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**Herbs as pharmaka: between Medicine, Astrology and Magic**

**Abstract.** In the ancient and Byzantine world, natural elements were used to cure a certain disease, as attested by traditional medical sources such as Hippocrates, Dioscorides and Galen. However, the therapeutic properties of these substances are also described in some compilations that transmit another type of knowledge: the *Cyranides*, a hermetic work that illustrates the usages of vegetable, animal and mineral species for different purposes; Cassianus Bassus’ *Geoponica*, an important source of the ancient agronomic-botanical tradition; the *Hygromanteia Salomonis*, a hermetic and esoteric treatise dedicated to planetary divination, which also illustrates the correspondences between plants, planets and zodiac signs. The herbs described in these compilations are suggested as φάρμακα for the treatment of diseases, but also for other purposes such as warding off demons or having luck (*e.g.* in Monacensis gr. 70, which transmits *Hygromanteia Salomonis*, Jupiter’s plant is χρυσάγκαθον, capable of causing extraordinary healings). This denotes the development of a parallel medicine, connected with magic and astrology, and in some cases the practices discussed still have folkloric implications today. Therefore, this contribution intends to analyse these three magico-medical works, highlighting the similarities and differences from traditional medical sources as well as the link between medicine, magic and astrology.

**Keywords:** plants, pharmaka, Cyranides, Geoponica, Hygromanteia Salomonis, medicine, astrology, magic, folklore

Many ancient and Byzantine traditional medical sources, such as works of Hippocrates, Dioscorides or Galen, recommend the use of natural elements to heal certain diseases of the human body, contributing to the development of a scientific and rational medicine. However, even popular beliefs influenced the medical methodology, as it emerges from the preparation of φάρμακα with the herbs collected by ῥιζοτόμοι ("root cutters"), the activity of the φαρμακοπώλαι ("druggists"), the divine invocations, the incubatory medicine and, in general,
the usages of herbs in magical rituals for therapeutic purposes. This suggests the existence of a parallel path that sometimes intersects folk and traditional medicine, and in this regard the definition of ‘popular medicine’ provided by William H. Harris is remarkable:

those practices aimed at averting or remedying illness that are followed by people who do not claim expertise in learned medicine (Gr. iatrike) and do not surrender their entire physical health to professional physicians (Gr. iatroi).

As W.H. Harris noted, popular and folk medicine are problematic categories, and it is especially clear from some compilations related to ‘occult sciences’:


the *Cyranides*, Cassianus Bassus’ *Geoponica* and the *Hygromanteia Salomonis*, which transmit a knowledge different from that of traditional medicine. Therefore, the aim of this contribution is to analyse these magico-medical works and their relationship with traditional medical sources. The intent is also to emphasize the link between medicine, magic and astrology and, as far as possible, the implications of the use of herbs as φάρμακα in Italian folkloric evidence. This would indicate a certain continuity of ancient practices in modern beliefs, as it emerges from such folkloric repertories as the one by Emanuele Lelli or folkloric works like those of Italian folklorists of the 19th–20th century. Since some of the species discussed are attested both by *Cyranides* and *Geoponica*, the first part of this contribution will be devoted to these two works, whereas the last one will examine the *Hygromanteia Salomonis*.

1. The *Cyranides* and Cassianus Bassus’ *Geoponica*

The first work we can consider for the analysis of herbs as φάρμακα in non-traditional medicine is the *Cyranides*, a collection of quasi-magical cures to use the words of W.H. Harris. It is at the same time a bestiary, a herbarium and a lapidary, since it shows the characteristics, the properties and the employments of animals, plants and minerals, listed in alphabetical order. It is composed of four books, the first defined as βίβλος θεραπευτική (therapeutic book) in the prologue, even if it is not purely a medical treatise, rather a magico-medical work on the usage of natural substances for therapeutic purposes. The next three books are devoted to birds, terrestrial animals and fish, but some manuscripts include even a fifth book on plants and a sixth one on the power of stones and colours.

Concerning the fifth book, it describes the physical characteristics and the therapeutic uses of 24 plants, one for each alphabetical letter. Some of the species discussed permit to make some comparisons not only with traditional medical sources, but also with folkloric evidence. For example, the θρίδαξ (“lettuce”) is suggested as a φάρμακον to heal different diseases:


6 *Cyranides’* prologue is composed by three different prologues, giving a kind of external frame in which a Byzantine editor explains that he collected two ancient works (the Kýranos’ and the Harpocratin’ books) and then he quotes their prologues. M. Zago, *Mixis ed enantiosis. L’uso metaforico delle sostanze rituali nelle Ciranidi e oltre*, [in:] Ermetismo ed esoterismi. Mondo antico e riflessi contemporanei, ed. P. Scarpi, M. Zago, Padova 2013, p. 71–75.

Lettuce is a humid and cold vegetable, eatable and known to all, which most define maioúli. It recovers the stomach. Eaten with ὀξύγαρον8 and silphium’s juice9, it stimulates the appetite; eaten further, it softens the belly. If lettuce touches the belly for a short time, it extinguishes the nuisance of cholera. Eaten in oxymel10, it is useful for the bowels and provides sleep. Its seed applied as a poultice in the forehead drives away fiery headaches11.

Here lettuce’s characteristics and therapeutic δυνάμεις are described, recognizing the plant’s suitability for the belly, the stomach, the bowel or for headache. To heal these ailments, lettuce is recommended with several substances, for example ὀξύγαρον and silphium’s juice, denoting the importance of combination with other elements to be more effective.

