

ΔΕΛΤΟΣ

Τόμ. 34, Αρ. 52 (2024)

Deltos

DELTOS JOURNAL FOR THE HISTORY OF MEDICINE
Athens • June 2024 • Volume 34 • Issue 52 • ISSN 2945-1205



ΔΕΛΤΟΣ

Δέλτος ΠΕΡΙΟΔΙΚΟ ΤΗΣ ΙΣΤΟΡΙΑΣ ΤΗΣ ΙΑΤΡΙΚΗΣ
Αθήναι • Ιούνιος 2024 • Τόμος 34 • Τεύχος 52

Full issue

English

doi: [10.12681/dj.38306](https://doi.org/10.12681/dj.38306)

Copyright © 2024, The Deltos Editorial Board



Άδεια χρήσης [Creative Commons Αναφορά-Μη Εμπορική Χρήση 4.0.](https://creativecommons.org/licenses/by-nc/4.0/)

Βιβλιογραφική αναφορά:

English. (2024). Full issue. ΔΕΛΤΟΣ, 34(52). <https://doi.org/10.12681/dj.38306>

Δeltos

DELTOS JOURNAL FOR THE HISTORY OF MEDICINE
Athens • June 2024 • Volume 34 • Issue 52 • ISSN 2945-1205



ΣΟΙΛΖΟΣ

Δέλτος ΠΕΡΙΟΔΙΚΟ ΤΗΣ ΙΣΤΟΡΙΑΣ ΤΗΣ ΙΑΤΡΙΚΗΣ
Αθήναι • Ιούνιος 2024 • Τόμος 34 • Τεύχος 52



The production of the current issue became possible
with a grant by the Medical College of Athens.

Announcements by the Louros Foundation

Free accommodation is offered for limited periods to researchers in the History of Medicine at the Foundation's Head Quarters in the center of Athens. For details write to the Foundation's President: Prof. Costas Trompoukis, e-mail: trompoukis@yahoo.gr

Εικόνα Εξωφύλλου:

Η εικόνα του εξωφύλλου αναπαράγει εικαστικά το κυρίως πρειεχόμενο αυτού του τεύχους το οποίο είναι «Φαρμακευτικές συνταγές ως ποιήματα». Η ελαιογραφία από τον Charles Meynier (1798) απεικονίζει την Καλλιόπη, Μούσα της Ποιήσης. Από πίσω εικονίζεται η προτομή του Ομήρου, Cleveland, Museum of Art. Τα φαρμακευτικά φιαλίδια στο κατώτερο μέρος είναι δωρεά του καθηγητή Μάριου Μαρσέλου στο Ίδρυμα Λούρου.

Front Cover Illustration:

The image on the front page, conceptualizes the main content of this issue which is “recipes in verse”. The oil painting by Charles Meynier (1798), depicts Calliope, the Muse of Poetry. Behind her is a bust of Homer. Cleveland, Museum of Art. The pharmaceutical containers below are a donation by professor Marios Marselos to the Louros Foundation.

INSTRUCTIONS FOR AUTHORS

Deltos is an open-access journal, meaning all content is freely available to users or their institutions. Users are permitted to read, download, copy, distribute, print, search, link, or use the full texts of the articles for any lawful purpose without needing prior permission from the publisher or author. The sole restriction is to uphold the integrity of the author and the editor, ensuring they receive appropriate credit and citation. This approach aligns with the BOAI (Budapest Open Access Initiative) definition of open access.

*Deltos publishes in English only**:

Original Scientific Articles not yet published in another language, Preliminary Communications, Review Articles. Letters to the Editor

Deltos also publishes book reviews of publications not older than three years, as well as reports and announcements of upcoming events in medical history, such as public lectures, book launches, and scientific conferences. Additionally, it features recent abstracts of papers presented at congresses and conferences, with a word limit of 500. It is incumbent upon authors to obtain permission from event organisers for any content they wish to submit. All articles submitted to Deltos undergo a peer-review process conducted under strict confidentiality, and authors are duly informed of the review outcomes.

The articles should be sent to:

Professor Athanasios Diamandopoulos,
Editor-in-Chief, 1453295@gmail.com

Writing style

Original articles should be between **3,000** and **8,000** words. The following sections should start on a new page: Title page, abstract, text, acknowledgements, Greek abstract, references, tables, figure titles and footnotes.

1. Title page.

This includes:

- i. The article title. Abbreviations are not permitted in the title, except for internationally recognised symbols.
- ii. The authors' names (Full name and surname).
- iii. Place of work/institutional affiliation. If there is more than one author, indices must be used to indicate the affiliation of each author.
- iv. 3-6 keywords in English and Greek (if applicable).
- v. Postal and electronic address of the corresponding author.

*Authors who are not confident writing in English or Greek may contact the editor for assistance.

vi. Short title (up to 40 letters).

vii. Any support received for the completion of the study.

2. Abstracts

Reviews and research articles should be accompanied by **250–400-word** abstracts in **English and Greek**.

3. Texts

(a) Introduction, (b) Material and methods, (c) Results, and (d) Discussion, (e) Conclusions. Exceptionally, articles may be accepted as free text based on the content. All abbreviations must be spelled out the first time they appear in the text. Internationally recognised symbols and abbreviations, such as IgG and C3, do not need to be spelled out.

