the questions about female nature that are addressed to it¹³. Their notions about uterine conditions likewise coalesce with many of the functions uterine amulets were intended to perform. Although the Greek messages inscribed on the amulets are by no means unambiguous, these words, nonetheless, seem to focus on two main areas of concern: preventing/rectifying pernicious uterine movements and regulating uterine flows of blood¹⁴. These are also the concerns of Hippocratic gynecology: *De morbis mulierum* II and the *De natura muliebri* intend primarily to medicate and cure pernicious movements and morbid flows, while *De morbis mulierum* I looks toward fostering proper opening and closing of the uterus to release or retain menses, to receive and retain male seed, to promote easy childbirth and to intervene in dystocia¹⁵. In Hippocratic hands, uterine movement in an upward direction often results in uterine suffocation, or choking, in a downward direction in a prolapse outside the vagina¹⁶. Hippocratic explanations for the movements appeal to notions of uterine desiccation from lack of sperm, the liquid of choice, or of over-heating from too strenuous activities; the womb attempts to correct these by moving upward to damp and cool places elsewhere in the body, ascending to the liver, lungs, and other moist places or descending to the outside air. Hippocratic medicaments that appeal to

uterine douches are in harmony with an etiology of desiccation, while binders and manipulations that manually return the uterus to its proper place appeal to mechanistic principles as the means of cure. The employment of odoriferous fumigations, however, to influence uterine movements - sweet smells at the vagina and fetid ones at the nose to send it downward, but fetid smells at the vagina and sweet smells at the nose to send it upward - betrays a less sophisticated view, whereby a sentient and auto-directed uterus moves willfully about the woman's body in reaction to the odors. Morbid uterine flows remain a concern for Greek medical writers of the Roman period, such as Soranos and Galen, although these latter hold more sophisticated notions of uterine anatomy and the ligaments that hold the uterus in its place, aware, as they are, of the systematic dissections by the Alexandrian anatomist Herophilos. Herophilos' writings on anatomy and delivery are lost, but statements Soranos and Galen quote demonstrate his substantial contributions to the demystification of the womb for the learned, academic tradition: *The uterus is woven together from the same things as the other parts* and is held in place by uterine ligaments¹⁷. Nonetheless, so entrenched is the sickness of uterine suffocation that Galen, for example, reconfigures it to harmonize with his more sophisticated anatomy, linking uterine suffocation with the morbid retention of menses and seed¹⁸. Herophilos' influence does not penetrate deeply into the population, as less sophisticated medical writers, such as Aretaios and Mustio, a Latin adapter of Soranos, retain the notion of uterine mobility. The uterine amulets and the magic papyri of late antiquity reiterate the message that the uterus is a willful creature, able to *bite into the heart like a dog* (PGM VII 267-68 Preisendanz).

Concerns about uterine opening and closing at the proper time likewise dominate Greek gynecological writing throughout antiquity, although Herophilos' influence causes refinements in the subsequent, learned traditions of Soranos and Galen. The Hippocratic writer of *De virginum morbis* describes a sickness that sometimes comes to young girls at the time of menarche, caused by an impediment at the uterine mouth, apparently a fan-

tasy membrane that intercourse with a husband removes to release the pent-up blood (8.466-70 Littré). By contrast, Soranos is aware that dissection does not reveal the existence of such a membrane at the uterine mouth; he counsels that menarche should precede marriage and that precocious pregnancy in the immature womb should be avoided at all costs¹⁹. The uterus continues to open periodically during a woman's adult years to release menses, but closes again after her period; it opens to receive male seed, but closes to retain the seed and to prevent loss of menstrual blood, now employed to feed the growing fetus. The notion that the uterus closed at conception is a commonplace among all gynecological texts from Hippocratics to Galen: Galen says that Herophilos likewise endorsed the notion. The uterus must open at birth to permit the exit of the child, and while Hippocratics see the child as initiating its own birth, Galen has seen in birthing animals the peristaltic contractions of the uterus that accomplish the birth²⁰. Untimely opening results in morbid uterine hemorrhages and in abortion; untimely closing, in sterility.

The uterus, imagined as a pot-shaped vessel, positioned in women upside-down, is frequently met in the gynecological treatises of the *Hippocratic Corpus*²¹. The author of *De antiqua medicina* 22 likens to a doctor's cupping vessel the two hollow organs that tapered down to necks at their lower end, the head and the uterus (1.626-28 Littré). The author of *De genitura* 9.3 (51 Joly) and *De morbis mulierum* I 33 (124 Grensemann) makes the analogy between uterus and pot explicit when he notes that the size of the womb determines the size of the child, just as a gourd, growing inside a pot, is formed to the size of the pot, and again when he observes that breech delivery is like shaking a fruit pit, wedged sideways, out of a narrow-necked jar. Under Herophilos' influence the analogy of the pot disappears from the sophisticated writers, although salubrious opening and closing of the uterine mouth remain prominent in female physiology in health and morbid opening and closing remain prominent in female nosology. Because the womb is upside-down it must close in order to retain its contents and it must open to release them. The lock of the uterine amulets analogically symbolizes these movements.