Likewise, this plant appears in Cassianus Bassus’ Geoponica, defined by Emanuele Lelli as a companion of the ancient agronomic-botanical tradition12. Composed of 20 books, this work is a collection of excerpta on the agricultural world. Its primary sources are Vindanius Anatolius and Didimus, but other authors such as Diophanes, Pamphilus or Zoroaster were also excerpted13. Geoponica can be

11 Cyranides, V, 8, p. 303. The English translation of the text, as well as the other ones quoted in this contribution, is mine.
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considered the first western agricultural almanac, since it gives some advice on agriculture and shows popular beliefs, highlighting the folkloric element. In the 12th book, devoted to vegetables, there is lettuce, discussed in an excerptum from Florentinus. It is defined as a humid and cold vegetable, with the same words that we find in Cyranides (Θρίδαξ ὑγρὸν καὶ ψυχρόν ἐστι λάχανον), but more medical usages are mentioned here. It is a thirst-quenching, soporific and galactogenic food, so it stimulates the secretion of milk. If lettuce is cooked, it becomes more nutritious and discourages sexual intercourse, and for this reason the Pythagoreans called it eunuch, whereas women defined it as an anti-aphrodisiac. Moreover, Geoponica gives some advice to have a good-looking lettuce, suggesting to bind its leaves two days before the harvest: Εἰ δὲ βούλει καὶ εὐειδεῖς ἔχειν τὰς θριδακίνας, πρὸ δύο ήμέρων τοῦ μέλλειν ἀφαιρεῖσθαι αὐτάς, τὰς κόμας αὐτῶν, τούτεστι τὸ ἀνωθεν μέρος, δήσον. οὕτω γὰρ λευκαὶ καὶ εὐειδεῖς ἔσονται (‘If you want a good-looking lettuce, two days before the harvest, bind its leaves, that is the upper part. In this way they become white and good looking’). Similarly as in the Cyranides, this plant is said to stimulate the appetite, but it even dissolves mucus and curbs sexual drive if taken with sweet wine and vinegar. If it is cooked in rose essence, it heals cholera. Its juice reduces lungs’ swelling, whereas a spread of lettuce with mother’s milk is excellent for erysipelas. The crushed seeds, if drunk, are a remedy for scorpion bites and help those with chest pains: Τὸ σπέρμα αὐτῆς τριφθὲν καὶ ποθὲν σκορπιοδήκτους ἱᾶται θώρακα πεπονθότα ωφελεί (‘Its seed, crushed and then drunk, heals scorpion bites and is suitable for chest pains’).

If somebody eats this plant constantly, he will cure the weakness of vision, making the eyesight sharp. Finally, eating lettuce causes sleep for both the healthy and the sick: if five or six leaves are secretly placed under the pillow, they will provide sleep for those who have difficulty in falling asleep.

As it emerges from Florentinus’ excerptum, Cyranides and Geoponica share some of lettuce’s therapeutic δυνάμεις, even if the second work is more precise and adds some further advice. This permits to have a broader view of the medical use of lettuce, also in regard to agricultural and peasant knowledge. At the same time, both these compilations allow to make a comparison with traditional medical authors and the folkloric evidence. For example, in Dioscorides’ De materia medica there is a distinction between the cultivated and wild lettuce, whose

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14 Author of Georgics, Florentinus was one of the most important authors of agronomy and zootechny in the first centuries of the Roman Empire. E. Lelli in L’agricoltura antica…, vol. I, p. LII–LV.
18 As E. Lelli noted, Geoponica intends to express the general, folkloric and popular sense of the agricultural world, referring to its beliefs and millennial practices. E. Lelli in L’agricoltura antica…, vol. I, p. LXXXVII.
properties are similar to those exposed in *Cyranides* and *Geoponica*. Concerning the cultivated lettuce, Dioscorides provides this description:

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\text{θρίδαξ ἥμερος εὐστόμαχος, ύποψύχουσα, υπνωτική, κοιλίας μαλακτική, γάλακτος κατασπαστική· εὐηθείας δὲ γίνεται προφυσικά, ἀπλύτος δὲ ἐσθιόμενη στομάχικος ἁρμόζει. τὸ δὲ σπέρμα αὐτῆς πινόμενον τοῖς συνεχῶς ονειρώττουσι βοηθεῖ καὶ συνουσιάν ἀποστρέφει. αὐταὶ δὲ συνεχῶς ἐσθιόμεναι ἀμβλυωπίας εἰσὶ ποιητικαί.}
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The cultivated lettuce is good for the stomach, refreshing, soporific, it softens the bowel and draws down milk. It becomes more nutritive if boiled; instead, if it is eaten unwashed, it is good for those with stomach ailments. Its seed, if drunk, helps those who frequently emit their semen during their sleep and discourages sexual intercourse. Eating constantly lettuce causes fainting.\(^9\)

The properties of cultivated lettuce are more or less the same we find in *Cyranides* and *Geoponica*: it is considered beneficial for the stomach, soporific and anti-aphrodisiac. On the other hand, the wild lettuce (ἀγρία θρίδαξ) is defined as soporific and analgesic, being also a good φάρμακον for misty eyes and scorpion bites; last but not least, if the seed is drunk, it prevents the emission of semen, just like it happens for the cultivated lettuce.\(^20\) Hence, the anti-aphrodisiac property of lettuce appears in both the cultivated and the wild kind. This results even in Pliny the Elder’ *Naturalis Historia*: several varieties of lettuce basing on their stem or their colour are distinguished, mentioning in particular a *lactuca* called *astytis* or *eunuchion* for its anti-aphrodisiac characteristic: *quoniam haec maxime refragetur veneri* (because it greatly dampens the sexual urge).\(^21\) Lettuce was still used in Byzantium and, just like other vegetables, its consumption was also regulated by medical considerations: for example, Nikolaos Myrepsos describes a recipe

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in which lettuce’ seed was drank with water to prevent dreams and diminish sexual drive\textsuperscript{23}. Finally, we can recall Pietro Andrea Mattioli’s \textit{Discorsi}, \textit{i.e.} the Italian translation and commentary of Dioscorides’ \textit{De materia medica}: in the edition of 1568 Mattioli explains that in the ancient world people used to eat cultivated lettuce after dinner because they believed that it could make you have a peaceful sleep\textsuperscript{24}.