4. Acknowledgements should be inserted at the end of the manuscript before the references.

5. References

References should adhere to the Vancouver style, being numbered consecutively in the order they are mentioned within the text. When referencing authors within the text, only their surnames should be used. For works with up to two authors, include both surnames, separated by "and". For works with more than two authors, cite only the first author's surname followed by "et al".

In the bibliography, entries should be formatted as follows:

- (a) List authors' surnames and initials (without periods after initials). For up to six authors, list all names sequentially; do not insert "and" before the last author. For more than six authors, list the first six followed by "et al";
- (b) Provide the title of the work;
- (c) Use the journal name abbreviation as listed in Index Medicus (without periods); if the journal is not indexed there, use the full name;
- (d) Include the year of publication;
- (e) State the issue or supplement number;
- (f) End with the page numbers.

6. Footnotes

In general, footnotes should be avoided. If necessary, they should be numbered and inserted after the references.

7. Figures

Figures must be submitted as high-resolution files, each numbered according to their sequence in the text. It is the authors' responsibility to ensure that all figures comply with international copyright laws.

8. Legends

Legends should be placed at the end of the text, preceded by the word "Figure" followed by the sequential number.

Contents

ΔΕΛΤΟΣ • DELTOS

Ιούνιος 2024 • Τόμος 34 • Τεύχος 52 | June 2024 • Volume 34 • Issue 52

Editorial	7
Written Symposium on Pharmaceutical recipes in verse. Part A	
On some ancient Greek and Latin medical recipes in verse.	
Their position in the world. Part A	9
<i>Athanasiοs Diamandopoulos</i>	
Two Byzantine Medical Texts in Verse, Translated into English:	
Diagnosis and Treatment of Disease	23
<i>Petros Bouras-Vallianatos</i>	
“The Knight in the Panther’s Skin” by Shota Rustaveli: Salutogenic Aspects	32
<i>Ramaz Shengelia, Levan Jójua</i>	
Poetic recipes from Nidā’ī, an important sixteenth-century physician, in Durr-i Manzūm	38
<i>Ayşe Balat, Ahmet Aciduman</i>	
Varia	
The teaching of the Art and Science of Medicine	46
<i>Dennis V. Cokkinos</i>	
The German-American physician and philologist Achilles Rose (1839-1916), the grand Philhellene	51
<i>Gregory Tsoucalas</i>	
Life expectancy from Prehistoric times to the 21 st Century	60
<i>John Yfantopoulos</i>	
Written Symposium on the Louros’ Archive	
Surprises as a bait to work harder – Four cases in the Louros’ Archive	71
<i>Christos P. Marinis</i>	
My Distant Acquaintance with Philosopher-Physician Nikolaos Louros and my Intimate Engagement with His Archives	78
<i>Agamemnon Tselikas</i>	
Professor Nikolaos Louros, a concerned scientist in twentieth-century Athens	85
<i>Katerina Gardikas</i>	
Multum in parvo. Eight examples from the Louros Archive	91
<i>Athanasiοs Diamandopoulos</i>	
Book review	
Luigi Taborelli, Stamped Medicine Flasks nei ‘Virginia R. Grace Papers’ e i progressi della ricerca, Roma: Edizioni Quasar, [2022]	103
<i>Laurence Totelin</i>	

=====
Deltos
soiν3C=====

Editorial

The inaugural issue of the enhanced *Deltos* has received highly favourable reviews regarding both its content and presentation. I am deeply appreciative of the contributions from all the authors involved. I also extend my gratitude to Rhyme&Reason Languages Services for their meticulous language editing, and to Technogrammamed in Athens for the exceptional quality of the publication.

The Athens Medical College, under the leadership of its President, Dr. Georgios Patoulis, has consistently provided financial support for this initiative. Another notable development is the journal's recent signing of an agreement with the National Documentation Centre (EKT), which will feature *Deltos* on its website. This collaboration not only significantly enhances the journal's visibility but also assigns a unique DOI to each article, thereby fostering greater interest in submitting scholarly works to *Deltos*.

Finally, thanks are due to the Editorial Committee, particularly my co-editor Professor Caterina Gardikas and committee member Professor Marios Marselos, for their continuous support in all facets of the publication process.

This issue marks the debut of an innovative feature: The Written Symposium. This section includes a series of articles focused on a single theme, offering comprehensive coverage of various aspects of the topic. Should our readers find this approach beneficial, it may become a regular feature of the journal. In this issue, we feature two Written Symposia. The first explores medical recipes composed in verse. Due to space limitations it is divided in two parts. Part A, which is published in the current issue, starts with the Homeric Epics and ends in the 16th cent. AD. The Part B will appear in the next *Deltos*' issue and will expand till the 18th century. The geographic scope primarily encompasses the Greco-Roman world, extending slightly to regions influenced by its cultural legacy.

We are grateful to the contributors from Greece, Georgia, and Turkey, whose essays have enriched this issue. Submissions from Morocco, the USA, China, Greece, and the UK are anticipated for our next edition. This endeavour might remind some of the sentiments expressed by Heinrich Oppenheimer in his 1923 work, *Medical and Allied Topics in Latin Poetry*. He

writes: "*this volume forms part of the war work of an enemy alien. The innocent victim of social and—horrible dictu—to some extent of professional ostracism, the Author sought and found comfort in the company of those long-departed friends, the classical writers.*" (1). All our contributors however are successful and content in their professional lives, simply taking pleasure in exploring the enduring fusion of medicine and poetry.