Greek Women and the wearing of amulets

That a Greek woman might affix to her person an aphrodisiac charm, concealing it beneath her garments, seems common knowledge already in the *Iliad* with Aphrodite's *kestos*²². Amulets are called *periapta* and *periammata*, nouns derived from the verb *periaptein*, testifying to the fact that these were attached to the woman's body. Whether the tale Plutarch repeats from Theophrastos' *Ethics* about Perikles is apocryphal or not, it underscores the notion that amulets employed for medical purposes were associated with women, and the men who used them were behaving in womanish fashion: Perikles, suffering from the chronic and debilitating version of the plague that was wearing out his body and undermining his proud spirit, shows to a friend who came to visit, an amulet the women hung about his neck²³. Plato's *Republic* pictures Socrates making an analogy for Adeimantos between the futility of lawgivers who establish laws for men lacking self-restraint and the doctor who tells invalids, womanly in their lack of mastery over their bodies, that they can cure themselves only by giving up excessive eating and drinking, over-indulgence in sex and idleness - *for neither drug nor cautery, neither spell nor amulet can do them any good*²⁴. *Periapta* and *periammata* are mentioned in Greek medical texts prior to the time that carved hematite amulets proliferated in the eastern Mediterranean, and their intention is to medicate and cure the same female diseases and womanly conditions the gemstones address. The rationalist stance that punctuates the male-authored Greek texts often looks askance at women's use of amulets, but the disapproval itself is informative about the amulets Greek women and Greek-speaking women affixed to their bodies.

The empirically-minded Hippocratics do not discuss amulets, despite their ample coverage of women's diseases and their broad repertory of gynecological medicaments and therapies currently in use. A gynecological recipe at *De morbis mulierum* I 77 promising to promote quick delivery, however, resembles other perishable amulets for the same and similar purposes in that a potent ingredient, wild cucumber, is spread on red-colored wool and affixed to the lower part of the parturient's back:

Smear the fruit of a wild cucumber already white on wax, wind up on crimson fleece, and affix around her loins (8.172 Littré)²⁵.

The insistence that the wool be red in color emphasizes the affinity the amulet will have with the blood flows of birth and the post partum period, while the fact that the crimson fleece is to be affixed to the exterior of the woman's body shows that the medicament is conceived of as an amulet. In common with other gynecological recipes, such as odoriferous fumigations to rectify morbid uterine movements, this prescription reveals close ties with a pre-Hippocratic, medical past²⁶. Nonetheless, the rationalized picture these writers present of female anatomy and physiology and the logical progression they establish in order to link therapies with the etiologies of female diseases they endorse demonstrates these writers' desires to place women's medicine into the mainstream of Hippocratic thinking. The author of *De virginum morbis* was as quick to criticize women who dedicate costly garments to Artemis, in accordance with the urgings of her priests, in order to speed the transition of the young girl suffering from retained menses to a smoothly-functioning mature woman and mother, as the writer of *De morbo sacro* was to heap scorn on sellers of charms. The young girl was to be cured by intercourse and pregnancy that would open her passageways for freer movement of menstrual blood, not through dedications at the temple.

Like the crimson fleece smeared with wild cucumber, the amulets Greek women affixed to their bodies in the Hellenistic and early Roman periods seem to have been made from materials that have not survived to our time, or, if they have survived, might not be recognized as amulets. For example, the aphrodisiac mentioned in the treatise on miracles in the Aristotelian corpus: on Mount Taygetos is a plant called *charisia* that women fasten to their necks in early spring and thus are more sympathetically loved by their husbands²⁷. The same would be true of the cyclamen root that Theophrastos mentions as a good amulet for quick delivery (*ôkytokion periapton*) and for love philtres (*HP IX 9.9.3*, 262 Hort), eschewing in this instance the skepticism about efficacy of amulets he exhibits elsewhere²⁸. The amulets Dioskourides knows for women's reproductive condi-

tions include those from perishable materials, as well as more durable jasper; he gives no indication whether spoken charms accompanied the use of the amulets, or whether the amulets were inscribed. He sometimes suggests he is skeptical of the information he is passing on: when attached, root of cyclamen speeds childbirth (*MM II 164.1*, 1.228-29 Wellmann), the medicament already known to Theophrastos; the plant *asplênos* seems to be a contraceptive, both on its own and when worn with a mule's hoof (*MM III 134.2*, 2.144 Wellmann)²⁹; everybody supposes amulets from jasper are prophylactic and promote quick delivery when worn on the thigh (*MM V 142*, 3.100 Wellmann) perhaps a more permanent version of the Hippocratics' red fleece, tied to the flanks, that also promoted quick delivery; stone from Samian earth, worn as an amulet, seems to promote quick delivery and protect from seizures (*MM V 154*, 3.105 Wellmann); a drachma of leaves from the plant *anagyros*³⁰ in sweet wine helps asthma and stimulates expulsion of the chorion, the fetus, and menses, while the plant's leaves are used as an amulet in difficult childbirth (*MM III 150.2*, 2.158 Wellmann). Whether or not Dioskourides was author of the work on drug simples called *Euporista*³¹ a number of amulets in his *Materia medica* are repeated there with interesting variations (*EU II 98-99*, 3.290 Wellmann): they say leaves of *anagyros* make a useful amulet for quick delivery - but one must remove it immediately after the delivery³²; the recipe for *asplênos* as an amulet by itself and with a mule's hoof is here listed among effective contraceptives, and the detail added that it must be buried on a moonless night; another amulet among the contraceptives consists of dried menstrual blood set inside the skin of a mule or a stag. In his *Gynaikeia* Soranos mentions the use of amulets on three occasions: first,

amulets used as contraceptives because of their antipathetic properties - mules' uterus, dirt from a mule's ear, and things of this kind - prove themselves ineffective through their failures (I 63.3, 47 Ilberg)³³.

