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## GAGATES. A MAGICAL GEMSTONE

BY ATTILIO MASTROCINQUE

Università di Verona  
attilio.mastrocinque@univr.it

*Abstract:* The jet stone was used for amulets from antiquity to modern times. Legends and beliefs concerning it flourished. It is black and, being similar to amber, could be burned to obtain a smoke used for magical and medical purposes. Some religious ceremonies used it for attracting snakes. It was often confused with other stones, such as aetites and serpentine and even with agate because it was also called antachates.

*Keywords:* Jet, mineralogy, ancient magic, Gnosticism

### 1. Wonders of the gagates stone

Among the stones used in ancient magic and mentioned in legends and popular medicine jet has scarcely been studied. It was and is also called black amber, having electrostatic properties and gloss similar to that of amber. Many exhibitions and books have been devoted to amber; however, many people in the past and nowadays did not even know of the existence of black amber.<sup>1</sup> It is a black or dark brown, glossy, light, relatively soft gemstone produced from decomposed wood of Araucariaceae, which lived millions of years ago. The Italian noun *giaietto*, the French *jais*, the English jet all derive from the Greek γαγάτης and Latin *gagates* (after the city and river Gages, in Lycia<sup>2</sup>). The Spanish *azabache* comes from the Hispanic Arabic *azzabáğ* which, in turn, comes from Arabic *sabağ* and this last word comes from Pehlevi *šabag*. This stone was used to make small carved objects from prehistoric times and is still carved to make jewels and amulets, especially in Spain, England, USA, and Mexico. Recurring subjects are the *fica* (“vulva”, symbolized by a fist with the thumb’s tip between first and second finger) and the scallop (referring to pilgrimage to Santiago de Compostela). In

<sup>1</sup> See Muller 1980; Muller 1987; Muller 2009.

<sup>2</sup> Probably, it was also called *Samothraca*: Plin., *Nat. Hist.* XXXVII 181: *Samothraca insula dat sui nominis, nigram ac sine pondere, similem ligno.*

Spain, during the Counter-Reformation, the *azabache* became a symbol of melancholy and, at the same time, of shining grave wisdom.<sup>3</sup> Pliny the Elder describes its properties:

*Gagates lapis nomen habet loci et amnis Gagis Lyciae. aiunt et in Leucolla expelli mari atque intra XII stadia colligi. niger est planus pumicosus levis non multum a ligno differens fragilis odore si teratur gravis. fictilia ex eo inscripta non delentur cum uritur odorem sulphureum reddit mirumque accenditur aqua oleo restinguitur. fugat serpentes ita recreatque volvae strangulationes. deprendit sonticum morbum et virginitatem suffitus. idem ex vino decoctus dentibus medetur strumisque cerae permixtus. hoc dicuntur uti Magi in ea quam vocant axinomantiam et peruri negant si eventurum sit quod aliquis optet.*

Jet derives its name from a district and a river in Lycia known as Gages. It is said also to be washed up by the sea on the promontory of Leucolla and to be gathered at places up to a distance of a mile and a half. Jet is black smooth porous light not very different from wood and brittle and has an unpleasant smell when rubbed. Anything inscribed in it on earthenware is indelible. When it is burnt it gives off a smell like that of sulphur. What is remarkable is that it is ignited by water and quenched by oil. [142] The kindling of jet drives off snakes and relieves suffocation of the uterus. Its fumes detect attempts to simulate a disabling illness or a state of virginity. Moreover when thoroughly boiled with wine it cures toothache and if combined with wax scrofulous tumours. The Magi are said to make use of it in what they call 'divination by axes' and they assert it will not burn away completely if a wish is destined to come true. (Plin., *Nat. Hist.* XXXVI.141–142, transl. Eichholz).