This edition's introductions explore the reasoning behind this fusion. Professor Athanasios Diamandopoulos, in his article "On some ancient Greek and Latin medical recipes in verse. Their position in the world.", explores examples from Greek literature spanning from ancient Greece to the end of the Roman Imperial period. Professor Petros Bouras-Valianatos offers expert translations of two verse-based medical texts by Niceforos Vlemmydes—a subject dear to my heart. The intertwining of Islamic and Ottoman medical science with poetry is examined by Professors Ayse Balat and Ahmet Acituman from Turkey. From Georgia, Professor Ramaz Shengelia discusses verses from the famous 12th-century Georgian epic, "The Knight in the Panther's Skin". Although this work has been extensively translated and analysed, Shengelia focuses exclusively on excerpts that depict the treatment of the lovelorn knight, which, consistent with other ballads, eschews pharmaceuticals in favour of therapies like music, horse-riding, and leisurely walks. Professors Marios Marselos and Athanasios Diamandopoulos will contribute an appendix titled "Exegesis", a term that originates from the Greek verb 'exego', meaning to explain. Today, it is primarily used in the sense of interpreting, mainly but not exclusively, biblical texts. This appendix delves into the pharmacological and botanical attributes of all plant agents mentioned in the previous texts and the similar ones to be published into the next *Deltos* issue, underscoring their clinical significance as described by Dioscorides in the first century AD. Our objective was to underline that the incorporation of these plants into verse was not merely based on folklore but was underpinned by the medical knowledge of the time, which is partially corroborated by contemporary evidence. This "Exegesis" appendix will also appear in the next issue

The second Written Symposium focuses on the

Nicolaos Louros Archive, an extensive collection of documents spanning from the late 19th century to the final quarter of the 20th century. Nicolaos Louros, the founder of the Louros Foundation for the History of Medicine, diligently amassed an array of writings on diverse subjects including medicine, history, politics, ethics, and social connections, meticulously organised by his secretary, Mrs. Kotsi. Upon inheriting this vast repository, the Foundation's Board, including the author of this editorial and the philologist Mr. Christos Marinis, were initially uncertain of how to manage it. Their efforts resulted in a 300-page catalogue listing only the document titles. A meeting was then held at the Foundation, to showcase the Archive. This event was a collaborative effort with the European Association of Professor Emeriti, supported by the Greek Ministry of Culture. Professor Katerina Gardikas presented evidence from the Archive that illustrated Louros' engagement as an active member of society. Dr Agamemnon Tselikas discussed Louros' connections with contemporary literati. The philologist mr. Christos Marinis with his contribution "Surprises as a bait to work harder – Four cases in the Louros Archive" expresses his feelings while working on the classification of the Archive. Professor Athanasios Diamandopoulos demonstrated how minor references

within the Archive could lead to broader insights. This second Written Symposium includes expanded versions of their presentations.

This issue also includes four independent contributions. Professor Denis Cokkinos contributes with his article on The teaching of the Art and Science of Medicine. Professor John Yfantopoulos provides a technocratic examination of historical fluctuations in survival rates from antiquity to the present. Professor Gregory Tsoukalas explores the efforts of Achilles Rose, a medical doctor and philologist, in his romantic endeavour to see Greek adopted as the official language of medicine. Furthermore, Professor Lawrence Totelin offers a review of Luigi Taborelli's 2022 book, "Stamped Medicine Flasks".

We invite further contributions on the History of Medicine and, specifically but not exclusively, on pharmacological verses for our upcoming issue. The submission deadline is 30 Sept. 2024.

The Editor

REFERENCE

1. Oppenheimer, H. (1928). *Medical and allied topics in Latin poetry*. London: J. Bale., Introduction

On some ancient Greek and Latin medical recipes in verse. Their position in the world

Part A

Athanasiос Diamandopoulos¹

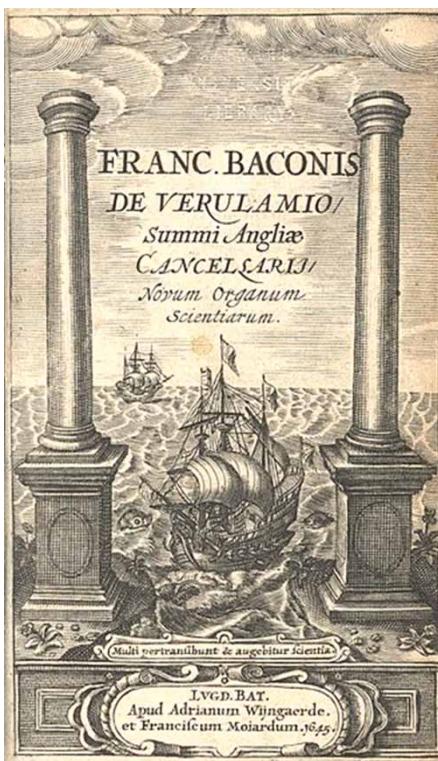


Figure 1. The title page of Francis Bacon's the “Novum Organum” (1620 AD).