The second instance is justly famous for the tolerance Soranos displays in permitting women to retain their amulets; also noteworthy in the same passage is both the use of durable materials, magnet and stone, and the amulets' employment for uterine hemorrhage, in addition to contraception and birth:

Amulets employed to staunch uterine hemorrhage through their anti-pathology - the magnet, stone from Assos, rennet from a hare, and other things of this kind - are equally ineffective, although their use should not be forbidden, since the hope they provide possibly makes the woman more cheerful (III 42.3, 121 Ilberg)³⁴.

The third instance criticizes the vain methods the followers of Hippocrates employ to effect speedy deliveries, including the use of *fruit of the wild cucumber added to a cerate from dates and affixed to her loins*, akin to the medicinal amulet cited above from *De morbis mulierum* I 77 (IV 13.2, 144 Ilberg)³⁵.

The material of uterine amulets and Greek notions about hematite

Most uterine gemstones were incised on hematite, bloodstone, the stone that bleeds³⁶. Moderns define it as a sesquioxide ore of iron (Fe 2 O₃), abundant and occurring in various forms³⁷. The blackish, splendid, metallic-looking crystals were favored for intaglios, while the red, earthy masses in which the ore occurs were employed as pigments. Hematite served as one of the materials for the carved cylinder seals of old Babylonia³⁸. The only uterine amulet subjected to material analysis of which I am aware was identified by X-ray diffraction as an ochreous, naturally occurring form of hematite, containing some alpha-quartz³⁹. This amulet is also distinctive in that its archaeological contexts are well-documented, being found by excavators in Roman Britain at the level of the later IV century CE. Although no doubt in its newly minted state it was hard enough for a gem-cutter to incise, the amulet's long exposure to damp conditions made it soft and fragile when unearthed. This example warns that damp conditions elsewhere in the Roman Empire may explain why the hematite uterine amulets that have survived seem to derive from the dry sands of Egypt, much as the magic papyri of later antiquity are also known to us from Egyptian examples.

Hematite's friability figures in its medicinal uses in the Greek pharmacopoeia, where, when heated, pulverized, and immersed in water or oil, it not only vindicated its name blood-

stone through tingeing the liquid with a dark reddish stain, but also through its purported abilities as a stauncher or remover of blood, and as a general purgative. Hematite continued to figure in medical recipes into the Renaissance, but by the end of the 19th century had been removed from lists of medical pharmaceuticals⁴⁰. Some stones called hematite by ancient writers appear to lie outside modern boundaries for hematite by virtue of the properties mentioned, such as Pliny's notices that the stone was red in color, or that it attracted metals like a magnet⁴¹.

The stone hematite goes unmentioned in the *Hippocratic Corpus*, although two jejunely expressed recipes may refer to the stone under other names. The red stone in the prescription of *De natura muliebri* 99 (122 Trapp) is called a *pharmakon* and is rubbed (perhaps in pulverized form) on a woman's eyelids to test her ability to conceive:

...if the pharmakon penetrates (into her body and a red stain appears at a telling orifice to demonstrate that her channels are open), she may be expected to conceive a child⁴².

The Magnesian stone of *De morbis internis* 21 (6.140 Potter) is used in a compound recipe to clean out the bowels, although the reference may be to a magnet, or to the conflation of hematite and magnet⁴³. Theophrastos reports briefly in his *De lapidibus* 37: hematite was solid and dusky in color, *in accordance with its name, as if from dried, congealed blood*. Not more than a generation or so later, Sotakos, as his account is preserved in Pliny's *Naturalis historia* XXXVI 146-48 (359-60 Ian-Mayhoff) offers a considerably expanded discussion, including medical uses of hematite⁴⁴. Sotakos knows five varieties, the first three of which he ranges according to place of origin: the Ethiopian, useful in eye-salves, cure-alls, and treatment for burns; the African, black in color, heavy and hard, capable of attracting silver, copper, and iron, able to give off a blood-red smear when rubbed on a moistened whetstone, alternately known as *andromadas*, and useful for diseases of the liver; the Arabian, also hard, only occasionally produces a saffron-colored smear on a moistened whetstone. The fourth was called *hepatites*, liver stone, useful for burns; the

fifth was *schistos* and it medicated hemorrhoids. Sotakos also notes that, if pounded in oil and drunk while fasting, hematite counteracted blood ailments. Dioskourides describes the best hematite as friable, yet solid and consistently dark-colored, lacking an admixture of dirt or layered veining. Its medicinal properties are astringent and warming, attenuating and purgative. It was employed particularly in *collyria* for the treatment of eye-wounds, conjunctivitis, and bloodshot eyes, and was generally helpful for *dysouria*, female flows, and expectorations of blood. Heating dense, hard clumps of hematite - the part called roots - make them light and friable, enhancing the stone's ability to give off the blood-like smear when rubbed on a whetstone; that of poor quality has crevices after heating and breaks straight along the fissures, but good pieces do not behave in that manner and have the proper color. It is found in the red earth of Sinope and is mined in Egypt (*MM* V 126.1-5, 3.94-95 Wellmann). Pliny's report regarding the views of writers closer to his own time about hematite is dominated by medicinal applications: genuine hematite is distinguished from the counterfeit by the occurrence of red veins and by its friable nature; it is good for bloodshot eyes, checks excessive menstruation when taken as a potion, and with juice of pomegranate helps those who vomit blood, cures bladder troubles, and acts as antidote for snake-bites (*NH* XXXVI 144-45, 350 Ian-Mayhoff)⁴⁵. In later antiquity hematite remains a frequent ingredient in recipes for *collyria* and medicaments for conjunctivitis, for the stone that bleeds continues to be a stauncher, remover, and purger of blood. Hematite's associations with blood make it an attractive material for the carved uterine amulets, as these more durable objects come to supplement or replace the perishable amulets of earlier times.