Isidorus of Seville<sup>4</sup> repeats Pliny's report, whereas Galenus<sup>5</sup> and the Scholia in Nicandri *Theriaka*, (scholion 35c ed. Crugnola) repeat the same data as in Pliny about the provenance of this stone; Solinus<sup>6</sup> speaks of its unexpected behaviour when burned and adds that gagates and amber, when rubbed, have similar magnetic properties. The so-called Vatican Mythographer<sup>7</sup> asserts that the body of eagles is too hot for sitting on their eggs and therefore they put a gagates stone close to the eggs because it is a cold stone. This author conflates the gagates with the aetites (i.e. the "eagle-stone").<sup>8</sup>

Among the Arab scientists, Tifashi and Qazwini (13<sup>th</sup> cent.) said that the *sabağ* came from India and was used to make collyria.<sup>9</sup> The description by Tifashi could refer to either jet or obsidian.

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<sup>3</sup> F. Gambin, *Azabache. Il dibattito sulla malinconia nella Spagna dei Secoli d'Oro*, Pisa 2005.

<sup>4</sup> Isid., *Origines* XVI 4, 3.

<sup>5</sup> Galen., *De simpl.* 12, 202–203.

<sup>6</sup> Solin. 22, 11; cf. *Geopon.* XV 1, 32.

<sup>7</sup> *Mythogr. Vat.* III 3, 4.

<sup>8</sup> A similar account is in Serv., *Aen.* I 394. Cf. Plin., *Nat. Hist.* X 12: *lapis aëtites, quem aliqui dixerent gagiten.*

<sup>9</sup> See M. Clément-Mullet, *Essai sur la minéralogie arabe*, Paris 1868, 179–183.

In medical literature the *gagates* is praised for its properties, especially when it is pulverized or burned. Under the emperor Claudius, the physician Scribonius Largus<sup>10</sup> recommended pulverized jet for the treatment of condylomas. Pseudo-Dioscorides<sup>11</sup> prescribes it for an easier labour in childbirth, heart diseases, and the removal of intestinal worms. For this latter purpose, the physician Alexander of Tralles recommends the same stone.<sup>12</sup> Iulius Africanus,<sup>13</sup> Aelius Promotus,<sup>14</sup> and Michael Psellus<sup>15</sup> also recommend it for childbirth. Dioscorides,<sup>16</sup> the physicians Paulus,<sup>17</sup> Oribasius,<sup>18</sup> and Psellus<sup>19</sup> say that *gagates* was used against epilepsy. Alexander of Tralles, among some directions for treating epilepsy, reports the prescription of a certain *Zalachtes* according to whom an amulet of “smoky jasper, jasper of smoke” (ἰασπις λίθος ὁ προσαγορευόμενος καπνίτης) is useful for diseases affecting the head and the intellectual capacity.<sup>20</sup> The test of virginity is mentioned by Psellus.<sup>21</sup> Aelianus<sup>22</sup> reports a recipe for a treatment of cataract:

A man captured a lizard of the excessively green and unusually large species and with a point made of bronze he pierced and blinded the lizard. And after boring some very fine holes in a newly fashioned earthenware vessel so as to admit the air but small enough to prevent the creature from escaping he heaped some very moist earth into it and put the lizard inside together with a certain herb of which he did not divulge the name and an iron ring with a bezel of lignite engraved with the figure of a lizard. After stamping nine seals upon the vessel he then covered it up removing one seal daily for nine days. And when he had destroyed the last seal of all he opened the vessel and I myself saw the lizard having its sight and its eyes which till then had been blinded seeing perfectly well. And we released the lizard on the spot where it had been captured and the man who had done these things asserted that that ring of his was good for the eyes. (Transl. Schofield)

The Greek text uses the noun *gagates* to describe the gemstone to be used and the translation “lignite” by Schofield is imprecise. The difference between lignite and jet mostly resides in the piceous nature of jet and this difference was vital in magical practices. Amulets could be made of light, black, and glossy stones<sup>23</sup>

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<sup>10</sup> Scrib. Larg. 225.

<sup>11</sup> Ps. Diosc., *De lapid.* 8: *Les lapidaires de l'antiquité et du Moyen Age*, II.1, ed. Ruelle.

<sup>12</sup> Alexander, *Epistula de lumbricis* 2, 595 ed. Puschmann.

<sup>13</sup> *Cesti* IX.1 Vieillefond = Testimonia 7.20 ed. Wallraff et alii.

