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Drugs for mental illnesses in ancient greek medicine

K. Laios,¹ P. Lytsikas-Sarlis,² K. Manes,² M.-I. Kontaxaki,^{1,3}
M. Karamanou,^{1,4} G. Androutsos⁴

¹Department of History in Medicine, Medical School, University of Crete, Crete,

²Surgical Department, "Konstantopoulio" General Hospital, Athens,

³Medical School, National and Kapodistrian University of Athens,

⁴Biomedical Research Foundation, Academy of Athens, Athens, Greece

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Drugs with psychedelic, hypnotic, narcotic, analgesic, suppressive, euphoric and stimulating effects were used in various ways during the ancient times. We can classify drug use in ancient times into two main categories. On the one hand, ancient physicians prescribed drugs based on their pharmaceutical-therapeutic actions. On the other hand, people not pertaining to medicine and not relating to its accurate implementation often abused drugs to achieve an euphoric state of mind, either for personal gratification or as an indispensable element of religion and mythology. Ancient Greek medical literature contains ample prescriptions and recipes indicating that plants were the essential components of drugs. Pedanius Dioscorides dedicated his lifetime's work to the synthesis of ancient drugs. One can find a plethora of information concerning the production methods and the plants used in drugs for the treatment of psychiatric diseases. These were herbs like black and white hellebore, mandrake, hyoscyamus (henbane), *Papaver somniferum* (also known as opium poppy), *Strychnos*, Frankincense-tree and dorycnium. The preparation of narcotics included the addition of other elements, mainly wine, to the opus of plants or to their extracts. Drugs were produced via methods of dehumidification/desiccation, grinding, squeezing or boiling of the plants' roots with a formation of a juice, oil or mush extract. In addition, drugs could also be inhaled if burnt. Many physicians of antiquity, such as Hippocrates, Galen, Ctesias and Aretaeus of Cappadocia, all refer to many of these aforementioned drugs analyzing the different symptoms which they could address, and the risks accompanying their use. Physicians of antiquity used drugs for the treatment of somatic, as well as psychiatric disorders. Most of these drugs affected the central nervous system. Taking advantage of their analgesic properties, physicians used them for the management of severe and chronic painful conditions. The hypnotic effects of some drugs were desirable in order to be used as anesthetics for surgical operations and cauterization. Drug use was also established in the initial treatment of epilepsy and seizures, regardless of their cause. Public rituals and mythology were the two main contexts in which drug use flourished, outside the realms of medicine. The psychotropic and especially the hallucinatory effects of drugs caused the person under their influence to lose control, rendering him incapable of governing his actions and thoughts. These consciousness-altering medications were frequently the central focus of mythology. In

this case, one would dictate and give orders to another person, which under any other circumstances would not be carried out. This led to the formation of the concept of the magic potion. Theophrastus frequently referred to magic potions.

Key words: Mental illnesses, ancient greek medicine, drugs, mandrake, hyoscyamus, strychnos.

Introduction

Psychotropic drugs, i.e., drugs with psychedelic, hypnotic, narcotic, analgesic, suppressive, euphoric and stimulating effects were used in various ways during the ancient times. Their use was based on the scientific knowledge of the time, socioeconomic status and personal expectations and aims.

One can classify drug use in ancient times, into two main categories. On the one hand, ancient physicians prescribed drugs based on their pharmaceutical-therapeutic actions. On the other hand, people not pertaining to medicine and not relating to its accurate implementation often abused drugs to achieve an euphoric state of mind, either for personal gratification or as an indispensable element of religion and mythology.¹ In this way, these drugs had a great impact on people's everyday life,² due to their illusory, hypnotic and sometimes deleterious effects.

Ancient greek drugs for mental illnesses

Ancient Greek medical literature contains ample prescriptions and recipes indicating that plants were the essential components of drugs. Pedanius Dioscorides (1st c. AD) dedicated his lifetime's work to the synthesis of ancient drugs.³ One can find a plethora of information concerning the production methods and the plants used in drugs for the treatment of psychiatric diseases.⁴ Most therapists of the ancient times used specific drugs, but their prescriptions varied in regard to the drugs' quantities and ratios used in order to treat mental disorders.