In addition to these medical sources, the properties of lettuce are connected to popular beliefs and traditions, some of which are still alive today. As E. Lelli noticed, the anti-aphrodisiac characteristic of lettuce can relate to the Greek myth of Adonis, Aphrodite’s lover, who took refuge or hid himself in a bed of lettuce, where he was killed\textsuperscript{25}. Even if the relationship between the myth and the anti-aphrodisiac property of the plant is not clear, it is remarkable to consider the folkloric implication of this myth. In fact, during the \textit{Adonia} – the feast for Adonis there was a celebration in which women prepared a garden with various plants, including lettuce, and exposed them to the sun: consequently, the plants germinated in a few days, but at the same time they immediately died just like Adonis. This would suggest the relationship between lettuce and impotence, which for Adonis coincides with death\textsuperscript{26}. This perception of lettuce as anti-aphrodisiac is still alive nowadays in Abruzzo, as E. Lelli noted after interviewing people from this Italian region\textsuperscript{27}. At the same time, other usages of this plant already emerged in \textit{Cyranides of the Capital}, \textit{in: Constantinople and its Hinterland. Papers from the Twenty-seventh Spring Symposium of Byzantine Studies, Oxford, April 1993}, ed. C. Mango, G. Dagron, London 1995, p. 49–56; A. Touwaide, \textit{Botany}, \textit{in: A Companion…}, p. 302–353; \textit{iadem, Medicine and Pharmacy}, \textit{in: A Companion…}, p. 354–403.


\textsuperscript{27} E. Lelli, \textit{Folklore antico e moderno}, Roma 2012, p. 286.
and *Geoponica* also appear in modern folklore, which implies a continuity from the ancient world. Giuseppe Pitrè (1841–1916) in his volume *Medicina popolare siciliana* (*Popular Sicilian Medicine*) explained that lettuce, especially if cooked, could increase mother and nurse’s milk if they had little; furthermore this plant, after being boiled, was recommended to wash eyes. Eventually, the Sicilian folklore recommends lettuce as a good φάρμακον to heal bowel ailments, just like fennel and cabbage. The tradition of using lettuce to cure eye-diseases is also attested in the Sorrentine Peninsula, as we can read in the volume *Tradizioni ed usi della penisola sorrentina* (*Traditions and uses of the Sorrentine Peninsula*) by Gaetano Amalfi (1855–1928). Using lettuce to help with breastfeeding is registered in the repertory on beliefs of Abruzzo by Gennaro Finamore (1836–1923): for this purpose, lettuce was cooked in broth with fennel and whisked eggs. An article on Barletta’s folklore in the 20th century by Salvatore Santeramo (1880–1969) shows that mothers employed *u popagne* and *u lattuchiedde* (poppy and lettuce) to make children fall asleep, but this practice already appears in ancient sources. Finally, the use of lettuce for belly pains results from the traditions of Rome catalogued by Giggi Zanazzo (1860–1911), in particular from a remedy *Pe’ ffa’ ppassà’ li dolor de la panza a le creature* (‘to get rid of children’s stomach-aches’): it consisted of giving two or three spoons of boiled water with two leaves of lettuce.

In *Geoponica* there are certain properties of lettuce not included in *Cyranides*, but some ‘fixed characteristics’ appear in all the works we have mentioned: the anti-aphrodisiac properties, the usage for increasing milk or for healing eyes, the benefit for belly pains. As the folkloric evidence reveals, all these δυνάμεις are still alive today in different parts of Italy, especially in the south, where the influence of the Greek world is remarkable. The fact that certain properties of this plant (the same goes for other species) are recorded in folkloric works and repertories implies a continuity of ancient beliefs in the modern world. It may be that even today the oldest people living in the small villages in the south of Italy use these popular remedies to heal a disease. However, before moving to *Hygromanteia Salomonis*, we may give some other examples of vegetable species attested both in traditional and non-traditional medical sources, as well as in ancient and modern popular beliefs.

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33 For example, consider the villages under the Greek influence in Calabria, where ancient beliefs are still alive; cf. F. Violi, *Storia della Calabria greca*, Reggio Calabria 2005; E. Lelli, *Calabria antica e moderna*, Athens 2021.
Parsley

Cyranides, V, 15: Ὀριοσέλινον, ἄλλοι δὲ πετροσέλινον, βοτάνη ἐστὶ παραπλησία σελίνῳ τὸ τε εἴδος καὶ τὴν δύναμιν, πλὴν ἰσχυρότερον. αὕτη γαστέρα μαλάσσει καὶ διουρητικὴ ἐστὶν ἐσθιομένη. καὶ ἑφθὴ δὲ πινομένη δυσουρίαν παύει καὶ στραγγουρίαν καὶ νεφρίτιδα θεραπεύει. τὸ δὲ ἀπόζεμα ἐσθιόμενόν τε καὶ πινόμενον ψυαλγίαις βοηθεῖ.

Oriosélinon, for others petrosélínon, is a plant similar to celery in appearance and properties, but stronger. It calms belly pains and, if eaten, it is diuretic. If boiled and drunk, it calms difficult micturition and heals strangury and nephritis. The decoction, if eaten and drunk, is useful for those who have back pains.

Geoponica, XII, 23, 3–5: Βρωθὲν δὲ τὸ σέλινον κατωφερεστέρας εἰς τὰ ἀφροδίσια ποιεῖ τὰς γυναίκας. ὅθεν οὐ δεῖ συγχωρεῖν ταῖς τιθηνούσαις ἐσθίειν τὰ σέλινα, καὶ μάλιστα διὰ τὸ ἐπέχειν τὸ γάλα. τῷ δὲ στόματι εἰς εὐωδίαν συμβάλλεται. διὸ καὶ οἱ δυσώδη τὰ στόματα ἔχοντες, εἰ φάγοιεν, ἀποκρούονται τὴν δυσωδίαν, καὶ τὰς ἐπὶ σκηνῆς φασὶ τοῦτο ἐσθίειν, ὅπως αὐτῶν τὰ στόματα εὐώδῃ εἴη. Τὰ δὲ σέλινα ἁμα ἅρτῳ καταπλασσόμενα ἔρυσιπέλατα θεραπεύει, καὶ τὸ ζέμα αὐτῶν ἐγκάθισμα γινόμενο, καὶ ὑπαντλούμενον, λίθους ἐκβάλει, καὶ δυσουρίαν θεραπεύει, καὶ νεφροὺς ἰᾶται.

Parsley, if eaten, makes women more willing to love; for this reason, breastfeeding people should not eat parsley, especially because it holds milk. It smells good in the mouth, so those who have a bad-smelling mouth get rid of the bad smell if they eat parsley. Actors are said to eat it on stage for their mouths to be scented. Parsley spread on bread cures erysipelas; its decoction, taken in a sitz bath or in a bath, eliminates kidney stones, cures difficult micturition and heals kidneys.

