Two Byzantine Medical Texts in Verse Translated into English: Diagnosis and Treatment of Disease

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Two Byzantine Medical Texts in Verse 
Translated into English: 
Diagnosis and Treatment of Disease

Petros Bouras-Vallianatos

Abstract
This article aims to provide an English translation of two particularly popular Byzantine medical texts in verse, focusing on diagnosis by the examination of venesected blood and urine. Furthermore, these texts provide valuable therapeutic advice, especially for the use of drugs. They are composed in the form of liturgical hymns, combining mnemonic techniques. These hymns survive in various recensions and are often ascribed either to Nikephoros Blemmydes or Maximos Planoudes, both late Byzantine intellectuals and renowned teachers of advanced educational programs in Nicaea and Constantinople, respectively.

Key Words: Byzantine uroscopy, venesection, juleps, parahymnography, Nikephoros Blemmydes, Maximos Planoudes

There is a long tradition of medical texts written in verse since antiquity. Ancient and medieval education was based on a learning heart, and students could more easily recall material presented in verse than lengthy treatises in prose. Among the most well-known medical works in verse are the two didactic poems in hexameter by Nicander of Colophon (fl. ca. 130 BC): the Theriaka and the Alexipharmaka. The former focuses on various venomous animals (insects, snakes, etc), and the latter deals with poisons and antidotes. Several examples may be pointed out from the Middle Ages in various languages and traditions. In Byzantium, one should mention the long didactic poem On Medicine in iambic dodecasyllables by Michael Psellos (1018–ca. 1076). Works containing elementary information on medicine could be easily memorised and used by students of medicine, as well as serving to instruct members of the Byzantine intellectual elite interested in medicine.

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Judging from the number of surviving manuscripts (see below), the most popular group of Byzantine medical texts written in verse is the stichera and the ecclesiastical canon on diagnosis and treatment of disease by the examination of venesected blood and urine. Both are composed in the form of liturgical poetry and belong to the "genre" of parahymnography. There are also examples of such didactic texts on other subjects, including orthography, grammar, syntax, mythology, geography, mineralogy, and meteorology.6

Dimitrios Skrekas and I are currently preparing a comprehensive interpretative study of these texts along with the first critical edition. The stichera and the canon survive in at least 38 and 43 manuscripts respectively, with the earliest ones dating to the fourteenth century. There are also various recensions of these texts, including several later paraphrases. One recension is ascribed to Nikephoros Blemmydes (1197/8 – ca. 1269), a Byzantine intellectual who wrote on a variety of subjects from theology and philosophy and had also studied medicine. Another is found in manuscripts under the name of the late thirteenth-century Byzantine polymath Maximos Planoudes (ca. 1205 – ca. 1305). Interestingly, both Blemmydes and Planoudes developed advanced educational programs in Nicaea and Constantinople, respectively.

The subject of the first text, involving a diagnosis through the examination of venesected blood (especially its colour, consistency, and smell), is exceptionally rare and I am not familiar with any other significant text of this kind in the Byzantine tradition. Uroscopy, the topic of the second and longer text, underwent significant development in the Middle Ages and became the single most important diagnostic and prognostic technique in Byzantium.7 The text is very interesting from both a diagnostic and a therapeutic point of view.8 The diagnosis is based on various urinary characteristics, such as colour, the place of particles in the urine vial, and smell. Each characteristic or a combination of them is connected with a certain clinical condition. The diagnosis is followed by therapeutic advice, including dietetics, pharmacology, and sometimes venesection and bathing. There is also a strong prognostic element, at times predicting death within a few weeks or months. The didactic nature of the text is often emphasised by the use of specific terms, such as mathe, the second-person aorist imperative of the verb manthano. Lastly, there are a few invocations to the Christian God.