Nevertheless, we can definitely understand the characteristics of drug use in the ancient world by examining the elements most frequently used. These were herbs like black and white hellebore, mandrake, hyoscyamus (henbane), Papaver som-

niferum (also known as opium poppy), Strychnos, Frankincense-tree and dorycnium.⁵

The preparation of narcotics included the addition of other elements, mainly wine, to the opus of plants or to their extracts. These were produced via methods of dehumidification/desiccation, grinding, squeezing and boiling of the plants' roots. Furthermore, these could be extracted in the form of juice, oil or mush. In addition, drugs could also be inhaled if burnt. Small quantities could lead to prolonged and substantial effects and successfully achieve the desirable result.⁶

The physicians of antiquity used drugs for the treatment of both psychiatric and somatic disorders.^{7,8} Most of these drugs affected the central nervous system (Galenus Med. De theriaca ad Pisonem 14.248.9–14.249.4).⁹ Taking advantage of their analgesic properties, physicians used them for the management of severe and chronic painful conditions (Rufus Med. De renum et vesicae morbis 1.15.1–1.16.1).¹⁰ Additionally, the hypnotic effects of some drugs were desirable, in order to be used as anesthetics for surgical operations and cauterization. A drug commonly used for this purpose was mandrake (Dioscorides Pedanius Med. De materia medica 4.75.3.4–7).¹¹ Drugs of this category suppressed the central nervous system. Hence, their use was also established in the initial treatment of epilepsy (Dioscorides Pedanius Med. De materia medica 4.66.1.1–9)¹¹ and seizures, regardless of their cause (Hippocrates Med. et Corp. De locis in homine 39.2–5).¹²

The methods used to describe and classify drug use could be debated extensively. The structure of these texts remained almost always unchanged. Corresponding texts mention the properties of herbs and plants first. Drugs are not categorized based on the disorders that they heal. This explains

why there is no particular therapy for each and every disease. The administration of these drugs was based on empirical knowledge. Each physician had a multitude of alternatives, in order to treat the symptoms and perhaps the underlying causes of diseases.

The above was true due to the everyday use and the functional purpose of each drug. Herb properties ought to be known by every physician because not all plants were always readily available. Their availability was dependent on climate conditions and trading capabilities. Nevertheless, the distinction between deleterious and beneficial herbs was essential. Circumstances that could lead to poisoning were clearly described.

The above classification can also be attributed to the fact that physicians of antiquity could not precisely determine the actual cause of a disease. During ancient times, physicians assumed they were healing the disease when they only seemed to camouflage the ongoing symptoms. The pharmaceutical impact of the drugs they used to administer masked the presentation of a disease. Most of the disorders of human pathology that were addressed shared common symptoms and characteristics. As a result, ancient physicians avoided using books that would resemble to contemporary medical textbooks. Entries were based on herbs and drugs and not on diseases.

Ancient physicians never categorized the types of psychiatric diseases. On the contrary, they recognized a certain common trait, which they named paranoia. This characteristic was described as a loss or alteration of someone's logical thinking, or reason. Emotional states such as fear and prolonged misery were also considered entities that contradicted human logic. Hence, melancholy incorporated paranoia in its definition. The common symptoms of psychiatric diseases and the beneficiary use of drugs to treat them, both contributed to the wide use of ancient remedies to cure psychiatric disorders as a whole; for example mania and melancholia had the same treatment (Oribasius Med. Synopsis ad Eustathium filium 8.7.1.1–3).¹³ Phrenitis was the prominent exception

to this rule. Its ancient treatment differed from remedies given for other diseases of the psyche. Historical evidence indicates that the main therapeutic target in phrenitis was the extremely high fever it caused. Hence, the treatment's main aim was not paranoia itself but a respiratory infection causing alterations in a patient's mental status. This can be proven by delving into the properties of the drugs used for the treatment, although hypnotics were also often used (Dioscorides Pedanius Med. Euporista 1.6.1.1–8).¹⁴

The concept of therapy for mental diseases

Daily symptom experiences were the main factor that dictated methods of therapy. Surprisingly, the treatment of many psychiatric and somatic disorders included the use of deleterious and toxic drugs. Although, their instant and potent actions were immediately noticed. For example, hellebore, a herb with lethal toxicity and a great variety of side effects, was a widely applied tool of treatment (Dioscorides Pedanius Med. De materia medica 4.162.1.1–4.162.3.2).¹¹