Ororiouth

The potent words and magic syllables that appear on the uterine amulets are written in Greek characters. The so-called *so-roor* formula is frequent on the obverse, and, as Ritner has shown, late antique magic papyri make it clear that this is a for-

mula for opening⁴⁶. Ορωριουθ, alone and in combination, is omnipresent and apparently exclusive to uterine amulets; it is usually inscribed on the reverse⁴⁷. A uterine amulet from the private collection of Dr. Fouquet of Cairo, published in 1907 by Léon Barry, glosses ορωριουθ with lord of the womb of women (μήτρας γυναικῶν κύριος Ορωριουθ Αυβαχ), implying that the term is a personification⁴⁸. Although the gloss explicitly connects ορωριουθ with the womb, it does not offer an explicit etymological derivation, and I make my way among the various meanings suggested for ορωριουθ with the help of Dr. Roy Kotansky. Bonner, relying on a gemstone of red jasper in the British Museum with the inscription Ορωριφρασι Οροριουθ, argues that ορωριουθ is a secret name for Artemis-Selene-Hekate⁴⁹, while Barb accepts the meaning Light of Lights, proposed a century earlier and apparently derived from Hebrew *'ōrā-ōrot*, etc. With Barb's endorsement, this view has become the one more frequently cited⁵⁰. Given the exclusive uterine contexts in which ορωριουθ and its orthographic variants occur, however, one expects a meaning that is less poetic and more specific in its reference to the spirit or deity of the uterus. Thus, more convincing is the derivation from Egyptian *w 'r.t* (dual form: *w 'r.tj*), meaning uterus, proposed by H.B. Stricker⁵¹. Dr. Kotansky suggests an alternative - an archaic *-oth* name formed from the Hebrew and Semitic roots *'ūr*, *ārāh*, *ārar*, meaning to be exposed, bare, naked, and, in nominal forms, referring explicitly to the *pudenda*, a semantic equivalent to Egyptian *w 'r.t* and *w 'r.tj*. As the name of the deity or spirit of the womb, then, ορωριουθ might best be rendered *Pudendatrix*. Another gemstone with *ouroboros* surrounding uterine vessel *cum* lock on its obverse seems to offer corroboration, for on its reverse ουρωρ ερμιθαθ is offered as a synonym for ορωριουθ⁵². This second name, according to Dr. Kotansky, with the letters ερμ-, is the same root as *'ūr*, cited above; with the onomastic suffixal endings *-ît* + *-at* (both feminine), this yields the expected propretonic vowel reduction *Ērmîtat*, The Naked One (f.), or *Pudendatrix*. Since ορωριουθ frequently occurs in combination with the clearly Hebrew *ιω σα-βαωθ*, this consideration may make the archaic Hebrew and Semitic derivations for ορωριουθ all the more attractive.