Traditional medical sources: Dioscorides distinguishes three kinds of parsley, ὀριοσέλινον, πετροσέλινον and ἰπποσέλινον. The properties of the first two coincide with Cyranides and Geoponica’s paragraphs. Concerning the third one, its seed, if drunk with honey and wine, brings on the menstrual period; if drunk, it can warm shiverers; if anointed, it is suitable for curing strangury, and the root has the same properties. The varieties of parsley appear in Pliny the Elder’s Naturalis Historia: the olusatrum, or hipposelínum, which was considered a good remedy for colic and intestinal diseases, and even against rabid dogs’ bite; the oreoselínum, which provokes urination and menstruation; the heleoselínum, beneficial against spiders and for menstruation; the petroselínum, growing among the stones and useful for

34 In the previous part, Geoponica gives some advice to make the parsley grow luxuriantly. Cassianus Bassus, XII, 23, 1–2, vol. II, p. 708–709. It is remarkable that in Geoponica parsley is defined σέλινον, whereas in Cyranides we find ὀριοσέλινον and πετροσέλινον. As E. Lelli noted, the parsley was the celery which grew among the stones; E. Lelli in L’agricoltura antica…, vol. II, p. 989.

35 Dioscorides, III, 65–67, vol. II, p. 76–78. Pietro Andrea Mattioli in his Discorsi talks about the so-called apio (apium), distinguishing between the apio hortense (of gardens), the eleoselino (that is the apio palustre, of swamps), the oreoselino (or apio montano, of mountains), the petroselino and the hipposelino; cf. Pietro Andrea Mattioli, Discorsi, III, 69–71, p. 810–816.
abscesses; finally, the *buselinum*, good against snakes. Likewise, these properties are highlighted in Celsus’ *De medicina* and in Scribonius Largus’ *De compositione medicamentorum*. What is also of note is the brief description of the characteristics of parsley provided by Galen in *De simplicium medicamentorum temperamentis ac facultatibus libri XI*. In Nikolaos Myrepsos’ *Dynameron* we find many recipes with ὀρεοσέλινον, ἱπποσέλινον and πετροσέλινον, especially for kidney stones and colic.

Folkloric evidence: The continuity of beliefs from ancient to modern times can be also observed in case of parsley and its characteristics. E. Lelli has interviewed people from Calabria who thought that *il prezzemolo faceva male alle donne incinta* (‘parsley was dangerous for pregnant women’). The same property is registered by G. Pitrè for the Sicilian folklore, where parsley is included among the galactogen substances, *i.e.* those stimulating the production of milk. In Sicilian popular beliefs parsley is also a remedy for children’s intestinal problems and kidney stones. In Friuli Venezia Giulia a decoction of parsley or grape flowers was suggested to make the nurses’ milk disappear, but this plant was helpful even for meteorism, colic or strangury. Salerno area’s peasants recommended not transplanting parsley plants at home, since they claimed it would cause someone to die within a year, but they advised not eradicating it to keep the devil away from a garden. In the countryside girls would eat a lot of parsley to provoke a miscarriage and during the night of Saint John parsley was employed as a divinatory herb to know if dead people were in Paradise or not. Similar to mandrake or henbane, this plant was mixed with animal fat and soot to create the *unguento del volo magico delle streghe* (‘ointment of the magical flight of witches’), that could provoke hallucinations and dizziness. Finally, the use of this plant is also recorded in Asia Minor, where it is considered a galactogen.

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38 Scribonii Largi Compositiones, 106; 120; 126; 144; 145; 152; 176; 177, ed. S. Sconocchia, Berlin 2020 [= CMLat, 2.1], p. 169, 177, 183, 193, 195, 211.
40 For example, Nikolaos Myrepsos, Ἀντίδοτα, ρ'; τμθ', p. 100, 162; Ἐνέματα, κγ'; λδ', p. 564, 568.
41 E. Lelli, *Folklore antico…*, p. 159.
Garlic

Garlic is sharp and acre. It stimulates urine, purifies inward parts and heats, if eaten boiled. Instead, if eaten raw, it protects against snake bites and it is useful for those bitten by a beast, if it is applied as a poultice in the sting. Unripe garlic removes the wounds in the head, if it is ground and applied with goose fat and coriander. Its juice soaked in oil calms earache. Garlic boiled and applied ground cures temples' pains. It removes rashes and eye spots, if it is ground and then applied. As a precaution, it is necessary to know the harmfulness of garlic. Due to the wind, it makes vision blurred, damages the stomach and causes thirst.

Garlic becomes great if it is planted in white soil. This kind of garlic, if eaten, removes tape-worm, stimulates diuresis and, if applied as a poultice and then eaten, it is efficacious for those bitten by a mad dog. If it is burnt and mixed with honey, then spread, it heals black eyes and alopecia. If it is held in the mouth, it calms toothache. With oil and salt, it cures rashes and it is helpful for those who have dropsy. It relieves freckles and impetigo. If garlic is eaten cooked or raw, it is useful against chronic cough and calms arterial pains. It makes the voice clear. If somebody eats garlic, then he will be unhurt by snakes and other poisons. If it is chopped and then applied, it heals those who are injured. It gives benefit if drunk with wine. It is very suitable for those who cannot digest food. It stimulates diuresis, cures nephritis and it prevents from being damaged from non-potable water.

Traditional medical sources: Garlic's therapeutic properties already appear in Corpus Hippocraticum. For example, according to De diaeta this plant is warm, excretive, diuretic and purgative, but also good for the body and bad for the eyes;

47 The description continues in Cassianus Bassus’ Geoponica, XII, 30, 6–9 with some advice to make garlic sweeter or odourless. Cassianus Bassus, XII, 30, 6–9, vol. II, p. 716–717.
moreover, when it is boiled, it is weaker than when it is raw\textsuperscript{49}. However, Hippocratic authors had different ideas about the properties of this plant: in \textit{De videndi acie} raw garlic is suggested to heal night blindness, whereas in \textit{Epidemiae} a garlic and barley cake is considered a φάρμακον for eye-diseases; it is mentioned in \textit{De natura muliebri} as a cure for displacement of the womb and in \textit{De mulierum affectibus} as a pregnancy test\textsuperscript{50}. The same properties are highlighted in Dioscorides' \textit{De materia medica}, where there is the distinction between a cultivated and a wild variety: here garlic is recommended for those bitten by a mad dog, just like in \textit{Geoponica}, and as a remedy for the bite of the shrewmouse\textsuperscript{51}. This property emerges also in Pliny the Elder's \textit{Naturalis Historia}, and in addition we find the δύναμις of garlic helping against dropsy, cough, toothache and, when applied with goose fat, being a cure for ear diseases\textsuperscript{52}. Finally, this plant appears in several passages of Marcellus Empiricus' \textit{De medicamentis}, referring to the same properties described in other ancient medical works\textsuperscript{53}.