Sleep-inducing, as well as suppressive drugs, were also empirically administered. Ancient physicians knew that a psychiatric patient in an acute state could be restrained and rendered harmless via the use of drugs. Prolonged administration of such drugs contributed significantly to the improvement of social adjustment of such a cumbersome patient. On the other hand, euphorics and hallucinogenics were considered a way out from emotional quandaries that tormented the minds of the psychologically unhealthy. For example, in Corpus Hippocraticum, the use of mandrake is mentioned for patients suffering from grief and exhibiting a self-destructing disposition. Treatment was administered until a near-mania state was achieved (Hippocrates Med. Et Corp. De locis in homine 39.1–2).¹²

Theoretically, ancient physicians had developed a particular mentality, linking the drug actions to the presumed causes of a disease. It was widely believed that herbs and plants offered a form of body catharsis. This was a cleansing of the organs

of logic from the dangerous and harming humors that contributed to the pathogenesis of diseases. Their assumptions were based on color and temperature changes. Diarrhea, which was often evident while treating patients with these ancient methods of therapy, constituted an additional clue that led them to consider drugs as a means of detoxification. Drugs with hypnotic effects such as mandrake, hyoscyamus and *Papaver somniferum*, were classified as temperature reducers (Galenus *Med. De simplicium medicamentorum temperamentis ac facultatibus libri xi* 11.380.8–13).¹⁵ Narcotics of this kind were thought to provoke cooling of the brain (Galenus *Med. De temperamentis libri iii* 1.585.14–1.585.16).¹⁶

The dangers of drug use for mental diseases

Apart from the obvious beneficial effects of drugs on patients, ancient physicians extended their field of research to the adverse and inadvertent effects of drugs. The potency of these drugs led physicians to research and report the immense dangers hidden behind their administration. Under certain circumstances, a drug was converted into harmful poison.

The greatest risks were attributed to overdosing. Drug overdosing that led to death was not uncommon. According to ancient physicians, the cooling effect of hypnotic and depressant herbs was so dangerous that it could immediately lead to death instead of narcosis. This was mentioned in texts about mandrake, henbane and *Papaver somniferum*, which were composed by Galen (1st–2nd century AD) and Oribasius of Pergamon (4th century AD) (Galenus *Med. In Hippocratis librum vi epidemiarum commentarii vi* 17a.903.11–17a.904.5. Oribasius *Med. Collectiones medicae* 14.54.7.4–14.54.10.3).^{17,18}

We should also mention that death as an immediate repercussion of drug overdose was also mentioned by Dioscorides Pedanius. Specifically, he alluded to the dangerous effects of overdosing with dorycnium. However, in this case, the cooling phenomenon was not directly mentioned. (Dioscorides Pedanius *Med. De materia medica* 4.74.1.9–10).¹¹

Hellebore was a plant once considered as extremely dangerous and lethal. According to writings of Ctesias (5th–4th c. BC), no one ever chose to administer hellebore, for no one either knew how to prepare the potion, or to determine the right dose. In addition, people that expressed a disposition to use hellebore were warned against this due to the high risk of death. It is noted that, if death occurred, it was caused by asphyxiation (Oribasius *Med. Collectiones medicae* 8.8.1–6).¹⁸

Nevertheless, after the interventions of Ctesias concerning the deleterious effects of hellebore, the drug became more popular for resolving paranoia. Its use gradually increased and soon hellebore was frequently administered. Hellebore was so widely used, that people used the term “helleborised” to indicate that someone who had previously suffered from paranoia had returned to his or her normal state of mind.¹⁹ Not only was this herb used for mentally ill patients, but also for people suffering from somatic diseases. Of course, the numerous side effects could not be ignored. In *Corpus Hippocraticum* (4th–3rd c. BC) it is highlighted that hellebore could induce toxic spasms to previously healthy people. These convulsions/seizures could often lead to death (Hippocrates *Med. et Corp. Aphorismi* 5.1.1).²⁰

Furthermore, another significant problem that this drug could cause was the alteration of mental status. Although this side effect was considered necessary to treat psychologically ill patients, it was undesired for those who suffered from somatic illnesses. In addition, the alteration of consciousness was a burden for those who used this drug specifically for its euphoric effects.