Abstract

In Part A of our article, we examine medical recipes in verse within Greek literature, spanning from the Hellenistic period to the Roman Imperial era. We also briefly touch upon analogous recipes in Classical and Late Latin, as these two literary forms were intertwined for centuries. A comprehensive analysis of Latin literature in this domain remains a necessity. We explore the motivations behind these didactic poems and the metrical patterns employed in their composition. The article presents fragments of these recipes, all translated into English and several retained in their original language as well, arranged chronologically alongside succinct biographical details of their authors. These include Homer, considered

¹Hon. Professor, Medical School Athens, M.D., Ph.D., BSc, Nephrologist/Archaeologist, Louros Foundation for the History of Medicine, Athens, Greece

their distant forebear, followed by Ovid, Aglaias of Byzantium, Andromachus the Elder, Philo of Tarsus, Damocrates, Nicander, Rufus of Ephesus, Eudemus of Pergamum, Galen, Serenus Sammonicus, *The Carmen graecum de herbis*, and Marcellus Empiricus. In Part B, we will continue to explore similar recipes from the Middle and Late Byzantine periods. This section will also feature examples from Medieval Latin and Islamic medical literature, illustrating the intercultural context in which these Greek verses stood. A General Discussion and Conclusions will be provided at the end of Part B.

Key Words: *didactic poetry, Aglaias of Byzantium, Philo of Tarsus, Damocrates, Marcellus Empiricus, Andromachus the Elder, Nicander*

Introduction

The integration of various disciplines is a cornerstone upon which the field of medicine was established. From its inception, medicine has consistently been intertwined with other domains of cultural expression. This phenomenon is evident in combinations such as Medicine and Religion, Medicine and Cosmology, Medicine and Philosophy, Medicine and Astronomy, as well as Medicine with Chemistry, Biology, and Anatomy. These interdisciplinary pairings have become so ingrained that Plato argued that medicine, being a science founded on volatile and inconsistent views of the world, does not constitute pure knowledge in the manner of mathematics.¹ In contrast, the amalgamation of medicine and poetry represents a distinctly unique fusion. Unlike the scientific nature of its usual counterparts, poetry is a form of artistic expression, comprising two fundamental styles: verse and prose. This distinction holds true across oral and written communication, as well as in music. It is highly probable that, as medicine in the beginning was bound with religion in the form of shamanism, oral incantations incorporated common medical instructions. The connection between medicine and music is somewhat fragile, better described as a partnership rather than a union. Alternatively, using one of Derrick Dunlop's memorable and apt expressions, it is a state of happy symbiosis.²

This phenomenon extended beyond the realm of medicine. In history, oral poetry served as the precursor to written records, with the Homeric epics standing out as prominent examples. According to Hesiod (8th century BC), it was "*the blonde Harmony who gave birth to the nine Muses*". In his book "Works and Days" (*Ἐργα καὶ Ήμέραι*), which consists of 828 hexameters, Hesiod uses didactic verses that later inspired Vergil's "Georgicon" (29 BC) and Lucretius' "On the Nature of Things" (50 BC) ("De rerum natura"). These references underscore the longstanding association between poetry, sciences, and moral philosophy from ancient times. Plato, in the 4th century BC, provided a

theoretical framework linking medicine and music in his "Symposium". In this, the physician Eryximachus asserts that *"In medicine one should try to gratify the good and healthy parts of the body while depriving the diseased parts of the body of any satisfaction so that they will cease to be diseased. The doctor's role, then, is to implant one type of love in the body and flush the wrong kind out in order to reconcile and create love between the antagonistic elements of the body, such as hot and cold, and dry and wet. [...] Anyone who pays the least attention to the subject will also perceive that in music there is the same reconciliation of opposites [...] In like manner rhythm is compounded of elements short and long, once differing and now-in accord; which accordance, as in the former instance, medicine, so in all these other cases, music implants, making love and unison to grow up among them; and thus music, too, is concerned with the principles of love in their application to harmony and rhythm"*.³ Based on this cultural heritage, medical authors started very early on to write medical works in verse, either as whole treatises or as passages in a greater poem with a different context or as an "abstract", a seal, a "sphragis" before or after an extended treatise in prose.⁴

Focusing only on the Greco-Roman world, the earliest instances are observed in Homer's *Odyssey*, dating from the 8th century BC, followed by the works of the Presocratic philosophers in the 6th and 5th centuries BC. Figures such as Xenophanes, Parmenides, and Empedocles are notable for incorporating verse into their treatises.⁵ The practice persisted into the Classical period but saw significant expansion during the Hellenistic and Imperial Roman periods. These poetic recipes broadly fall into two categories: those laden with metaphors and riddles that require interpretation, and those that employ verse to aid memorisation through rhythmic structure and uncomplicated poetic imagery. After a lapse post the 4th century AD, this tradition resurged robustly during the Middle and, predominantly, the Late Byzantine periods. A similar revival occurred in the Latin West during the late Middle Ages and early

Renaissance. This revival, grounded in the rediscovery of classical Didactic literature, vigorously promoted the composition of scientific poetry. Concurrently, the renaissance of classical criticism, particularly on Aristotle's «Poetics», rekindled debates regarding the legitimacy of such poetic forms.⁶