Additional notes on the pharmacological content of the texts in question will be included. The texts contain details about simple and composite drugs in various pharmaceutical dosage forms, including plasters, ointments, and potions. Among the diverse items of materia medica, there are references to local Mediterranean vegetal ingredients, such as anise, barley, celery, chamomile, cucumber, endive, fennel, lettuce, lovage, lupine, maidenhair, mastic, nut grass, olive pits, pelitory, raisins, rose, and savory. The texts also attest to the wide circulation of oriental materia medica, including substances from Asia and the Far East, such as caraway, cinnamon, clove, cumin, galangal, ginger, long pepper, nutmeg, and spikenard. Additionally, a few animal ingredients and products, including egg white, octopus, and the head of a sheep with wool are mentioned. The only mineral substance mentioned in the texts is salt. Among the various compound drugs, there are three references to rosewater and another to drosaton, a sort of cold aromatic water with sugar. Interestingly, recent research has suggested the antimicrobial activity of rosebud extracts.9 Furthermore, the use of sugar-based potions, such as juleps, is often recommended in the text. It is worth noting that sugar-based potions were introduced from the Islamicate world to Byzantium and became extremely popular throughout the entire Mediterranean, especially from the twelfth century onwards.10

The canon has been published twice by Julius Ideler in 1842 and Aristotelis Kousis in 1944.11 Kousis also includes an edition of the stichera. I reprint here the text of Kousis’s edition with tacit modifications. An earlier English translation of the canon on urines was published by Athanasios Diamandopoulos in Musical Uroscopy, 1996.12 Here, I present a new English translation of both texts, which I hope will be useful to historians of medicine and also to students of premodern medical history, a subject that has received renewed interest during the last two decades. Please note that where an implied word (or words) needs to be made explicit for reasons of clarity, it is supplied within square brackets.

I would like to note that to the best of my knowledge, the two texts have been performed three times in recent times. The first two modern performances were organised by Athanasios Diamandopoulos. The canon on urines was first chanted by the monks of The Holy Transfiguration Monastery at Nafpaktos, Greece, in 1998. It was then performed in the form of an oratorio along with excerpts from Michael Psellus’s On Medicine by the Polyphonic Choir of Patras in Delphi on 15 February 2001.13 The third one was organised by Petros Bouras-Vallianatos at the Wellcome Collection in London on 25 May 2017. Both the stichera on ven-
esected blood and the canon on urines were chanted by two head chanters (Dimitrios Skrekas and Athanasios Charalampopoulos) and a choir of three chanters. A recording of the performance featured also in the show ‘Early Music Show’ of BBC Radio 3, episode: ‘Why Music? The Key to Memory’, on 15 October 2017.14

Text and English Translation

Διάγνωσις τοῦ σοφωτάτου καὶ λογιωτάτου τοῦ Βλεμμύδου διὰ στιχηρῶν καὶ κανόνος.
Diagnosis by the wisest and most erudite Blemmydes in the form of stichera and canon.

Στιχηρὰ εἰς τὰς κρίσεις τῶν αἵματων τῆς φλεβοτομίας τῶν ἀσθενῶν.
Stichera on distinguishing between the [different kinds of] venesected blood of patients.

'Hχος β· ὅτε ἐκ τοῦ ἔξολου.
Tone 2. When he took Thee off the Wood.

Mάθε καὶ τὰ αἵματα λοιπὸν τῆς φλεβοτομίας ὅποσα καὶ τί σημαίνουσι· δίψα τοῦ ἱεροῦ γὰρ τὸ ἀἷμα μέλαν ῥυνέ, ριγός ἔχει· ἱερὸς δὲ ποιήσεις ἐκεῖνο κάλλιστον· ἐλκώδες δὲ τὴν νόσου λύσιν ἔχει· ὑγιεῖς ἢ μελλόντις· εἰ δ᾽ ὀλὼν βένετον καὶ ὡς ὄψιν ἀἷμα, χρόνῳ ἢ ἐξαμηνίᾳ βίωσις.
Learn too how many kinds of venesected blood there are and what they indicate. For if black blood flows without serum, [the patient] will shiver. If this [i.e. the black blood] produces serum, it is of the best quality. If it is like a sore, it shows remission of the disease, whether now or in the future. If it [i.e. the blood] is entirely blue without any redness whatsoever, life expectancy is six months or a year.