Aretaeus of Cappadocia (2nd or 4th c. AD) places emphasis on the irrationality that was commonly noticed in patients under the influence of mandrake and henbane. He referred to this state as manic. In this case, mania should not be confused with the true symptoms of an illness (Aretaeus *Med. De causis et signis acutorum morborum* 1.6.1.5–1.6.2.3).²¹

Along with Aretaeus of Cappadocia, Dioscorides Pedanius also concluded that frankincense-tree

had the same lethal effects. Many healthy people consumed this drug alongside with wine and subsequently exhibited symptoms of mania (Dioscorides Pedanius *Med. De materia medica* 1.68.3.8–10).¹¹

Dioscorides Pedanius refers to the root of strychnos the manic, whose name reveals its hallucinatory effects, as a drug with dose-dependent consequences. When given in small quantities (1 drachma), accompanied with wine, the drug creates multiple pleasant illusions. On the contrary, when it is administered in larger doses (2 drachmas), it causes excitement and distress for up to three days. In case of excessive consumption (4 drachmas), it can abruptly lead to death. Furthermore, in his text “*De materia medica*”, Dioscorides Pedanius describes the use of “honey mixed wine” as an antidote, in case of overdose (Dioscorides Pedanius *Med. De materia medica* 4.73.2.6–10).¹¹

Pseudo-Dioscorides (1st c. AD) refers to the suppressive effect of mandrake and draws the conclusion that its effect is similar to a lethargic state (Pseudo-Dioscorides *Med. De venenis eorumque praecautione et medicatione* 16.1–4).²² On the contrary, he describes the paranoid state cause by hyoscyamus as a state similar to alcoholic intoxication and drunkenness (Pseudo-Dioscorides *Med. De venenis eorumque praecautione et medicatione* 15.1–2).²²

Galen was amongst the first to recognize the danger of death behind the use of analgesic drugs, although he did not specifically name the drugs. However, it is obvious that he refers to drugs that contain narcotics. He defined them as carotics alluding the disease of “caros”. This way, he underlined the suppression of somatic and psychological processes. The use of analgesics was particularly detrimental to patients suffering from insomnia or patients that were decrepit. According to Galen’s writings, analgesics were introduced in order to treat strong and chronic somatic pain, such as colic pain. Galen indicated that their use should either be minimized or abandoned (Galenus *Med. De methodo medendi libri xiv* 10.816.16–10.817.18).²³

Moreover, Galen also addressed the problem of chronic addiction to drugs with substantial analgesic effects. However, he did not just refer to this problem as a problem of those who misused them pursuing their euphoric effect. He held a particularly caustic stance against physicians who overprescribed these drugs for medical use. However, Galen noted that there was one exception. He accepted the use of these drugs in order to treat persistent cases of insomnia that lead to detrimental ramifications such as death-inducing exhaustion. According to Galen, the soporific effects of the drugs were justified in these cases and the risk of addiction could be overlooked (Galenus *Med. De methodo medendi libri xiv* 10.816.5–10.817.7).²³

Apart from their medical use, drugs were also used to induce euphoric states to people, as part of religious or mythological rituals. Homer (8th c. BC) refers to the use of drugs and herbs as a way of alleviating psychological pain, mentioning nepenthes. Helen consumed nepenthes in order to treat feelings of grief and sorrow, striving to forget painful events. This comprises a characteristic example of drug used by healthy people. Homer writes that Helen added a drug of Egyptian origin to her wine (Homerus *Epic. Odyssea* 4.219–234).²⁴ It might be the case that she used opium derivatives that were transferred via the eastern Mediterranean. These functioned as psychotropic drugs causing a state of euphoria. Ancient poetry provides evidence that people of ancient times abused drugs of psychotropic nature in a regular basis. It is widely known that drug abuse has been a widespread practice.^{25,26}

Physicians took a substantially tougher stance against drug use. Their course of action was dictated by their sense of obligation to warn against excessive drug use. Ancient physicians aimed at raising public awareness concerning the risks and dangers of drugs. This is why we have yet to find evidence that ancient physicians accepted this widespread practice of drug abuse. Ancient physicians regularly pointed out the serious problems of drug-induced paranoia and the high death risk.