In today's multifaceted global context, confining this discussion to the classical era of antiquity overly emphasises the Greek legacy while failing to contextualise it temporally and geographically. Consequently, this article will also explore corresponding literary expressions from various cultures that emerged simultaneously. This departure from the strictly Greco-Roman perspective mirrors the ideas of Francis Bacon, as illustrated on the title page of his “Novum Organum” (1620 AD). This image depicts a galleon navigating through the mythical Pillars of Hercules, which flank the Strait of Gibraltar, signifying an exit from the familiar waters of the Mediterranean to the uncharted expanses of the Atlantic Ocean (Fig. 1). It symbolises the relinquishment of classical scientific theories in favour of empirical observation and experimentation. According to Plato, the fabled Atlantis lay beyond these Pillars of Hercules, placing it within the realm of the Unknown. This concept finds lyrical expression in Pindar's (476 BC) hymn of Theron:

εἰ δ’ ἀριστεύει μὲν ὕδωρ, κτεάνων δὲ
χρυσὸς αἰδοιέστατος,
νῦν δὲ πρὸς ἐσχατιὰν
Θήρων ἀρεταῖσιν ικάνων ἀπτεται
οἴκοθεν Ἡρακλέος
σταλᾶν. τὸ πόρσω δ’ ἐστὶ σοφοῖς ἀβατον
κὰσσόφοις. οὐ νιν διώξω. κεινὸς εἴην.

“If water is best and gold is the most honoured of all possessions, so now Theron reaches the farthest point by his own native excellence; he touches the pillars of Heracles. Beyond that the wise cannot set foot; nor can the unskilled set foot beyond that. I will not pursue it; I would be a fool”.⁷ During the Renaissance, it was believed that inscriptions on the pillars claimed “*Nec plus ultra*” (nothing further beyond), cautioning sailors and navigators against venturing further. The engraving virtually copied the front page of Andrés García de Céspedes' *Regimiento de navegación* (the Rules of Navigation) from 1606 (Fig. 2), which he did not credit. This title page celebrated the Iberian sailors who transcended the Mediterranean's limits, paving the way to the New World.

Bacon ingeniously incorporated the Latin phrase “*Multi pertransibunt & augebitur scientia*” — meaning



Figure 2. The front page of Andrés García de Céspedes' *Regimiento de navegación* (the Rules of Navigation), 1606.

“*Many will travel and knowledge will be increased*” — from the Old Testament (Daniel 12:4) at the bottom of this engraving. Bacon's use of this quote reinterpreted the angel's instruction to Daniel, to align it with the Enlightenment's pursuit of scientific knowledge. This adaptation reflects a cultural manipulation that we acknowledge and embrace, hoping, as Bacon did, that breaking the boundaries imposed by Classical literature will enhance our understanding of the composition of medical prescriptions in verse.

Method

In Part A of our article, we explore various poetic recipes written in Greek, Classical Latin, and Late Latin, including succinct biographical details of the authors. Where available, these recipe fragments are presented in their original language alongside an English translation. Part B will offer a concise overview of select recipes from the Late Middle Ages and Early Renaissance. These recipes, written in Byzantine language and in Medieval Latin and vernacular languages of the West, as well as in languages slightly removed from the Greco-Roman sphere until the 17th century, will be examined to underscore their significance in the history of pharmacology.

Results

We present our collected versified pharmacological recipes in chronological order.

8th cent. BC

Homer

ἔνθ' αὐτ' ἄλλ' ἐνόησ' Ἐλένη Διὸς ἐκυεγανῖα·
αὐτίκ' ἄρ' εἰς οἶνον βάλε φάρμακον,
ἔνθεν ἔπινον, 220
νηπενθέες τ' ἄχολόν τε, κακῶν ἐπίληθον ἀπάντων.
ὅς τὸ καταβρόξειεν, ἐπήν κρητῆρι μιγείη,
οὐ κεν ἐφημέριός γε βάλοι κατὰ δάκρυν παρειῶν,
οὐδ' εἴ οἱ κατατεθναί μήτηρ τε πατήρ τε,
οὐδ' εἴ οἱ προπάροιθεν ἀδελφεὸν
ἢ φίλον νιὸν 225
χαλκῷ δηλώσειν, ὁ δ' ὀφθαλμοῖσιν ὁρῷτο.
τοῖα Διὸς θυγάτηρ ἔχε φάρμακα μητιόεντα,
ἐσθλά, τὰ οἱ Πολύδαμνα πόρεν, Θῶνος παράκοιτις
Αἴγυπτήν, τῇ πλεῖστα φέρει ζείδωρος ἄρουρα
φάρμακα, πολλὰ μὲν ἐσθλὰ μεμιγμένα
πολλὰ δὲ λυγρά. 230
ἱητρὸς δὲ ἔκαστος ἐπιστάμενος περὶ πάντων
ἀνθρώπων· ἡ γὰρ Παιήονός εἰσι γενέθλης.⁸