\textbf{Folkloric evidence:} The continuity of ancient beliefs about garlic can also be observed in folklore. There is some evidence on its use against bites in Abruzzo, where it was placed under the pillow of a new mother to keep snakes away, as we can read in \textit{Tradizioni popolari abruzzesi} (\textit{Popular traditions of Abruzzo}) by G. Finamore\textsuperscript{54}. There is a similar belief in Salento, where people thought that this plant could cure le punzecchiature degli scorpioni e delle vipere (‘scorpions’ [stings] and vipers’ bites’), as attested by Saverio La Sorsa (1877–1970)\textsuperscript{55}. The δύναμις to heal toothache appears in the Sorrentine Peninsula, where applying chopped garlic with vinegar and milk is suggested\textsuperscript{56}. In Sicilian folklore it was employed for eye-diseases, bites (especially of spiders, but in general of poisonous insects) and even for cholera epidemics during the 19\textsuperscript{th} century\textsuperscript{57}. As it emerges from Theophrastus’

\textsuperscript{53} Marcelli \textit{De medicamentis liber}, IX, 22; XIV, 29–30; XV, 77 and 87; XVI, 48; XXIII, 39; XXVII, 107; XXVIII, 29, ed. et trans. M. Niedermann, E. Liechtenhan, Berlin 1968 [= CMLat, 5], p. 170, 236, 258, 260, 282, 402, 480, 492.
\textsuperscript{54} G. Finamore, \textit{Tradizioni popolari…}, p. 162.
\textsuperscript{55} S. La Sorsa, \textit{Alberi, piante ed erbe medicinali nella tradizione popolare italiana}, Lar 12.2, 1941, p. 116.
\textsuperscript{56} G. Amalfi, \textit{Tradizioni ed usi…}, p. 64.
\textsuperscript{57} G. Pitrè, \textit{Medicina popolare…}, p. 253, 276, 351.
Characters\textsuperscript{58}, since the ancient world garlic was considered a remedy for the evil eye, but this popular belief is still attested in modern folklore: in Greece garlic was used as an amulet against the evil eye or, if it is not at hand, people could exclaim σκόρδο ἀμητίκα σου (‘garlic in your eyes’); likewise, in Calabria, as E. Lelli noted, si portava addosso uno spicchio d’aglio contro il malocchio (‘people wore a clove of garlic against the evil eye’), and the same usage is attested in Puglia\textsuperscript{59}. Furthermore, it was associated with witches, both in the ancient world and in modern times: Quintus Serenus noticed that the comic playwright Titinius knew that it could be a defence against the black strix that attacked puelli\textsuperscript{60}; similarly, in the contemporary Greek world a wreath of herbs, including garlic, was hung on the door on the first of May to keep evil influence away\textsuperscript{61}; we find the same belief in Salerno, where garlic should be carried in the pocket during the night of Saint John to protect against witches and demons\textsuperscript{62}.

After examining the use of select herbs in Cyranides and Geponica, comparing their properties and employment between traditional medical sources and folkloric evidence, we can proceed with another non-traditional medical work, the Hygromanteia Salomonis. We will examine other types of vegetable, considering in this case also the influence of astrology in the practice of medicine and magic.

2. The Hygromanteia Salomonis

The Hygromanteia Salomonis is an astrological-demonological compilation which includes considerations on planets and zodiac signs, and even some exorcisms attributed to king Solomon\textsuperscript{63}. The last two blocks of the astrological material discussed in this work are devoted to the associations of zodiac signs and planets with vegetable species; moreover, Solomon explains when and how to harvest

\textsuperscript{58} Theophrastus, Characters, XVI, 14, ed. et trans. J. Diggle, Cambridge 2004 [= LCL, 225], p. 112–113.

\textsuperscript{59} E. Lelli, Folklore antico..., p. 52. C. Lapucci, A. Antoni, La simbologia..., p. 66. Cf. also S. La Sorsa, Alberi, piante..., p. 116 and C. Lapucci, DVP, 36, [in:] idem, Dizionario dei modi di vivere del passato, Firenze 1996.

\textsuperscript{60} Quinti Sereni Liber medicinalis, 58, ed. F. Vollmer, Leipzig–Berlin 1916 [= CMLat, 2.3]. For this aspect cf. also L. Cherubini, Strix. La strega nella cultura romana, Torino 2010, p. 23; D. Ogden, The Werewolf in the Ancient World, Oxford 2021, p. 33.

\textsuperscript{61} W.H.D. Rouse, Folklore Firstfruits from Lesbos, Fol 7.2, 1896, p. 146. Cf. also T. Braccini, Prima di Dracula. Archeologia del vampiro, Bologna 2011, p. 177, where garlic is even associated with vampires, and in particular it was rubbed on the corpses to keep them from becoming vampires.

\textsuperscript{62} F.M. Morese, L’eredità degli antenati..., p. 174–175.

\textsuperscript{63} There is a tradition according to which Solomon, builder of the homonym temple, was also an astrologer and exorcist. This emerges in the Hygromanteia Salomonis and in the Testament of Solomon, cf. P.A. Torijano, Solomon the Esoteric King. From King to Magus, Development of a Tradition, Leiden–New York–Köln 2002 [= JSJ.S, 73].
the plants, how to prepare them and what are their ἐνέργειαι (powers). As Pablo Antonio Torijano highlighted, the medical preparations discussed seem to refer to ‘actual practices of medicinal or magical botany’: consequently, this text could be used as a repository of techniques probably carried out by real practitioners, as well as the exorcisms of the Testament of Solomon.