The social concept of drugs for mental diseases

Galen opposed to physicians and people who endorsed the use of drugs purely for their euphoric side effects. As a matter of fact, he criticized the improper behavior of certain mediocre and unethical physicians who praised members of a feast and encouraged them to consume previously prescribed "cold" drugs when they felt sick after excessive alcohol consumption. Galen felt a strong aversion towards these immoral physicians, because he believed that physicians should remain disciplined and faithful to concrete medical rules. According to these contemporary rules, psychotropic drugs should only be used under specified necessary circumstances. Only when their use was urgent and/or crucial, should drugs be administered to real patients with real somatic or psychological problems. Galen not only disapproved of the use of drugs for their hypnotic and sedative effects, but he also objected their use for their artificial euphoric effects. He considered the aforementioned states as incompatible with the concept of general health (Galenus Med. De methodo medendi libri xiv 10.4.3–7).²³

Nevertheless, the use of cannabis seems to be a more peculiar case. Neither was cannabis considered to be a psychotropic drug, nor was it used in everyday medical practice. Few historical texts refer to this drug as therapeutic. Cannabis' bad reputation was reinforced by the fact that it often induced headaches. According to Galen, its use was limited to eating baked cannabis leaves with wine and food and to placing cannabis on the forehead taking advantage of its heating properties (Galenus Med. De alimentorum facultatibus libri iii 6.549.15–6.550.7).²⁷

Drugs in ancient greek mythology

Public rituals and mythology were the two main contexts in which drug use flourished, outside the realms of medicine. The psychotropic and specifically the hallucinatory effects of drugs caused the person under their influence to lose control, rendering him incapable of governing his actions and thoughts. These consciousness-altering medica-

tions were frequently the central focus of mythology. Many myths were created around the mysterious subject of drugs. They were widely accepted as a means of dominating the will of others and luring them into following a course of action that they would avoid when non-inebriated. People thought they could impose their will on others who were under the influence of drugs. In this case, one would dictate and give orders to another person that under any other circumstances would not be carried out. This led to the formation of the concept of magic potions. Theophrastus (4th–3rd c. BC) frequently referred to magic potions (Theophrastus Phil. Historia plantarum).²⁸

In ancient mythology, mandrake was a very common drug that was used to deceive others. Sorceress Kirke was a popular mythological figure that took advantage of mandrake's soporific and mind-altering properties in order to lure Ulysses (Odysseus) and his comrades to stay by transforming them into animals.²⁹ Kirke's potions were notorious for their deluding qualities (Dioscorides Pedanius Med. De materia medica 4.75.1.1–3).¹¹ Moreover, people thought that mandrake grew in the gardens of Hecate. God Zeus was referred to as Mandrake and goddess Aphrodite was referred to as Mandragoritis,³⁰ due to the humanoid form of mandrake's roots and the versatility of the plant to produce both poisonous and love elixirs.

Something of similar nature occurred with black hellebore, but in this case the glamorization behind this particular drug was based on its therapeutic qualities. Hellebore was additionally called ΜΕΛΕΑΜΠΟΔΙΟΝ or ΠΡΟΪΤΙΟΝ, a name derived from Melampus, the mythical oracle and physician-priest. Melampus healed the daughters of Proitus (Lysippe and Iphinoe) from manic attacks performing cleansing rituals including the use of Hellebore.³¹ This is an example of the connection of ancient Greek mythology narrations and figures to everyday life events. According to the above story, one can observe the inclination of ancient people to associate mythological figures to the drugs exhibiting both deleterious and therapeutic properties.

Φάρμακα για τις ψυχικές παθήσεις στην αρχαία ελληνική ιατρική

Κ. Λάιος,¹ Π. Λύτσικας-Σαρλής,² Κ. Μανές,² Μ.-Ε. Κονταξάκη,^{1,3}
Μ. Καραμάνου,^{1,4} Γ. Ανδρούτσος⁴