Then Helen, daughter of Zeus, took other counsel. [220] Straightway she cast into the wine of which they were drinking a drug to quiet all pain and strife, and bring forgetfulness of every ill. Whoso should drink this down, when it is mingled in the bowl, would not in the course of that day let a tear fall down over his cheeks, [225] no, not though his mother and father should lie there dead, or though before his face men should slay with the sword his brother or dear son, and his own eyes beheld it. Such cunning drugs had the daughter of Zeus, drugs of healing, which Polydamna, the wife of Thon, had given her, a woman of Egypt, for there the earth, the giver of grain, bears greatest store [230] of drugs, many that are healing when mixed, and many that are baneful; there every man is a physician, wise above human kind; for they are of the race of Paeeon.⁹

1st cent. BC/1st cent. AD

Ovid

Ovid was born in Sulmo (now Sulmona, Italy) in the Roman Empire and died at Tomis (present-day Constanța, Romania), exiled by Emperor Augustus, presumably due to some misdemeanour on Ovid's part. Renowned as a prolific poet, he is best known for his seminal work "Metamorphoses". We will focus on another of his works, the "Medicamina Faciei Femineae", a somewhat frivolous didactic elegy based on an unidentified prose work on cosmetology. This poem

delves into female beauty and cosmetics, highlighting the concept of 'cultus'. It includes five practical recipes for cosmetic treatments used by Roman women. Ovid used the elegiac couplet, a metrical form favoured in pharmacological verses, which juxtaposes a dactylic hexameter with a dactylic pentameter. Ovid himself described the appealing yet limb rhythm of elegiac couplets:

*Venit odoratos Elegia nexa capillos,
et, puto, pes illi longior alter erat.
Forma decens, vestis tenuissima, vultus amantis,
et pedibus vitium causa decoris erat.*

(Am. 3.1.7–10, Perseus Project, R. Ehwald, Ed, 1907)
In English:

"Elegy appeared: her hair tied in scented locks and, I believe, one of her feet was longer than the other. She had a shapely figure, the most delicate dress, a face for love, and the flaw in her feet was the source of her grace".

(Translator: David Andrew Ostiarius (Porter).
26 August 2023)

We quote few lines from the *The Medicamina Faciei Femineae*:

l. 53 -68.
*Hordea, quae Libyci ratibus misere coloni,
exue de palea tegminibusque suis:
par ervi mensura decem madefiat ab ovis
sed cumulent libras hordea nuda duas.
Haec, ubi ventosas fuerint siccata per auras,
lenta iube scabra frangat asella mola.
Et quae prima cadent vivaci cornua cervo
contere – in haec solidi sexta fac assis eat. 60
Iamque ubi pulvreae fuerint confusa farinae,
protinus innumeris omnia cerne cavis;
adice narcissi bis sex sine cortice bulbos
(strenua quos puro marmore dextra terat)
sextantemque trahat gummi cum semine Tusco; 65
huc novies tanto plus tibi mellis eat.
Quaecumque afficiet tali medicamine vultum,
fulgebit speculo levior illa suo.*

[...]

p. 46

*Strip the barley, which farmers from Libya have sent by ship,
of its husks and coverings:
an equal measure of bitter vetch is soaked
in ten eggs: 55
but the stripped barley should amount to two librae.
Once dried by gusty breezes, have these*

55

*crushed on a rough millstone by a slow she-ass.
Grind into this the first horns that fall from a long-
lived stag –
see that a sixth of a whole as goes in. 60
Next, having mixed this into the pounded meal,
you must
immediately sift every last granule through closely-
meshed strainers;
add twelve narcissus bulbs minus the rind
(which a vigorous right-hand should grind on
clean marble)
and let gum along with Tuscan seed weigh one-
sixth of an as; 65
into it let there go nine times as much honey.
Any woman who applies this treatment to her face,
will gleam more smoothly than her own mirror.¹⁰*

1st cent. AD

a. Aglaias of Byzantium

Aglaias of Byzantium, a 1st century AD Hellenistic poet, composed a riddle poem in 28 elegiac couplets for the treatment of cataracts, including various drug weights:

“l. 10 “Five obols of the flower of copper, and the same weight of the lovely mother of him that was slain by a boar. Add too one obol less than these of the fiery grain which grows in the Callatican fields; and also, twice the weight of two drachmas, one from the tawny-haired flower, and take the other from the genitals of the tamer of horses, of which let half the weight be of the pseudonymous father who gave his daughter in marriage to the son of a female slave”.

The text is replete with references to Homer and other myths, comprehensible only to someone as erudite as Aglaias. A number of points of interest reveal the poet's attempt at originality. The first appears in line 10, which mentions the enigmatic “lovely mother of him who was slain by a boar”, hinting at Adonis, who was killed by a boar. His mother, Smyrna, was transformed into the namesake tree upon her death. Accordingly, the poem makes a reference to smyrna, also known as myrrh, recommending the use of five obols thereof. Several other similar mythological allusions are used to decipher the whole recipe.¹¹

b. Andromachus the Elder

Andromachus the Elder served as a physician to Emperor Nero. He developed a medicinal recipe