Αἷμα καταπράσινον φανὲν ἢ μετὰ τὴν πέμπτην ἐκδήλως μηνύει θάνατον ἢ μεθ᾽ ἡμέραν· εἰ δ᾽ ὄλοκλιτρινὸν ὑελία μήπως ἐρροεῖ· ἀνεπεράτως· ἔρευσεν. Ἡχος β΄· ὅτε ἐκ τοῦ ξύλου.
If intensely green blood appears either after the fifth or the seventh day [of the disease], it clearly reveals death. Tone 2. When he took Thee off the Wood.

Χρῶμα φοινικοῦν τὸ ἐσχηκὸς αἷμα, ἀφοβίαν μὲν ἔχει, μακρονοσίαν δὲ· ἔμαθες τὰ αἵματα ὡς ἐν συντόμῳ· λοιπὸν ἀγωνίζου καὶ σπούδαζε καὶ φίλει τοὺς πόνους, δίωξον τὸν ὕπνον τε καὶ ῥᾳθυμίαν αἰσχρὰν· σέβου τὸν Θεόν, τρέμε κρίσιν· βίωσον ἀμέμπως· μιμνήσκου τῶν καὶ τῶν ὑπομνήσαντος.
The blood having a reddish-purple colour is not a cause for alarm, but denotes a lingering disease. You have learned the kinds of blood in brief. Thus, you should exert yourself, be earnest about your study, keen to work hard, avoid sleep and shameful laziness. Worship God, fear judgment, and live without sinning. Remember these things and me who reminded you of them.

Στιχηρὰ εἰς τὰς κρίσεις τῶν ὑελίων τῶν δεκατριῶν.
Stichera on distinguishing between the thirteen kinds of urine vial [according to colour].

'Ἡχος α· τῶν οὐρανίων ταγμάτων τὸ ἀγαλλίαμα.
Tone 1. Thou art the joy of the heavenly orders.

Τῶν ἀσθενῶν ὑελία μάθε τρισκαίδεκα· τὸ μέν λευκὸν τῷ πρώτῳ τῷ ἱερῷ δὲ ἔμαθες τοῦ ἱεροῦ· ἡμικράνεια σποῦδαζε καὶ φιλεῖ τοὺς πόνους, δίωξεν τὸν ὕπνον τε καὶ ῥᾳθυμίαν αἰσχρὰν· τὸ τέταρτον ἀἷμα καθάπερ πυρῆνες πέμπτον ἐξηγεῖ τοῦτο ἔρευσεν.
Learn the thirteen kinds of patients’ urine vials [according to colour]. The white comes first and the yellow follows. You should know that the third one is rose-coloured and the fourth one is reddish. The blood-like flame-coloured urine is the fifth. The sixth one is completely saffron in colour.
Μετά δὲ τούτο ως κίτρον ἴσθι τὸ ἐβδομον· τὸ ἐφεξῆς δὲ μέλαν καὶ τὸ ἔνατον ἄσπρον· τὸ ἐφεξῆς δὲ σύν τρυγία ὑπόλευκον· τεθολωμένον δὲ ἐστίν ὅλον αὐτό, γάρος ὅπερτε τὸ ἐνδέκατον.

Τοῦ δωδεκάτου τὸ εἶδος μόνον οὖ πέφυκεν· οὐθελερὸν οὖδ᾽ ἀυθὲς καθαρὸν, ἄλλ᾽ ὀράται μίγμα πεφυρμένον βούρκος ἄστι· τρισκαιδέκατον δύσωχρον· ἀλλὰ πονήσας ἐνταῦθα, μάθε λοιπὸν τούτων καὶ τὴν διάγνωσιν.