The Hygromanteia Salomonis describes first the link between zodiac signs and herbs, and then those involving planets, but it is better to start from the latter part for the sake of clarity. Each planet is connected with a certain plant, and this association is explicable by the characteristics of the planet itself according to Ptolemy’s Tetrabiblos or Vettius Valens’ Anthologies. For example, concerning Jupiter, Ptolemy explains that this planet has a temperate action since its orbit is halfway between Saturn and Mars, the first being cold and the other burning hot. For this reason, it was classified by the ancients as a cold, masculine and diurnal planet and was assigned the signs of Sagittarius and Pisces, in trine with the luminaries (the Sun and the Moon). Ptolemy states that Jupiter presides over the organs of touch, lungs, arteries and sperm. On the other hand, in Vettius Valens’ Anthologies Jupiter relates to abundance – thus is associated with pregnancy, generation, prosperity and abundance of gifts and crops – but it also exemplifies desire, friendship with great men, trust and brotherhood. Jupiter presides over thighs and feet, whereas if the internal body parts are concerned, it rules the sperm, the uterus, the liver and in general the right side of the body.

So far we have clarified the characteristics of Jupiter and we can examine the link between this planet and the herb associated with it, χρυσάγκαθον in the Hygromanteia Salomonis. For this purpose, we can take into account the text transmitted by Monacensis gr. 70 (16th century), which is the oldest version of Hygromanteia Salomonis:

Τὸ βότανον τοῦ Διὸς τὸ χρυσάγκαθον· τοῦτο εὔγαλε εἰς τὴν ὥραν, ἐν ᾗ κυριεύει ὁ Ζεύς, καὶ ὄνομαζε τοὺς ἀγγέλους καὶ εἰπὲ καὶ τὰς προσευχὰς καὶ ἔχει ἰατρείας φρικτὰς καὶ φοβερὰς. τὴν ῥίζαν ἐὰν δώσεις φαγεῖν πρωίας ζʹ, σεληνιαζομένου ἰαθήσεται. εἰ δὲ δαιμονιζομένῳ δώσεις βαστάζειν μετὰ λιβάνου τὴν ῥίζαν, φυγήσεται τὸ δαιμόνιον. τοὺς πίπτοντας ἐκ τοῦ

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64 Ibidem, p. 170.
66 There are also similar treatises on the connections between planets and plants, transmitted by several manuscripts edited in the Catalogus Codicum Astrologorum Graecorum. For these connections cf. G. Ducourthial, Flore magique et astrologique de l’antiquité, Paris–Berlin 2003, p. 267–376; G. Freni, Piante, pietre e animali tra magia e astrologia, Ac 73.2, 2020, p. 53–70.
67 P.A. Torijano, Solomon the Esoteric King..., p. 161–162.
As it emerges from this passage, χρυσάγκαθον can have extraordinary and formidable healing properties if picked up in the hour in which Jupiter is dominant and if some invocations and prayers are pronounced. The plant can cure epileptics, those possessed by a demon and those who foam at their mouths, but also heals wounds and injuries; it even protects from incantations and is a remedy for poisoning. However, Monacensis gr. 70 is not the only manuscript which indicates the connection between planets and herbs. Another remarkable testimony of this section of Hygromanteia Salomonis is the so-called Petropolitanus of the Paleographical Museum of Russian Academy of Sciences (17th century). This species is defined there as χρυσάκανθος or ἀλχαράνιος, suggesting to collect it when Jupiter dominates, on the seventh day at the first hour, reciting the planet's prayer. Among the recipes given, there is a remedy for eye-diseases:

Mix the root of chrysákanthos with celandine, then grind, dissolve and leave with water in the open air for three nights and anoint your eyes, they will not be blind; it will cure who is beaten by a man; see and you will be amazed.

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69 This manuscript transmits the part of Hygromanteia Salomonis related to planetary plants and that of Testament of Salomon dedicated to decans; cf. P.A. Torijano, Solomon the Esoteric King..., p. 159.
70 The text of the Petropolitanus is edited in A. Delatte, Le traité des plantes planétaires d’un manuscrit de Leningrad, [in:] Mélanges en l’honneur de H. Grégoire, Bruxelles 1949, p. 167.
Furthermore, χρυσάκανθος is recommended for belly pains or nerve paralysis, but also for non-medical uses such as being successful in embarking on a journey or being invincible in court. Concerning other testimonies, as Iaonnis Marathakis explained, this section of Hygromanteia Salomonis is attested in such manuscripts as Harleianus 5596 – which mentions only the plants associated with the Sun and Saturn – or the Gennadianus 45 of the Gennadius Library of Athens (16th century) and the Bernardaceus of the private library of the Bernardakedes (19th century)\textsuperscript{71}. Likewise, there are further works devoted to the relationship between herbs and planets and, according to Armand Delatte, we can distinguish five different treatises, only two of which probably connected with the Hygromanteia Salomonis\textsuperscript{72}. Finally, we can recall the Additional manuscript 17 900 of the British Library in London, which includes a treatise attributed to Alexander the Great: even if this work is not strictly linked with Hygromanteia Salomonis, it is useful to understand the circulation of such medical-astrological beliefs in the ancient and Byzantine world. Friedrich Pfister defined this treatise Alexandertext and distinguished the version Peristereontext from the Mandragoratext, depending on the attribution of περιστερεών and μανδραγόρα to Aphrodite/Venus, but also on the distinction between σαγχαρώνιον and ὑοσκύαμος as the plants connected with Zeus/Jupiter\textsuperscript{73}.

The identification of χρυσάκανθος and ἀλχαράνιος, which appear in astrological treatises, was discussed for a long time. Scholars have proposed that this species corresponds to Hyoscyamus L. and, in particular, it seems that ἀλχαράνιος is a deformation of σαγχαρώνιον. This hypothesis seems confirmed by two astrological texts, included in Parisinus gr. 2256 and Neapolitanus II.C. 33. The Jupiter’s herbs there are named respectively σαγχαρώνιον and ἀλχαράνιος, but they have the same properties: the root heals inguinal tumours, the liver and those who suffer from gout; if used as an amulet, the root has an aphrodisiac power\textsuperscript{74}. These prescriptions may suggest that both names refer to the same herb. Pseudo Apuleius’ Herbarium confirms the identification with Hyoscyamus L.: when mentioning the herba simfoniaca, it is explained that A Graecis dicitur iosciamum (Greeks define it iosciamum), but according to some manuscripts prophets call it saccanaron\textsuperscript{75}.