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- THEOPHRASTOS, *De lapidibus*. In: EICHHOLZ D.E., ed., *Theophrastus: De lapidibus*. Oxford, Clarendon Press, 1965.
- THEOPHRASTOS, *Historia plantarum*. In: HORT A., ed., *Theophrastus' Enquiry into Plants*. Cambridge, Mass.-London, Harvard University Press, 1926.
1. A photograph of the mounted amulet in HANSON A. E., *The Medical Writers' Woman*. In: HALPERIN D., WINKLER J., ZEITLIN F., ed., *Before Sexuality*: Princeton, Princeton University Press, 1990, pp. 309-38; see p. 338. For the *ouroboros*, see especially RITNER R.K., *A Uterine Amulet in the Oriental Institute Collection*, *Journal of Near Eastern Studies* 43, 1984: 209-21 (see pp. 219-20). Close parallels to this amulet in the literature here surveyed are: DELATTE A., *Études sur la magie grecque IV. Amulettes inédites des Musées d'Athènes*, *Musée Belge* 1914, 18: 21-96 (p. 75, n. 32); BONNER C., *Studies in Magical Amulets chiefly Graeco-Egyptian*. Ann Arbor, University of Michigan Press, 1950, p. 275, no. 138; BONNER C., *A Miscellany of Engraved Stones*. *Hesperia* 1954, 23: 129-57 (pp. 149-50, no. 38); DELATTE A.-DERCHAIN P., ed., *Les intailles magiques gréco-égyptiennes de la Bibliothèque Nationale*. Paris, Biblio. Nationale, 1964, no. 339; SIJPESTEIJN P.J., *Magical and semi-magical gems in a private collection*. *Bulletin antieke Beschaving* 1974, 49: 246-50 (p. 246, nos. 1-2); PHILIPP H., *Mira et Magica: Gemmen im Ägyptischen Museum der Staatlichen Museen, preussischer Kulturbesitz, Berlin-Charlottenburg*. Mainz, P. von Zabern, 1986, pp. 111-12, nos. 181-83; SIJPESTEIJN P.J., *Remarks on Some Magical Gems*. *Aegyptus* 1989, 69: 119-21 (p. 120, no. 3). See also photographs in BARB A. A., *Diva Matrix*. *Journal of the Warburg and Courtauld Institutes* 1953, 16: 193-238, plate 25a; additional bibliography in KOTANSKY R., *Incantations and Prayers on Inscribed Greek Amulets*. In: FARAONE C.A., OBBINK D., ed., *Magica Hiera*. New York-Oxford, Oxford University Press, 1991, pp. 107-37 (p. 129 and note 43).
 2. $\iota\omega\ \sigma\alpha\beta\alpha\omega\theta$ is common in magic texts of many types as *voces magicae*; the addition of *eta* here restores the holy name as the Tetragrammaton, FAUTH W., *Arbath Jao. Zur mystischen Vierheit in griechischen und koptischen Zaubertexten und in gnostischen oder apokryphen Schriften des christlichen Orients*. *Oriens Christianus* 1983, 67: 65-103 (pp. 71-72). For the omnipresence of *Iao* (Yahweh) in magic texts, see SMITH M., *Relations between Magical Papyri and Magical Gems*. In: BINGEN J., NACHTERGAEL G., ed., *Actes du XV^e congrès international de papyrologie, III^{ème} partie*. Brussels, Fond. Égyptologique Reine Elisabeth, 1979, pp. 129-36 (p. 132).
 3. The historians' topos about a community, dispirited through losses in war, that subsequently trusted in the supernatural, comes to include amulets no earlier than Polybios' description of the Rhodians in 153 BCE, XXXIII 17.2 (also in Diodoros XXXI 43), while Thucydides V 103.2 pictures the Athenians as saying, [*Such men*] *turn to invisible hopes, prophesies, oracles, and this kind of thing, and are consequently destroyed*.
 4. SMITH M., *Relations between Magical Papyri and Magical Gems*. Ref. 2, pp. 132-33, where he also raises the possibility that the gemstones may reflect Palestinian, Syrian, and Anatolian practice, as opposed to Egyptian; cf. also KOTANSKY R., *Greek Magical Amulets: The Inscribed Gold, Silver, Copper, and Bronze Lamellae*. Part I, *Published Texts of Known Provenance* (= *Papyrologica coloniensa* XX 1). Opladen, Westdeutscher Verlag, 1994, pp. xviii-xix and KOTANSKY R., *Incantations and Prayers on Inscribed Greek Amulets*. Ref. 1, pp. 107-22 where he traces the initial separation of the spoken charm and simple amulet to their uniting in the amulet *cum* inscription. He offers a few examples from classical Greece, none gynecological: e.g., pp. 108-109, Pindar's description of Asklepios as one who ... *tends some patients with soothing spells, gives others pharmaka to drink, or affixes medicinal amulets (periaptōn pharmaka) to their limbs on every side, or heals still others by cutting* (Pyth. III 52-57).
 5. BONNER C., *Studies in Magical Amulets chiefly Graeco-Egyptian*. Ref. 1, pp. 79-94. Important corrections in BARB A. A., *Diva Matrix*. Ref. 1; ROSE H.J., *A Blood-Staunching Amulet*. *Harvard Theological Review* 1951, 44: 59-60; RITNER R.K., *A Uterine Amulet in the Oriental Institute Collection*. Ref. 1, pp. 209-21; AUBERT J.-J., *Threatened Wombs: Aspects of Ancient Uterine Magic*. *Greek, Roman, and Byzantine Studies* 1989, 30: 421-49.