Τὸ λευκὸν ἐκ ψύξεως ἐστὶ καὶ νεφροαλγήσεως· ἰατρεύεσθω δ᾽ ὁ πάσχων κλυστήρια· δραστικὰ τὰ ἔχοντα παραμαθρόρριζα καὶ θρυμβόξυλα· τοῦτον δὲ ἀντί γε τοῦ νάρδου, ἄλειψον καλὸν χαμαιμηλέλαιον·

Τὸ ξανθὸν δὲ νέφος ἂν ὁρᾷς μέσον αἰωρούμενον· εἰς παντελῆ καταμάνθανε ἴασιν τὸν νοσοῦντα· εἰ λυθείη δὲ τὸ ῥουθούνιον, μάλιστα ὃ δεδηλωμένον σύντομο σημεῖο τῆς ἰάσεως.

Εἰ μὴ αἷμα δώσῃ ὁ μυκτήρ, ποίησον ζουλάπιον τὸ κεκτημένον γυμνόκριθον· ζίνζιφα μετ᾽ αὐτῶν καὶ σάνδαλον ἑψηθέν τοῦ ζωμὸν δὲ σακέλισον· καὶ βαλὼν καὶ σάχαρ ἑψήσον, πρόσελθε καὶ δίδου τῷ νοσήσαντι.

Μετὰ ταῦτα δ᾽ ὅταν σὺν Θεῷ ἴδῃς ὡς τὸ ὄστρακον περὶ τὸν πάτον γενόμενο, φίλτατε, ὑελίου κείμενο τοῦ νοσήσαντος, παρευθὺς φλεβοτόμησο καὶ σὺν ταχυτάτῃ ὄψιν ὑγεία ἐπιλάμψασα.

Τὸ τρίτον ἄστι· τὸ κάκον ἐκ τῆς πίστεως· τὸ τρίτον ἔργον ἐστὶ· τὸ τρίτον ἐπὶ τῇ ὁμολογίᾳ τοῦ θεοῦ· τὸ τρίτον ἐν τῷ πάθει· τὸ τρίτον ἐν τῇ ἁπάτῃ· τὸ τρίτον ἐν τῇ ἐκδοκίᾳ· τὸ τρίτον ἐν τῇ ἁμαρτίᾳ· τὸ τρίτον ἐν ἐνεργείᾳ· τὸ τρίτον ἐν τῇ κακίᾳ· τὸ τρίτον ἐν τῇ παρακλητικῇ· τὸ τρίτον ἐν τῇ μόρφῳ· τὸ τρίτον ἐν τῇ καταλαύσει· τὸ τρίτον ἐν τῇ ἀλληλεπίδοσει· τὸ τρίτον ἐν τῇ ἀναγκαίᾳ· τὸ τρίτον ἐν τῇ ἀποκαλυψει· τὸ τρίτον ἐν τῇ ἀκοπηκτικῇ· τὸ τρίτον ἐν τῇ ἀλληλουμνασίᾳ· τὸ τρίτον ἐν τῇ ἀθετοσύνη· τὸ τρίτον ἐν τῇ ὑποκρισίᾳ· τὸ τρίτον ἐν τῇ μυθολογίᾳ· τὸ τρίτον ἐν τῇ ἀκατάκερτῃ· τὸ τρίτον ἐν τῇ ἁμαρτοκολίᾳ· τὸ τρίτον ἐν τῇ ἀπόκρυψι· τὸ τρίτον ἐν τῇ ἀναγκαιολογίᾳ· τὸ τρίτον ἐν τῇ ἀλληλοπανσέβεια· τὸ τρίτον ἐν τῇ ἀλληλοκαταγείρεια· τὸ τρίτον ἐν τῇ ἀλληλομάθεια· τὸ τρίτον ἐν τῇ ἀλληλοσυνείδησι· τὸ τρίτον ἐν τῇ ἀλληλοπεποίησι· τὸ τρίτον ἐν τῇ ἀλληλοσύνη· τὸ τρίτον ἐν τῇ ἀλληλοπορείᾳ· τὸ τρίτον ἐν τῇ ἀλληλοσυμπάθεια.
For, if you do not suppress the bile quickly using cold agents, and it seizes the stomach of the patient, the poor man will be attacked by phrenitis; on account of this, my dear fellow, let [the patient] drink [pulp of] tamarind fruit accordingly, because it is excellent. Make a poultice with egg white and fleawort together with barley flour; apply this on the patient's liver; dissolve cucumber seeds in sugar and give it to the sufferer to drink.