\textsuperscript{71} For the Gennadianus cf. A. Delatte, Un nouveau témoin de la littérature solomonique, le Codex Gennadianus 45 d’Athènes, BCLSMP 45, 1959, p. 280–321.
\textsuperscript{72} I. Marathakis, The Magical Treatise of Solomon or Hygromanteia also called Apolesmatikē Pragmateia, Epistle to Rehoboam, Singapore 2011, p. 81–83.
\textsuperscript{75} In particular, in Vratislaviensis bibl. univ. III F 19 and in Vindobonensis 93 we can read profetae saccanaron. Cf. Pseudoapulei Herbarius, IV, ed. E. Howald, H.E. Sigerist, Leipzig–Berlin 1927
As Guy Ducourthial pointed out, *iosciatum* and *saccanaron* could represent the Latinized form for χρυσάκανθος and σαγχαρώνιον. But there is even more evidence to support that claim: ἀλχαράνιος or σαγχαρώνιον seems related to the Arabic term *al-saykarān*, which indicates both henbane and hemlock, whereas *shawkarān* is the name of hemlock, denoting again the difficulty in the identification. Finally, ὑοσκύαμος, as claimed by Dioscorides’ *De materia medica* (recensio vetus), was called by some Διὸς κύαμος: this links it with Zeus and, consequently, with the planet Jupiter.

Having verified the identification with the *Hyoscyamus L.*, generally known as henbane, we can analyse the ancient medical sources and the folkloric evidence on this plant. There are many varieties of henbane, for example the black (*Hyoscyamus niger L.*), the golden (*Hyoscyamus aureus L.*), the white (*Hyoscyamus albus L.*), the one from Egypt (*Hyoscyamus muticus L.*) and the lattice henbane (*Hyoscyamus reticulatus L.*). However, already in the ancient world several varieties of this plant were distinguished.

Hippocrates gives some information on the δυνάμεις of henbane, mentioning its employ for uterus diseases, tetanus, fevers or sterility. Dioscorides talks about three species, *i.e.* one with purple flowers and a black seed, another with quince-yellow flowers and yellow seed and the last one with white flowers and seed. It is clarified that the first two cause madness, are soporific and difficult to use, whereas the third one is suitable for treatments. If the white variety is unavailable, the henbane with the yellow seed was preferred over the black seed variety. Its juice has analgesic properties and is beneficial for rheum, earaches, uterus’ ailments, eye-disease, feet and in general for inflammations. The seed can be used for the same purposes, but it is even employed for female flow, gout, swollen testicles and breasts. The leaves are analgesics, especially the fresh ones if applied.

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as a plaster; if three or four of them are drunk with wine, they heal fever; if a bowl of leaves is boiled and eaten, they cause delirium. Finally, the root boiled with vinegar is efficacious for toothache. Pliny generally discusses the same properties, but he talks about four varieties: in addition to the ones found in Dioscorides’ *De materia medica*, there is a species whose seed seems that of the *iriō*. Concerning the dangerousness of this plant, Pliny mentions a remedy for those who drank henbane’s juice, explaining that the juice itself was a remedy. Galen distinguishes different seeds, recognizing that henbane can provoke madness and including it in the so-called φάρμακα δηλητήρια. Even Oribasius recommends white henbane, noting that the black one can cause madness and admitting the perilousness of the yellow one: for this reason, people should avoid these two varieties, preferring the white henbane. All things considered, these medical sources point out the toxicity of this plant, especially the black variety as we can read in Dioscorides and Oribasius, and there were also some remedies for its dangerousness as Pliny notes in his *Naturalis Historia*. Finally, Alexander of Tralles suggests to unearth henbane when the moon is on the sign of Aquarius or Pisces, before sunset, but without touching the root of the plant; after reciting some formulas, the extremity should be applied to those who suffer.

As Ducourthial stated, henbane still is considered toxic today and there is some folkloric evidence in this regard. The folklorist Anselmo Calvetti (1924–2016) highlighted that this plant is cultivated in Europe and has different effects depending on its doses: in small doses it can cause sleep, but in large doses it is employed in popular medicine against neuralgia; smoked like cigarettes, the leaves can cure asthma and are used in powder form as a hypnotic. As Valentino Oster-
-mann (1841–1904) noticed, in Friuli the root, chopped with that of hellebore, was applied on the legs for rheumatic and sciatic pains; its poisonous property is also recognized, noting that the most frequent poisoning in the 19th century were caused by henbane, atropa belladonna, hemlock etc. and the only remedy was vomiting, drinking water with salt, eating lemons or cedars and drinking decoctions of vincetossico. Henbane was used for toothache and, referring to this prescription, Ostermann names it erbe di Santa Polonia\(^90\). Likewise, in Abruzzo this herb, and especially its oil, was employed in curing rheumatic pains, toothache, carbuncle, boils and sores\(^91\). In Sicily this species is called erva grassudda, suitable for removing lice, curing skin inflammations and decaying teeth\(^92\).

After examining the association between Jupiter and henbane in Hygromanteia Salomonis – and the continuity of henbane’s beliefs – we can describe the herbs of the two zodiac signs associated with this planet\(^93\). Sagittarius and Pisces were considered windy, fruitful and in trine with the luminaries, so they had a harmonic and beneficial aspect\(^94\). Concerning Sagittarius, the Hygromanteia Salomonis connects the ἀνακάρδιος with this sign, giving some prescriptions for the collection (ταύτην ἔπαρον, ὅταν τὸ ζῴδιον ὁ Τοξότης κυριεύει, ‘pick it up when the sign of Sagittarius is dominant’) and talking about some magico-medical properties of the plant: for example, the leaves can cure itchy inflammations and kidney pain, whereas the root brings luck and happiness\(^95\). As G. Ducourthial highlighted, it is difficult to identify this species and, consequently, to trace folkloric evidence. Unknown to Theophrastus, Dioscorides and Pliny, the ἀνακάρδιος only appears in certain preparations mentioned by Paul of Aegina and Alexander of Tralles, but