<sup>14</sup> Wellmann 1908, 774; Faraone 2018, 283.

<sup>15</sup> Psell., *Opusc.* 32.20.

<sup>16</sup> Dioscor., *De materia med.* 1, 73 Wellmann.

<sup>17</sup> Paul., *Epit. Med.* III.13.1.

<sup>18</sup> Oribas., *Eclogae medicamentorum* 2.3 (*Corpus Med. Graec.* 6.2.2).

<sup>19</sup> Psell., *Opusc.* 55.

<sup>20</sup> Alex. Trall., *Therapeutica*, I, 567 Puschmann; cf. Dasen 2021, 139; Guardasole 2004, 94-95.

<sup>21</sup> Psell., *Opusc.* 32; cf. Plin., *Nat. Hist.* XXXVI.141–142, reported above.

<sup>22</sup> Aelian., *De nat. an.* V 47.

<sup>23</sup> See for ex. Iliffe 1950.

similar to gagates, such as lignite, and could be considered helpful. Yet, when “gagates” was prescribed for fumigation, the term almost certainly refers to jet because of its bituminous scent. The smoke of burning jet was also supposed to cure malaria. In this case, the stone was called *antachates*, probably on account of a confusion between the names of *gagates* and *achates*, “the agate”. Pliny (*Nat. Hist.* XXXVII 139) says: *antachates, quae, cum uritur, murrum redolet* (“the antachates, which when burnt has a smell like that of myrrh”). The properties of this stone are described by Socrates and Dionysius in the 40<sup>th</sup> chapter of their *Lapidarium*:

The stone antachates. It appears very different from agate but is mighty. This stone cures of tertian, quartan, and differently recurring fever. The treatment is as follows: grind the stone and let it – instead of frankincense – fumigate on burning coals. The smell of the smoke is strong and for many hours it can be inspired by the sensory organs and so the recurring disease is cured.

Jet was still used in medicine in the Middle Ages. An interesting report can be found in the works of a thirteenth-century CE Arab scientist and physician, Ibn el-Beithar:

Hadier ghaghatis. Ibn Hassan. Its name comes from a river of Syria which was called Ghagha and is called now Wadi Djehennem. It is found also in Spain, near Saragossa and in the argillaceous banks of the mountain Choleir (the Sierra Nevada). When put on fire, it gives off odour of burned horn.<sup>24</sup>

Then this author, in the rest of his chapter, borrows a description of the stone from the *de lapidibus* of the Pseudo-Dioscorides (§ 8 and 11).

A widespread belief is that the smoke of gagates chases vipers and other snakes.<sup>25</sup> The earliest known account of the use of this stone against snakes is that of Nicander, *Theriaca* 35–56:

You may expel the hot and harmful doom that snakes bring if you char the tined horn of a stag or else set fire to dry lignite (*ἐγγυγίδα πέτρην*) which not even the violence of a fierce flame consumes. Cast also upon the fire the foliage of the male fern with its cloven fronds or take the heated root of the frankincense-tree mixed with an equal measure of garden-cress and mingle the fresh pungent horn of a roe putting an equal weight of it in the balance. Burn also a portion no less heavy of the strong-smelling black cummin or else of sulphur or again of bitumen. Or you may ignite in the fire the Thracian stone which when soaked in water glows

<sup>24</sup> *Traité des simples* par Ibn el-Beithar, transl. N.L. Leclercq, vol. I, Paris 1878, no 610, p. 410. This author, at no 605, p. 408 describes the properties of a similar stone, called Hadier el-boheire, jet, ostracites, a light stone which burns on fire and is found in the valley of the Jordan river; he says that it has some value in medicine.