Let [the patient] drink barley water when thirsty together with sour apples and vine tendrils; let [the patient] receive a cold clyster made of barley flour and a mixture of violet with sugar; if you have drosaton [i.e. rose syrup], give it to [the patient]; it is very good.

If the fourth one has a red cloud, the so-called sediment, suspended in it, you should know that the stomach of the sufferer has been overpowered, and therefore he became ill.

Prepare a poultice similar to the one above, give it to the man and let him drink something sweeter; then, he can be cured by means of a clyster with absolutely no salt in it.

As well as [the brain], they also cloud the pupils [of the eye] and the intellect and the person speaks irrationally and he paws at his clothes; he looks angrily and his nostrils are dry as never before.

His tongue is as hot as a potter's oven and he suffers from cataleptic sleep; completely deranged like a corpse, he grinds his teeth and when awakened from sleep his pupils seem to glow.
Τίθει ταὐτὸν ἐφ᾽ ἑκάστην ἡμέραν λοιπὸν τρισάκις ἐπὶ τῇ πρώιᾳ μέσης ἡμέρας καὶ τῇ ἑσπέρᾳ· ὀξυφοινίκων εἴτε πόσιν δίδου τῷ ἀσθενήσαντι, κνῆκον καὶ σάχαρ πρωΐαν νηστεύοντι.

Administer this three times a day, in the morning, afternoon and evening: give the patient who has fasted since morning, [pulp of] tamarind fruit, safflower, and sugar to drink.

First, sprinkle him with rose water and then give him lettuce to eat as well; give the patient endive to eat and together with this [i.e. endive] give him sugar to eat, and – God willing - he will be cured.

Ὡ ι δὴ ς´· ἐν ἀβύσσῳ πταισμάτων κυκλούμενος.

Ode 6. Surrounded by a depth of offences.

Τ ὸ δὲ ἕκτον ὡς ἔφημεν κρόκινον νέφος, ἐὰν ἔχῃ δὲ μαῦρον κρεμάμενον, ὡς ἀληθῶς θανάσιμον, εἰ μὴ ἄλλο τι πάθος προσγέγονεν.

As we said, the sixth one is like a saffron cloud. If there is a black suspension, that is really a deadly sign; if not, some other disease has already taken hold.

For if it originates in the stomach which suffers from indigestion, collect urine two and three times, my friend, and learn what the three of them mean.

And if the three [vials] are similar, it means death; if they change to white or yellow, then the patient will get better.

So mix the seed of lettuce, chamomile and basil seed together with barley flour and stir in beetroot juice and apply to the liver.

Apply this as a form of plaster on the forehead of the patient as well, since this will treat the patient and grant him his health.

Ὡ ι δ´· ἀντίθεον πρόσταγμα, παρανομοῦντος τυράννου.

Ode 7. The godless order of a lawless tyrant.

Τ ὸ ἕβδομον κίτρινον ὡς θέα κίτρου· ἐὰν ἔχῃ δὲ κάτωθεν καὶ νέφος ὡς σεμίδαλιν κριθέν, καταμάνθανε τὸ ἱελίον αὐτό· τοῦτον οὖν διαίτησον λεπτῶς καὶ ἰαθείη, Κυρίου θέλοντος.

The seventh is yellowish resembling the colour of citron; if there is a black suspension that is really a deadly sign; if not, some other disease has already taken hold.