named galēnē, a variation of thēriakē, designed to counteract snakebites, written as a poem comprising eighty-seven elegiac distichs and dedicated to the emperor. It remained in use for many centuries thereafter. Andromachus' extensive botanical knowledge helped him to “provide mankind with the necessary medicines”¹² The poem is referenced by Galen, who notes that Andromachus chose a poetic format to aid memorisation and to minimise the risk of alterations.¹³ The English translation of its opening reads: “Hear the vigorous power of the antidote of many virtues Caesar, giver of the peaceful freedom. Listen, Nero; it is called Galene, cheerful and serene, which does not worry about the dark ports, neither is it defeated if one would drink avidly from a hateful cup in which has been squeezed bundles of poppy”.¹⁴

c. Philo of Tarsus

A prime example demonstrating this approach in existing pharmacological literature is the Philonium, an antidote for colic developed by Philo of Tarsus (1st century AD?). It is described in 13 elegiac distichs, which have been preserved thanks to citations by Galen.¹⁵ In these verses, the antidote itself is personified and speaks in the first person, listing various symptoms and conditions it can treat in addition to colic. This list notably includes a caution that it is effective solely among the sophoi, or “wise persons”:

[...] γέγραμμαι δὲ σοφοῖσι, μαθὼν δέ τις
οὐ βραχύ μ' ἔξει
δῶρον, ἐς ἀξυνέτους δ' οὐκ ἐπόθησα περᾶν.
ξανθὴν μὲν τρίχα βάλε μυρίπνοον ἰσοθέοι,
οὐ λύθρος Ἐρμεία<ι>ς λάμπεται ἐν βοτάναις,
τκρόκοντ δὲ σταθμὸν φρένας ἀνέρος.

οὐ γὰρ ἄδηλον. 15
βάλε δὲ καὶ δραχμὴν Ναυπλίου Εὐβοέως,
καὶ τρίτου ἐν Τρώεσσι Μενοιτιάδαο φονῆος
δραχμὴν τὴν μήλων γαστέρι σωζομένην.
όλκὰς δ' ἀργεννοῖ πυράδεος εἴκοσι βάλε,
εἴκοσι καὶ κυάμου θηρὸς ἀπ' Ἀρκαδίης, 20
δραχμὴν καὶ ρίζης ψευδωνύμου, ἦν ἀνέθρεψε
χῶρος ὁ τὸν Πίση Ζῆνα λοχευσάμενος.
πῖον δὲ γράψας, ἀρθρον βάλε πρῶτον ἐπ' αὐτῷ
ἄρρεν, ἐνὶ δραχμαῖς πέντε δίς ἐλκόμενον,
νᾶμα δὲ θυγατέρων ταύρων χέε Κεκροπίδαισι 25
συγενές, οὐκ Τρίκκης ὡς ἐνέπουσιν ἐμοί.

In the English translation by Overduin.¹¹

“I have been written for wise
men, and someone who has learned me will have
me as no mean gift, but I do not long to pass over
to those who lack comprehension. Add yellow hair

breathing sweet unguents of the godlike one, of which the blood shines in Hermes' fields, and the (number of the) senses of man worth to the weight (of drachms) of [Crocus]: it is not obscure. Also add a drachm of Nauplius of Euboea, and a drachm of the third slayer of Menoites' son among the Trojans, preserved in the stomach of sheep. Add twenty drachms of the white fiery one, and twenty of the bean of the Arcadian swine, and a drachm of the pseudonymous root, which the land that begot Zeus in Pisa brought forth. When you have written pion, first add the article to it, the masculine one, taking five drachms of it twice, and pour the stream of the daughters of bulls akin to the Daughters of Cecrops, as the inhabitants of Tricca tell me"

The poem, like the previous one by Aglaias, contains several riddles. Its playful approach of replacing certain ingredients with mythological riddles appealed to both doctors and cultured individuals in the intellectual milieu of the Second Sophistic period. This poetic hybrid also plays on various genres that have their roots in the Hellenistic era that preceded it. Moreover, it constitutes an illustrative example of the emergent subgenre of elegiac pharmacology, in an era when the elegiac form had almost completely disappeared from Greek literature. The first riddle, despite its teasing end (*οὐ γὰρ ἄδηλον, 'it is not obscure!'*) is hard to solve. The mention of yellow (*ξανθήν*, 13) hair refers to the appearance of fragrant yellow saffron (*κρόκος*), the slender strands of which closely resemble hair. The tale is associated with Hermes through the young Crocus (*Κρόκος*), who was accidentally killed by Hermes during a discus game. Moved by the boy's plight, the gods transformed him into a flower—saffron, distinct from the modern crocus—thereby immortalising his unfortunate end. The flower's radiant appearance symbolises the blood (*λύθρος* in 14) of the youth metamorphosed into a plant, which is here called Hermes' plant, as the god ostensibly 'claimed' it following his loss [...].