\(^90\) V. Ostermann, La vita in Friuli..., p. 186, 412, 423, 427.
\(^91\) G. Finamore, Tradizioni popolari..., p. 121, 127, 130, 154, 191.
\(^92\) G. Pitrè, Medicina popolare..., p. 30, 217, 239. In general cf. also C. Lapucci, A. Antoni, La simbologia..., p. 221–223.
\(^93\) In addition to the one in Hygromanteia Salomonis, there is another treatise on the connection between plants and Zodiac signs, transmitted by Parisinus gr. 2256, fol. 588v–592v; cf. P. Boudreaux, Catalogus Codicum..., vol. VIII.3, p. 139–151. As Marathakis noted, this work is attributed to Harpocratio and has no relation with the Hygromanteia Salomonis; a Latin version of this treatise was published in 1528 as an appendix to Pseudo Apuleius’ Herbarium; cf. I. Marathakis, The Magical Treatise..., p. 80.
\(^94\) Ptolemy, I, 18, p. 66–69.
\(^95\) Hygromanteia Salomonis, excerptum e cod. Monacensi gr. 70, fol. 250v, [in:] J. Hegg, Catalogus Codicum..., vol. VIII.2, p. 161.
the plant itself is not described\textsuperscript{96}; some late antique glossaries identify it with an Indian species\textsuperscript{97}. Finally, the \textit{Cyranides}, when talking about the plant called μορέα, explains that ἀνακάρδιον refers to the direction of the small branches (ἀνακάρδιος, with upward branches; κατακάρδιον, with downward branches)\textsuperscript{98}.

Instead, the plant associated with Pisces in the \textit{Hygromanteia Salomonis} is the ἀριστολοχία: its fruit, drunk with wine, drives away all diseases; its root, after a fumigation, is successful against demons, diseases and calamities\textsuperscript{99}. According to Dioscorides the phytonym comes from the usefulness for women during childbirth (ὡνόμασται μὲν ἀπὸ τοῦ δοκεῖν ἄριστα βοηθεῖν ταῖς λοχοῖς, ‘it is defined from the belief that is excellent for women during childbirth’). Then three varieties are distinguished: a feminine one, excellent for poisons; however, to treat snake or deadly the masculine variety is preferred, which is also suitable for pregnant women; the third species (κληματίτις) has the same properties but is less powerful\textsuperscript{100}. Pliny the Elder shows the same etymology for aristolochia, connecting it with ἀρίστη λεχούσαις (good for pregnant women); however, in \textit{Naturalis Historia} four species are distinguished, the first three yellowish in colour, with a small stem and purple leaves, and the fourth one, which is very thin. Pliny explains that if the second variety (the masculine, which is long), is eaten with beef after conception, it will result in a male child being born; moreover, the fishermen of Campania thought that the one with a round root (the feminine), mixed with lime and thrown into the sea, allowed to fish more easily (\textit{Piscatores Campaniae radicem eam quae rotunda est uenenum terrae uocant coramque nobis contusam mixta calce in mare sparsere. Aduolant pisces cupiditate mira statimque exanimati fluitant. ‘Fishers from Campania call the round root poison of the earth and, I am a witness, they throw it on the sea, chopped and mixed with lime. Fish come quickly with extraordinary greed and immediately float dead’)\textsuperscript{101}. Finally, both the masculine and the feminine varieties are mentioned in Nicander’s \textit{Theriaká}, where ἀριστολοχία is considered a remedy for the vipers’ venom\textsuperscript{102}. However, these different usages


\textsuperscript{97} For these glossaries cf. for example the one edited by A. Delatte, \textit{Le lexique du botanique du Parisinus graecus 2419}, Serta Leodiensia ad celebrandam patriae libertatem iam centesimum annum recuperatam composuerunt philologi leodienses, Liège 1930, p. 59–101; in particular cf. p. 70 and 84. In general, G. Ducourthial, \textit{Flore magique…}, p. 441, p. 577 notes 184–186.

\textsuperscript{98} Cyranides, I, 12, p. 71.


\textsuperscript{100} Dioscorides, III, 4, vol. III, p. 6–8.


still emerge in modern folklore, revealing again a continuity of ancient beliefs. For example, the connection to pregnancy has been found by E. Lelli in the Apulian folklore: in fact, an interviewed person from this region affirmed that this plant serviva come amuleto per le partorienti (‘it was used as an amulet for pregnant women’). On the other hand, the association with fishing recalls the sign of Pisces itself: it is remarkable that this characteristic appears in the area of former Greek influence, in particular in Calabria, where the belief on the poisonous property is also alive\textsuperscript{103}.

Reaching towards conclusions, we can recognize that Cyranides and Geoponica on the one side, and Hygromanteia Salomonis on the other are three works that illustrate the existence of a knowledge different from that of traditional medical sources. These compilations are not strictly devoted to medicine, since they concern distinctive field of knowledge in which medicine is included. Except for the fifth book of Cyranides, dedicated to the therapeutic uses of the 24 vegetable species, Geoponica and Hygromanteia Salomonis are not just meant to examine how to employ herbs as φάρμακα, but also to give prescriptions in different fields of knowledge: Geoponica mainly relates to agricultural and peasant wisdom, which involves the practice of collecting and taking advantage of herbs’ characteristics and properties in the medical practice; the Hygromanteia Salomonis, however, is an astrological-demonological compilation on astrological questions. Therefore, the therapeutic usage of plants is not the primary aim of these works: nonetheless, it is an important section of all these compilations and, as we have seen, the comparison with traditional medical sources permits to hypothesise the existence of a parallel non-traditional medicine, intersected with the scientific one\textsuperscript{104}. The comparison with such authors as Hippocrates, Dioscorides or Galen allows to have a broad view of the properties of certain plants – some of which are common, like the soporific action of lettuce, henbane and hemlock – and to retrace its uses in ancient and modern beliefs. In fact, the species analysed are still attested in several regions of Italy, but also in Greece, for their medical and magical use. Peasant knowledge or astrological principles are still alive today, especially in the countryside, sometimes recorded by our ancestors and handed down from generation to generation. Maybe on a summer evening, when grandparents tell their ancient remedies to children, thinking that one day they will do the same.

\textsuperscript{103} E. Lelli, Folklore antico..., p. 61–62, 242.

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