The eighth is black due to black bile which is dominant; for the bile was mixed up with blood, posing a risk to the lungs, liver, and the gallbladder; and it makes the patient unpleasantly dizzy.

Boiling together raisins and jujubes, make a julep and give it to the sufferer; and make another julep with celery roots, lupine and chicory, to which you should add the roots of the maidenhair.

To this add one litre of sugar and give it every other day; the first day you should give the first one and then the second and so on; and then apply the juice of wild cucumber and flour of bitter vetch as a plaster.
The ninth is clear like water; if it has anything like oil on top, without any sediment either at the upper or the lower part of its [i.e. the urine vial's] bottom section, then it is the liver and the stomach of the patient that are suffering.

Since the disease came upon him due to coldness and [the patient's] nature is weakened, does not digest well and has lost his appetite, [then] he is inclined to the mischievous disease, called dropsy.

So apply ointments and warm plasters to the stomach; having added to them mastic gum and ladanum anoint the organs, i.e. the liver and the stomach, with oil made of rue and chamomile.

Add lovage to these and nut grass and pulverise in a bowl and sieve well; add three litres of sugar together with two cups of rose water.

And put these in an empty pot and boil them with a glass of honey, and once they have thickened and blended by you, apply this as a plaster to the patient's stomach and the liver the morning and evening.

Urge him to take frequent baths and do not mix the wine with water, and if the patient drinks that, he will be freed from the disease that attacked him.

The tenth is white and cloudy resembling donkey's urine; the sick person suffers from coldness of the kidneys; for these [i.e. the kidneys] are full of phlegm, and thus you should draw out the phlegm using a clyster.

Roast the head of a sheep with its wool still on with nothing but salt and administer the broth as an enema; let him drink cardamom seed, galangal, and nut grass; and then venesect the leg of the sufferer immediately. And put these in an empty pot and boil them with a glass of honey, and once they have thickened and blended by you, apply this as a plaster to the patient's stomach and the liver the morning and evening. Urge him to take frequent baths and do not mix the wine with water, and if the patient drinks that, he will be freed from the disease that attacked him.
Ἐξαποστειλάριον. Έχος γ´· ὁ οὐρανὸν τοῖς ἄστροις.

Exapostilarion. Tone 3. Having embellished heaven with the stars.

Τὸ γαλακτῶδες δὲ οὖρον, πήκτωμα ἐχον ἐξ ὅλου, θάνατον μάθε σημαίνει, ἐξ ἅπαντος τῷ ἀρρώστῳ· τὸ βορβορῶδες καὶ ὄζον σημεῖο ἴσθι θάνατος.

Learn that the milky urine, which is completely coagulated always unavoidably indicates a patient’s death; and that murky and foul-smelling [urine] is a sign of death.

**ΠΕΡΙΛΗΨΗ**

Δυο έμμετρα ιατρικά κείμενα μεταφρασμένα στα Αγγλικά.

**Διάγνωση και θεραπεία της νόσου**

Πέτρος Μπούρας - Βαλλιανάτος

Αυτό το άρθρο σκοπεύει να αποδώσει σε αγγλική μετάφραση δύο ιδιαίτερα δημοφιλή βυζαντινά έμμετρα ιατρικά κείμενα, τα οποία επικεντρώνονται στη διάγνωση μέσω της εξέταση του αίματος της φλεβοτομίας και των ούρων. Επίσης, προσφέρουν σημαντικές θεραπευτικές οδηγίες, ιδιαίτερα για την χρήση φαρμάκων. Είναι γραμμένα σε μορφή λειτουργικών ύμνων που συνδυάζουν μνημονικές τεχνικές. 

**Λέξεις Κλειδιά:** Βυζαντινή ουροσκοπία, φλεβοτομία, ζουλάπια, παραὑμνογραφία, Νικηφόρος Βλεμμύδης, Μάξιμος Πλανούδης

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