¹Εργαστήριο Ιστορίας της Ιατρικής, Ιατρική Σχολή, Πανεπιστήμιο Κρήτης, Κρήτη,

²Χειρουργική Κλινική, «Κωνσταντοπούλειο» Γενικό Νοσοκομείο, Αθήνα,

³Ιατρική Σχολή, Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών,

⁴Ίδρυμα Ιατροβιολογικών Ερευνών Ακαδημίας Αθηνών, Αθήνα

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Κατά την αρχαιότητα, οι ουσίες με ψυχοτρόπο δράση, υπνωτική, ναρκωτική, αναλγητική, κατασταλτική, διεγερτική και ευφορική, αξιοποιήθηκαν με διαφορετικό τρόπο ανάλογα με τις γνώσεις, τις επιδιώξεις και την κοινωνική θέση των ατόμων. Μπορούμε να διακρίνουμε δύο βασικές κατηγορίες χρήσης. Παρατηρούμε τη φαρμακευτική-θεραπευτική χρήση, η οποία χαρακτηριζόταν από την ορθολογιστική τους προσέγγιση και συνδεόταν αποκλειστικά με τους αρχαίους ιατρούς. Στην αντίθετη πλευρά, παρατηρούμε τη χρήση τους από ανθρώπους εκτός του ιατρικού επαγγέλματος, είτε με σκοπό την ευφορία για την προσωπική ευχαρίστηση ή ως κομμάτι των θρησκευτικών τελετών και της μυθολογίας. Τα αρχαία ελληνικά ιατρικά συγγράμματα βρίθουν από συνταγές, παραθέτοντας ποικιλία φυτών, που αποτελούσαν τα κύρια συστατικά τους. Ολόκληρο το έργο του Πεδάνιου Διοσκουρίδη είναι αφιερωμένο στην παρασκευή φαρμάκων. Μπορούμε να αντλήσουμε πολλές πληροφορίες που αφορούν τις μεθόδους παρασκευής και τα φυτά τα οποία χρησιμοποιούνταν στη θεραπεία των ψυχιατρικών διαταραχών. Τα βασικότερα φυτά τα οποία αναφέρονται είναι ο Ελλέβορος ο Μέλας (Σκάρφη) και ο Λευκός, ο Μανδραγόρας, ο Υοσκύαμος, η Μήκων, ο Στράχνος ο Μανικός και ο Υπνωτικός, ο Λίβανος και το Δορύκνιο. Η παρασκευή τους γινόταν με την προσθήκη και άλλων στοιχείων, κυρίως του οίνου, στον οπό των φυτών ή στα παράγωγα της επεξεργασίας τους. Η παρασκευή των φαρμάκων γινόταν με τις μεθόδους της αποξήρανσης, της άλεσης, της στύψης και του βρασμού των ριζών. Η λήψη γινόταν με διάφορους τρόπους, όπως στη μορφή χυμού, χυλού, λαδιού, αλλά και με εισπνοή των αναθυμιάσεών τους. Οι αρχαίοι Έλληνες ιατροί όπως ο Ιπποκράτης, ο Γαληνός, ο Κτησίας και ο Αρεταίος ο Καππαδόκης έχουν αναφερθεί σε αυτές τις ουσίες, αναλύοντας τα διαφορετικά συμπτώματα που αυτές μπορούσαν να αντιμετωπίσουν και τους κινδύνους που επιφύλασσε η χρήση τους. Οι αρχαίοι Έλληνες ιατροί χρησιμοποιούσαν αυτά τα φάρμακα ως θεραπεία όχι μόνο στις ψυχικές, αλλά και σε πολυάριθμες περιπτώσεις σωματικών νόσων, καθώς τα περισσότερα επιδρούσαν στο κεντρικό νευρικό σύστημα. Έτσι, αξιοποιώντας την αναλγητική τους δράση τα χρησιμοποιούσαν στην ανακούφιση των ισχυρών και χρόνιων πόνων, ενώ σε συνδυασμό με τις υπνωτικές τους ιδιότητες ήταν όπλα πρώτης γραμμής για την αναισθησία στις χειρουργικές επεμβάσεις και στους καυτηριασμούς. Η κατασταλτική τους επίδραση αποδείχθηκε κατάλληλη στην αντιμετώπιση της επιληψίας και των σπασμών ανεξάρτητα από την αιτία τους. Οι θρησκευτικές τελετές και η μυθολογία ήταν δύο ακόμη πεδία όπου η χρήση αυτών των ουσιών ήταν πολύ διαδεδομένη. Η ψυχοτρόπος, αλλά κυρίως η παραισθησιογόνος δράση τους, καθιστούσε τον άνθρωπο ανίκανο να ελέγξει τον εαυτό του, τη συνείδηση και τις πράξεις του. Αυτού του τύπου οι επιδράσεις ήταν συχνά το κεντρικό θέμα των μύθων, πράγμα που οδήγησε στη διαμόρφωση της έννοιας του μαγικού φίλτρου, όπως μας πληροφορεί ο Θεόφραστος.

Λέξεις ευρετηρίου: Ψυχικά νοσήματα, αρχαία ελληνική ιατρική, φάρμακα, μανδραγόρας, υοσκύαμος, στράχνος.

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Corresponding author: K. Laios, 1 Athinodorou street, GR-118 53 Kato Petralona, Attiki, Greece
e-mail: konstlaios@gmail.com