6. E.g. DELATTE A., *Études sur la magie grecque IV. Amulettes inédites des Musées d'Athènes*. Ref. 1, p. 75, no. 33; BONNER C., *Studies in Magical Amulets chiefly Graeco-Egyptian*. Ref. 1, p. 87, no. 142 (plate 7); BARB A.A., *Seth or Anubis II*. Journal of the Warburg and Courtauld Institutes 1959, 22: 367-71 (p. 371, plate 38d).
7. RITNER R.K., *A Uterine Amulet in the Oriental Institute Collection*. Ref. 1, pp. 210-17, stressing the fact that ...no Greek or non-Egyptian god attains major status in the iconography of the gemstones; see VON STADEN H., *Herophilus: The Art of Medicine in Early Alexandria*. Cambridge-New York, Cambridge University Press, 1989, pp. 1-22, for a more complex picture of the medical climate in Egypt of the Hellenistic period. The interpretation of the Ebers papyrus, sections 789 and 795, is disputed; for the claim that it does not articulate auto-directed, uterine movements, see MER-SKEY H. - POTTER P., *The Womb Lay Still in Ancient Egypt*. British Journal of Psychiatry 1989, 154: 751-53 (p. 753). AUBERT J.-J., *Threatened Wombs: Aspects of Ancient Uterine Magic*. Ref. 5, pp. 421-49 charts correspondences between the uterine magic of the gemstones and that in the late antique magic papyri, arguing that the major thrust of both is to protect the uterus from threatening influences.
8. For Near Eastern influences on Greek medicine, see e.g. BURKERT W., *The Orientalizing Revolution: Near Eastern Influence on Greek Culture in the Early Archaic Age*. Cambridge, Mass.-London, Harvard University Press, 1992, pp. 41-87 and GOLTZ D., *Studien zur altorientalischen und griechischen Heilkunde: Therapie, Arzneibereitung, Rezeptstruktur* (= Sudhoffs Archiv Beiheft 16). Wiesbaden, F. Steiner, 1974, pp. 151-97; useful also is GAGER J.G., *Curse Tablets and Binding Spells from the Ancient World*. New York-Oxford, Oxford University Press, 1992, pp. 3-41.
9. SPIER J., *Medieval Byzantine Magical Amulets and their Tradition*. Journal of the Warburg and Courtauld Institutes 1993, 56: 25-62 (25-51).
10. For Rubens' correspondence, see BONNER C., *Studies in Magical Amulets chiefly Graeco-Egyptian*. Ref. 1, pp. 80-81 and BARB A. A., *Diva Matrix*. Ref. 1, pp. 194-95, as well as pp. 213-14 and notes 16-20 for the conjectures; with additional references, KOTANSKY R. - SPIER J., *The Horned Hunter on a Lost Gnostic Gem*. Harvard Theological Review 1995; 8: 1-22 (1-2).
11. BONNER C., *Studies in Magical Amulets chiefly Graeco-Egyptian*. Ref. 1, pp. 85-87; BARB A. A., *Diva Matrix*. Ref. 1, p. 214 and note 23.
12. RITNER R.K., *A Uterine Amulet in the Oriental Institute Collection*. Ref. 1., pp. 217-21.
13. For Hippocratic aims in writing gynecology, see HANSON A.E., *Conception, Gestation, and the Origin of Female Nature in the Corpus Hippocraticum*. Helios 1992; 19: 31-71 (33-36).
14. I.e. amulets with στάλητι (leg. στάληθι) μήτρα, intending to restrain/rectify the womb's movements, e.g. DELATTE A., *Études sur la magie grecque IV. Amulettes inédites des Musées d'Athènes*. Ref. 1, pp. 75-82, no. 33 and cf. no. 34; BONNER C., *Studies in Magical Amulets chiefly Graeco-Egyptian*. Ref. 1, p. 275, no. 140; PHILIPP H., *Mira et Magica: Gemmen im Ägyptischen Museum der Staatlichen Museen, preussischer Kulturbesitz, Berlin-Charlottenburg*. Ref. 1, p. 112, no. 184. BONNER C., *Studies in Magical Amulets chiefly Graeco-Egyptian*. Ref. 1, appealing to the medical usage of στέλλειν, translates Be contracted! (p. 84) and Be assuaged! (p. 275), although everyday usage may suggest motion, Be sent!, collapse! Cf. also DELATTE A., *Études sur la magie grecque IV. Amulettes inédites des Musées d'Athènes*. Ref. 1, p. 81: τάσσον (leg. τάξον) τὴν μήτραν τῆς δέϊνα εἰς τὸν ἴδιον τόπον... (Set the womb of this woman into its own place!). Perhaps also BONNER C., *Studies in Magical Amulets chiefly Graeco-Egyptian*. Ref. 1, p. 277, no. 147, with κατάσπειλον (leg. κατάσπειλον, descend!), if we see the figure as Bes, not a pregnant woman, following RITNER R.K., *A Uterine Amulet in the Oriental Institute Collection*. Ref. 1, p. 217 and note 63.