<sup>25</sup> Ps. Democr. = Bolos of Mendes, *Neptualii fragm.* 3 4 ed. Gemoll; *Orphei Lapidarium* 492–493; *Cyranides* II.11–12; *Geoponica* XIII 8, 8; XV 1, 32.

yet quenches its brightness at the least smell of a drop of oil. Herdsmen gather it for themselves from the river of Thrace which they call Pontus where the Thracian shepherds who eat ram's flesh so follow after their leisurely flocks. Again the heavy-scented juice of all-heal stimulated over a fire and the stinging nettle and cedar cut with saws and ground to dust by their many-toothed jaws produce in burning a smoky and repellent stench. With these means you may clear hollow clefts and couches in the woods and may sink upon the ground and take your fill of sleep. (transl. Gow and Schofield)

Although the translation of ἐγγαγίς as “lignite” (i.e. “coal”) is not completely wrong, there is no doubt that jet was meant in this case. In fact, the scholia to this passage say: γαγίτιν λίθον. ἐν Γάγαις γὰρ τῆς Λυκίας εὐρίσκεται ἡ γαγίς (“gagitis stone. The *gagis* can be found in Gagae, Lycia”) and: ἀπὸ Γαγίδος πόλεως Λυκίας (“from Gagis, a Lycian city”).

The *Lapidarium* by Damigeron and Evax (whose early version by Damigeron antedates Pliny the Elder) describes accurately the burning of this stone:

Jet can be found in the river called Gagano. Its colour is livid... It has great and fine properties. If menstruation does not flow, you grind this stone and put on burning coals and summon the woman to walk around it. In this way the vapour will clean her womb without any damage and pain. If someone buy some slaves and wants to know if someone of them is epileptic or lunatic you should burn this stone and if one slave has this disease will be attacked by it. So great is the power of this stone which thwarts frauds and bewitchments. If burned, it chases vipers and snakes from a place. (Damigeron and Evax 20)

Many authors from the Middle Ages to the Renaissance and beyond discuss this stone and its properties (e.g., Marbodius, Albertus Magnus, Cecco d'Ascoli, Girolamo Cardano, Anselmus Boetius [de Boor]). Albertus<sup>26</sup> reports the following interesting episode: one day on a meadow in Swabia, a man found a black stone bearing the image of a snake (a fossil?), gave it to Albertus, and said that more than five hundred snakes were coiling on this stone. Albertus underlines that one should suppose that gagates has a natural force attracting snakes. In the medieval Anglo-Saxon world, this stone was highly appreciated and used against demons, for making a woman answer questions, to cure toothache, and for many other purposes.<sup>27</sup>

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<sup>26</sup> Albertus Magnus, *Liber II mineralium*, tract. II, caput IV, B. Alberti Magni opera omnia, V, ed. Borgnet, Paris 1890, p. 35; cf. G. Cardano, *De lapidibus* 465, ed. Accordi, p. 143. On medieval traditions concerning jet: Lecouteux 2012, *sub voce gagates*.

<sup>27</sup> A.L. Meaney, *Anglo-Saxon Amulets and Curing Stones*, BAR British Series 96, Oxford 1981, 71–75.

## 2. A ritual with the stone of snakes

An interesting account in the *Orphic Lapidary*, a 2<sup>nd</sup> century AD work mostly inspired by pagan and especially Homeric culture, provides information about the relationship between gagates and snakes. In verses 699 to 744, the anonymous author of this *Lapidarium* ascribes to Helenus, the Trojan seer, a ritual to be performed in front of several altars. After libations and hymns to the Earth and the Sun, the *liparaios* stone (i.e. the “stone of the Lipari islands” or the “glossy, fatty [*liparòs*] stone”) is burned on an altar and its pleasant smoke attracts snakes from their dens; then three youngsters, armed with swords, pick up a speckled snake which was coiling near the fire and cut it into pieces, three for each of them. Three of these pieces refer to the Sun; three to the Earth; and another three to the prophecy. This meat is cooked in a pot with the addition of olive oil, wine, salt, black pepper. At the same time, mystic songs are sung to the gods, summoned by their secret names, and Megaira, the Gorgon, is cursed until a wind is sent by the gods to the sacred pieces of meat. The participants eat this food, make crowns of olive branches, and return home. This ritual enabled the participants to understand the voices of birds and other animals.