- For restraint of morbid flows, BONNER C., *A Miscellany of Engraved Stones*. Ref. 1, pp. 149-50, no. 38, with ἀποβορον (leg. αἰμοβορον), blood-devouring (suggested by Dr. Roy Kotansky), and the so-called Tantalus gems, for, although their iconography differs from the type of principal concern here, their material is often hematite: διψᾶς Τάνταλε, αἷμα πίε (You are thirsty, Tantalos, drink blood!), BONNER C., *Studies in Magical Amulets chiefly Graeco-Egyptian*. Ref. 1, pp. 276, no. 144; cf. also ROSE H.J., *A Blood-Staunching Amulet*. Ref. 5, pp. 59-60; BARB A. A., *Bois du sang. Tantale*. Syria 1952, 29: 271-84, and RITNER R.K., *A Uterine Amulet in the Oriental Institute Collection*. Ref. 1, p. 217, note 65. For a message that seems to me ambiguous, κατὰσχες τὴν μήτραν Μαξείμας ἤζετέκεν (Check/restrain detain the womb of Maxima whom <so-and-so> bore), BONNER C., *Studies in Magical Amulets chiefly Graeco-Egyptian*. Ref. 1, p. 86, where he labels it a stauncher of blood.
15. Uterine movements, *Morb. mul.* II 123-45, 8.266-322 Littré; flows, *Morb. mul.* II 110, 112-22, 8.234-38, 240-322 Littré; both *passim* in *Nat. mul. Morb. mul.* I arranges its material in chronological order, discussing menstruation, conception, and birth in a reproductive sequence.
16. For references in the Hippocratic texts, HANSON A.E., *Continuity and Change: Three Case Studies in Hippocratic Gynecological Therapy and Theory*. In: POMEROY S.B., ed., *Women's History and Ancient History*. Chapel Hill-London, University of North Carolina Press, 1991, pp. 73-110 (pp. 81-87).
17. T 25, 80-81 von Staden = Sor., *Gyn.* III 3.4, 95 Ilberg; for the ligaments, Sor., *Gyn.* I 8.1 - 2, 7 Ilberg and Galen, *Loc. aff.* VI 5, 8.425 Kühn. Although Herophilus (T 61, von Staden 183-86 and notes *ad loc.*) distinguished in an anatomical sense what moderns call Fallopian tubes, it seems to me more likely that the threads, sometimes extending from the upper portions of the uterine symbol on the amulets, represent ligaments, not the uterine tubes - so also RITNER R.K., *A Uterine Amulet in the Oriental Institute Collection*. Ref. 1, p. 212 and BARB A. A., *Diva Matrix*. Ref. 1, pp. 195-96.
18. For discussion and references to the ancient texts, KING H., *Once upon a Text: Hysteria from Hippocrates*. In: GILMAN S.L., KING H., PORTER R., ROUSSEAU G.S., SHOWALTER E., edd., *Hysteria Beyond Freud*. Berkeley-London, University of California Press, 1993, pp. 3-89 (pp. 3-64)
19. For discussion and references to the ancient texts, HANSON A.E., *The Medical Writers' Woman*. Ref. 1, pp. 324-30 and HANSON A.E., *Conception, Gestation, and the Origin of Female Nature in the Corpus Hippocraticum*. Ref. 13, pp.36-41.
20. HANSON A.E., *Continuity and Change: Three Case Studies in Hippocratic Gynecological Therapy and Theory*. Ref. 16, pp. 87-95 and HANSON A.E., *Obstetrics in the Hippocratic Corpus and Soranus*. Forum 4, 1994: 93-110 (99-100).
21. E.g. HANSON A. E., *The Medical Writers' Woman*. Ref. 1, p. 317 and KING H., *The Daughter of Leonides: Reading the Hippocratic Corpus*. In: CAMERON A., ed., *History as Text*. Chapel Hill-London, University of North Carolina Press, 1989, pp. 12-32 (p. 23). DEAN-JONES L., *Women's Bodies in Classical Greek Science*. Oxford, Clarendon Press, 1994, p. 65 suggests the wine-skin (*askos/ askion*) was the preferred Hippocratic image, citing analogies at *Morb. mul.* I 61, 8.124 Littré and II 170, 8.350 Littré, yet these two texts appeal not to function, as do the analogies cited just below in the text, but to the noise the uterus makes, when shaken or tapped, a commonplace for hollow organs in the *Corpus* - e.g. *Loc. hom.* 14, 6.232 Littré. The ancient wineskin is a particularly inappropriate image for the uterus, because it is thought of as footed, retaining the feet of the animal who donated its skin. Hippocratic doctors make use of the feet - e.g. *Artic.* 77, 4.308 Littré and *Affect.* 21, 6.232 Littré.
22. FARAONE C.A., *Aphrodite's Kestos and Apples for Atalanta: Aphrodisiacs in Early Greek Myth and Ritual*. Phoenix 1990, 44: 219 - 43.