Thomas Galoppin<sup>28</sup> noticed the relationships between this account and the myth of Tiresias. In a prior venue, I underlined that the divine spirit which entered the meat of sacrificed snakes recalls the dinners allegedly organized by Simon Magus, who let a draught enter the room and pretended it was the Holy Spirit.<sup>29</sup> This ritual is described in the apocryphal *Acta Petri*.<sup>30</sup> The early model for those accounts was based on the *Acts of the Apostles*,<sup>31</sup> in which the Holy Spirit is said to have entered the dining room of the Apostles like a wonderful wind and enabled them to speak different languages. An important parallel to this rite is described by Epiphanius in his work against heresies:

For they have a real snake and keep it in a basket of some sort. When it is time for their mysteries they bring it out of the den spread loaves around on a table and call the snake to come and when the den is opened it comes out. And then the snake—which comes up of its own accord and by its villainy—already knowing their foolishness crawls onto the table and coils up on the loaves. And this they call a perfect sacrifice. And so, as I have heard from someone, not only do they break the loaves the snake has coiled on and distribute them to the communicants but each one kisses the snake on the mouth besides—whether the snake has been charmed into tameness by some sort of sorcery or coaxed by some other

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<sup>28</sup> Galoppin 2016.

<sup>29</sup> Mastrocinque 2017; cf. already Halleux – Schamp 1985, 324: “le rituel s’apparente à celui des mystères et n’est pas sans analogie avec l’Eucharistie, où le πνεῦμα vient aussi vivifier les offrandes et préparer la communion”.

<sup>30</sup> 1.2, p. 80 Lipsius-Bonnet.

<sup>31</sup> *Acta* 2.

act of the devil for their deception. But they worship an animal of that sort and call what has been consecrated by its coiling around it the eucharistic element. And they offer a hymn to the Father on high—again as they say through the snake—and so conclude their mysteries.<sup>32</sup>

If we can trust this account, we might presume that this ritual was performed by the so-called Ophite Gnostics (“Gnostics of the snake”). There were many Christian sects who were criticized by catholic heresiologists for their cult of divine snakes on the grounds that they were hostile to the biblical creator. The snake of the earthly paradise was an opponent of the creator and became the source of knowledge (*gnosis*) for adherents to many gnostic sects.

The *Orphic Lapidary* is not the sole document testifying to Orphic influences upon Christian “heretics”. Some decades ago, a stone bowl was published which depicts sixteen men and women praying around a winged snake.<sup>33</sup> The outer surface of this bowl bears an inscription including parts of an Orphic poem also known thanks to Macrobius (I.18.12–15; 23.22).

### 3. Gagates and ophites stone

What kind of stone was used in the ritual described in the *Orphic Lapidary*? This work calls it λιπαραῖος. The meaning of this word is “of Lipara,” but the word is also similar to λιπαρός (i.e. “oily, shiny with oil, anointed, fatty, greasy, smooth, and brilliant”). The author of the book on stones was probably influenced by Theophrastus (*de lapidibus* 14–17), who describes the stone “Liparaios” (Λιπαραῖος) as follows:

But the Liparean stone is made porous when it is burnt, and becomes like pumice, so that both its color and density are altered; for before it has been burnt it is black, smooth, and compact. This stone is found in pumice, appearing separately in various places and not continuously, as if it were in a cell of a honeycomb. In the same way it is said that in Melos pumice is found in another kind of stone, and so the Liparean stone corresponds to this in the opposite way, as it were, except that this stone is not the same as the Liparean stone. The stone which is found at Tetras in Sicily also becomes porous. This place is in the neighborhood of Lipara, and the stone is plentiful in the promontory called Erineas. Like the stone found at Binai, it releases a bituminous odor when it is burnt, and what remains after the burning is similar to burnt earth. (transl. Caley and Richards)

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<sup>32</sup> Epiphanius, *Pan.* III 5 transl. Williams. T. Rasimus, *Paradise reconsidered in Gnostic Mythmaking*, Leiden and Boston 2009, 24, 211–213, on the basis of this passage asserts that the gnostic sects, which Epiphanius was dealing with, did not perform this ritual.

<sup>33</sup> Leisegang 1978.

The disciple of Aristotle mentions a stone from Lipara (the major among the Lipari islands) and Melos, two islands which were and are famous for obsidian. However, obsidian is similar to glass and cannot be burned. Pliny<sup>34</sup> also deals with pumice from Melos, Nisyros, and the Aeolian (i.e. Lipari) islands, and is clearly referring to pumice and not obsidian. The Roman scientist adds that it was parched (*torreantur*) on burning coals, quenched with white wine, and used to healing eyes or ulcers. Only the stone found at Tetras and Binai was smelling when burned, like frankincense. This stone had similarities with gagates but was porous and, therefore, was not jet. The stone mentioned by the Orphic Lapidary was called *liparaios* because it was similar to that from Tetras and Binai. It was thus either jet or a stone similar to jet, yet porous.

Gagates was used by magicians in sophisticated rituals. Pliny says that it was used by the *magi* for *axinomantia* (i.e. rituals performed by means of magical axes).<sup>35</sup> Some magical axes are known,<sup>36</sup> and almost all of them are made of black stones. None of them is made of jet; however, black stones are difficult to classify,<sup>37</sup> especially without laboratory analyses by an expert. What is more, some old classifications of black stones are not completely reliable.

Clement of Alexandria<sup>38</sup> speaks of a λίθος λιπαρός (i.e. “a fat stone”), which was used by pagans and especially by magicians:

The same people who worship every stick and greasy stone as the saying is dreads tufts of tawny wool and lumps of salt and torches and squills and sulphur bewitched by sorcerers in certain impure rites of expiation. But God the true God recognises as holy only the character of the righteous man – as unholy wrong and wickedness. (transl. William Wilson)

Magical gems on steatite (“the fat stone”) and gagates are known; however, it is impossible to single out recurring rules or recurring iconographies or recurring magical inscriptions on those gems. Chnoubis, Osiris, and Egyptian deities are often depicted, as one can see by consulting the online Campbell Bonner database of magical gems. Nor is possible to recognize on these gems an evident connection between gagates and snakes, with the exception of the lion-headed snake Chnoubis.<sup>39</sup> In any case, black, glossy stones were often used in magic. Gagates had a

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<sup>34</sup> Plin., *Nat. Hist.* 36, 154–155.

<sup>35</sup> See Plin, *Nat. Hist.* XXX 14: *securibus*.

<sup>36</sup> Wunsch 1905; Mastrocinque 1998, chaps. 2–3; Mastrocinque 2002 where a bibliography can be found.

<sup>37</sup> See the criticism by Barb 1969, who noticed that scholars often misuse the term “black jasper”. Jet can be recognized by the colour, the weight, and the scarce hardness. Black or dark brown steatite is similar but heavier.

<sup>38</sup> Clem. Al., *Strom.* VII 4, 26.

<sup>39</sup> Viking jet carvings for amulets and jewels often included images of snakes (Muller 1987) but this can depend on iconographic local traditions rather than on Greco-Roman and oriental beliefs.



specific use because it was burned for fumigations, and one cannot exclude that some jet gems disappeared having been burned in magical rituals.

The relationship of jet with snakes created confusion with serpentine (ὄφιτης λίθος [“the snake stone”]). Galenus<sup>40</sup> says that the ophites stone shatters like glass, and its powder can be drunk to break down calculi in the bladder. He also adds that this stone can be burned to clean, purify, and crush (probably calculi). Serpentine cannot be burned and this fact suggests that it was confused with jet. Pliny, in the above-quoted passage, says that fumigations<sup>41</sup> of jet make the womb open (*recreatque volvae strangulations*). This refers to menstruation which was allegedly favoured by this smoke. It is thus probable that Galenus was thinking of jet and not serpentine.

I am happy to dedicate this research to Tamás Gesztelyi, a specialist in gemstones. This contribution does not deal with all the aspects of this magical stone over centuries and in different cultures but only with the Imperial Age. Unfortunately, fumigation has not received the attention it deserves in the study of ancient magic and I hope that this contribution will inspire future research.

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<sup>40</sup> Galen., *De simpl. med.* XII 206; Ps. Galen., *De remediis* XIV 538 Kühn.

<sup>41</sup> On fumigations in treatments of womb diseases: Faraone 2011, part. 5.

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