23. Frag. 463 FORTENBAUGH (= Plutarch, *Perikles* 38.1-2).
24. *Respublica* IV, 726 a-b.
25. The verb *periaptein* is employed with literal meaning only here in the *Corpus*.
26. Cf. e.g. HANSON A.E., *Continuity and Change: Three Case Studies in Hippocratic Gynecological Therapy and Theory*. Ref. 16, p. 78 and note 32, pp. 81-95; VON STADEN H., *Women and Dirt*, *Helios* 1992, 19: 7-30 although, as I shall argue elsewhere, it was not Hippocratic who searched for therapies employing feces to use in gynecological practice, but rather they found the ingredients thoroughly embedded in the medicaments they inherited
27. *Mirabil.* 846 b, 7-9.
28. For Theophrastos' skepticism about amulets, cf. e.g. *HP* IX 19.2 (312 Hort).
29. ANDRÉ J., *Les noms des plantes dans la Rome antique*. Paris, Les Belles Lettres, 1985, p. 29 equates *asplēnos* with the plant *ceterach*, a genus of ferns. Cf. also BURKERT W., *The Orientalizing Revolution: Near Eastern Influence on Greek Culture in the Early Archaic Age*. Ref. 8, pp. 62-63 and notes 37-39, where he cites Greek and Akhadian examples of keeping drugs in the hoof of an animal (cow, mule, horse).
30. ANDRÉ J., *Les noms des plantes dans la Rome antique*. Ref. 29, p. 16 equates *anagyros* with *Anagyris foetida* L., bean trefoil.
31. There is much indecision in the matter - cf. RIDDLE J.M., *Dioscorides on Pharmacy and Medicine*. Austin, University of Texas Press, 1985, pp. xxvi-xxvii.
32. The *Euporista* also mentions jasper on the thigh for quick delivery (II 98).
33. See Soranos d'Éphèse: *Mal. des Fem.* I, p. 117 and note 305, on the antipathy.
34. See Soranos d'Éphèse: *Mal. des Fem.* III, p. 106, notes 328-331, on the antipathy and for additional examples from later authors.
35. Cf. GOUREVITCH D., *Les lectures hippocratiques de Soranos d'Éphèse dans son traité Des maladies des femmes*. In: LÓPEZ FÉREZ J.A., ed., *Tratados hipocráticos: Actas del VII^o colloquio internacional hippocratico*. Madrid, Universidad nacional de educación a distancia, 1992, pp. 597-616 (pp. 602-603).
36. Some exceptions: BONNER C., *Studies in Magical Amulets chiefly Graeco-Egyptian*. Ref. 1, no. 134, red jasper, and no. 139, metal, probably gray iron with slight admixture of zinc that would resemble hematite.
37. BLÜMNER H., *Haimatites*. In: WISSOWA G., KROLL W., ed., *Paulys Real-Encyclopädie der classischen Altertumswissenschaft* (Vierzehnter Halbband). Stuttgart, A. Druckenmüller, 1912, cols. 2215-17 (col. 2215); BARB A. A., *Bois du sang. Tantale*. Ref. 14, p. 279 and note 1; AUBERT J.-J., *Threatened Wombs: Aspects of Ancient Uterine Magic*. Ref. 5, p. 435 and note 22; SCARBOROUGH J., *Medical Terminologies: Classical Origins*. Norman-London, University of Oklahoma Press, 1992, p. 219. GOLTZ D., *Studien zur Geschichte der Mineralnamen: Pharmazie, Chemie, und Medizin in den Anfängen bis Paracelsus* (= Sudhoffs Archiv Beiheft 14). Wiesbaden, F. Steiner, 1972 traces medical uses of hematite from Babylonia to the Renaissance, pp. 68, 104, 126, 174, 186, 197, 294, 296, 369, 372.
38. For hematite used as a dye, see HALLEUX R., *Les alchimistes grecs: Papyrus de Leyde, Papyrus de Stockholm, Recettes*. Paris, Les Belles Lettres, 1981, p. 136 (= *Pap. Holmiensis* 697) and p. 159 (= *P.Iand.* 85.12).
39. WRIGHT R.P., *A Graeco-Egyptian Amulet from a Romano-British Site at Welwyn, Herts.*, *Antiquaries Journal* 1964, 44: 143-46; and discussed again in HENIG M., *A corpus of Roman Engraved Gemstones from British Sites*. Part I: Discussion, *BAR* 1974; 8[i]: 122-23.
40. BLÜMNER H., *Haimatites*. Ref. 37, col. 2217; cf. GOLTZ D., *Studien zur Geschichte der Mineralnamen: Pharmazie, Chemie, und Medizin in den Anfängen bis Paracelsus*. Ref. 37, *passim*.
41. *NH* XXXVII 169 (458-59 Ian-Mayhoff), the stone is *sanguineo colore* and is claimed by Zachalias, the Babylonian magus, to have magic properties; see commentary *ad loc.* by DE SAINT-DÉNIS, 1972, pp. 177-78 (limonite?) and commentary *ad NH* XXXVI 144 by ROUVERET, 1981, p. 218 (red jasper). Pliny, paraphrasing Sotakos: *trahere autem in se argentum, aes, ferrum*, see commentary *ad NH* XXXVI 146 by ROUVERET, 1981, p. 219 (confusion with magnetite).
42. Cf. also Aristotle, *Generat. Animal.* 747b.
43. Cf. above, note 41.
44. For Sotakos, SUSEMIHL F., *Geschichte der griechischen Litteratur in der Alexandrienerzeit*. Leipzig, B.G. Teubner, 1894, I 860-61 and KIND E., *Sotakos*. In: WISSOWA G., KROLL W., MITTELHAUS K., ed., *Paulys Real-Encyclopädie der classischen Altertumswissenschaft* (Zweite Reihe, Fünfter Halbband). Stuttgart, J.B. Metzler, 1927, col. 1211. For evaluations of Pliny (and Sotakos), notes *ad NH* XXXVI 128 and 144-47 by ROUVERET, 1981, p. 207 and pp. 218-20; less useful is HEALY J.F., *Pliny on Mineralogy and Metals*. In: FRENCH R., GREENAWAY F., ed., *Science in the Early Roman Empire: Pliny the Elder, his Sources and Influence*. Totowa, New Jersey, Barnes and Noble, 1986, p. 131.
45. Cf. notes *ad loc.* by ROUVERET, 1981, pp. 218-19.
46. RITNER R.K., *A Uterine Amulet in the Oriental Institute Collection*. Ref. 1, pp. 218-19; for the formula, LIPPI D., *About a Medical Amulet in the Archaeological Museum in Florence*, *Medicina nei Secoli* 1990, 2: 215-20 (216).
47. BONNER C., *Studies in Magical Amulets chiefly Graeco-Egyptian*. Ref. 1, p. 274, no. 137 (carnelian), lacks the word; cf. also p. 199, where he proposes that a pantheos gem provides an exception to exclusive use of the word.
48. BARRY L., *Notice sur quelques pierres gnostiques*. *Annales du service des antiquités de l'Égypte* 1906, 7: 241-49 (242); full text also cited in AUBERT J.-J., *Threatened Wombs: Aspects of Ancient Uterine Magic*. Ref. 5, p. 443, note 45.
49. BONNER C., *Studies in Magical Amulets chiefly Graeco-Egyptian*. Ref. 1, p. 199, and no. 145, interpreting *Opωριφρασις* as a corruption of *Aroriphraisis*.
50. BARB A. A., *Diva Matrix*. Ref. 1, p. 202; additional bibliography on *orōriouth* in BRASHEAR W.M., *The Greek Magical Papyri*. In: HAASE W., ed., *Aufstieg und Niedergang der römischen Welt* II 18.5. Berlin-New York, W. de Gruyter, 1995, pp. 3380-3684. (3595).
51. STRICKER B.H., *De Geboorte van Horus* I. Leiden, 1963. 81 and note 331.
52. BONNER C., *Studies in Magical Amulets chiefly Graeco-Egyptian*. Ref. 1, p. 277, no. 147, *συρραριφρασις η συρραριουθ ιατασιω*.

Correspondence should be addressed to:
Ann Ellis Hanson, The University of Michigan, Dept. of Classical Studies, 2016 Angell Hall, 435 S State St. - Ann Arbor, Michigan 48109 - 1003 U.S.A.