Intriguingly, the reference in line 17 of Philo's text to Euphorbus, a hero of the Trojan War, *as the third slayer of Menoites' son among the Trojans*, connects back to the plant named *εὐφόρβιον* ('spurge'). If Philo's addressee can discern this link, he will tie the Trojan hero to the plant. The *θήρ* (ther) in question—and the key to solving the riddle—is thus a boar. While boars, like the infamous Erymanthian one, are typically termed *κάπρος*, Philo's reference here is to a *ὗς* (ys, female boar), which also applies, albeit less commonly, to the

Arcadian beast. The recipe should thus include twenty drachms of *κύαμος* (*kyamos*) from the *ὗς* (*κύαμος νός/ύδος κύαμος*), colloquially known as the 'bean of the boar'. However, the subtlety lies in the wordplay, as *ὗος-κύαμος* (*Hyoscyamos*), or 'henbane', is the actual ingredient required. This intricate riddle not only demands a deft command of language from the reader but also a familiarity with a renowned myth.¹⁶

Interestingly, Galen, in a self-display of his erudition, expounded upon Philo's recipe. Nonetheless, the 'philonion', despite being recognised by Quintus Serenus, did not receive his approval. He critically remarked, "What can be said of Philo's complex recipes and the myriad antidotes? Let those of affluence concern themselves with these; here, I shall focus on remedies that assist the poor".¹⁷

d. Damocrates

Servilius Damocrates (also known as Democrats; Greek: Δαμοκράτης, Δημοκράτης) was a prominent Greek physician based in Rome during the mid to late 1st century AD. It is speculated that he adopted the praenomen 'Servilius' upon becoming a client of the Servilia gens. Celebrated for his medical expertise, Galen described him as "an excellent doctor", while Pliny regarded him as "*e primis medentium*" ("among the foremost of physicians") and recounted his successful treatment of Considia, the daughter of Marcus Servilius. Damocrates authored numerous pharmaceutical texts in Greek iambic verse, though only the titles and some fragments of these works survive, preserved within Galen's writings.¹⁸

Totelin presents a few lines from Damocrates' verses that Galen incorporated into the conclusions of his pharmacological works. These lines, which are rendered in the first person, are very likely borrowed from Damocrates' original compositions. The closing triplet of the poem in Types 6 features such a first-person narrative intervention:

1. *I (egō) took away the chalk and added (eballon) twice the amount of alum and I knew (egnōn) that the remedy worked better, as it caused no blisters.*¹⁹
2. *I noticed (epegnōn) that some use much suet, much marrow, some aromatic substances, juices, and some other perfumes. And, on the contrary, having used them, I knew (egnōn) that such mixtures are vulgar and undistinguished, but that their nature is simple.*²⁰

The recipes of various medicaments versified by Servilius Damocrates are sober, not overloaded with

metaphor, rhythmic verses describing the preparation of remedies. In a few words: they are simple, useful, and practical.²¹ The final lines of the poems conclude in Types 7, and therefore the final lines of the entire treatise, are also an authorial statement.²²

e. Plini the Elder

Gaius Plinius Secundus, also known as Pliny the Elder (AD 23/24 – AD 79), was a distinguished statesman, polymath, and prolific writer. His most celebrated work is the “*Naturalis Historia*” (*Natural History*), which set the standard for later encyclopedias and comprised 37 books. Unlike many of his contemporaries, Pliny did not typically employ verses in his writings. However, he did include a notable exception – a verse antidote against venomous creatures. He described this antidote as: “*Et discessu< ri> ab hortensiis unam compositionem ex his clarissimam subteximus adversus venenata animalia incisam in lapide versibus Coi in aede Aesculapii*”.

“And now that I am about to leave garden plants, I have appended a very famous preparation from them which is used to counteract the poison of venomous animals. It is carved in verse upon a stone in the temple of Aesculapius in Cos:

And he continues with the instructions:

Take two denarii of wild thyme, and the same quantity of opopanax and meum respectively; one denarius of trefoil seed; and of aniseed, fennel-seed, ammi, and parsley, six denarii respectively, with twelve denarii of meal of fitches. Heat up these ingredients together, and pass them through a sieve; after which they must be kneaded with the best wine that can be had, and then made into lozenges of one victoriatus each: one of these is to be given to the patient, steeped in three cyathi of wine. King Antiochus the Great, it is said, employed this theriaca against all kinds of venomous animals, the asp excepted.”. (NH XX 264) (tr. W. H. S. Jones).

2nd cent AD

Nicander

Nicander, who flourished around the 2nd century BC in Claros near Colophon in Ionia, Asia Minor (present-day Turkey), was a Greek poet, physician, and grammarian. Little is known of Nicander’s life except that his family held the hereditary priesthood of Apollo at Colophon. Nicander wrote several works in both prose and verse; however, only two have survived to this day. The longest, “*Theriaca*” (Fig. 3), is a hexameter poem consisting of 958 lines that explores

the nature of venomous animals and the wounds they inflict. This poem draws extensively on the prose writings of Apollodorus, an earlier writer from the 3rd century BC.

A passage from “*Theriaca*” reads:

“Εἴ γε μὲν ἐκ τριόδοιο μεμιγμένα κνώδαλα χύτρω^ς ζωὰ νέον θορνύντα καὶ ἐν θρόνα τοιάδε βάλλῃς,
δῆγις οὐλομένησιν ἀλεξητήριον ἄταις·
ἐν μὲν γὰρ μυελοῖο νεοσφαγέος ἐλάφοιο
δραχμάων τρίφατον δεκάδος καταβάλλεο βρῆθος,
ἐν δὲ τρίτην ρόδεον μοῖραν χοός, ἦν τε θυωροί
πρώτην μεσσατίην τε πολύτριπτόν τε κλέονται,
ἰσόμορον δ’ ὡμοῖο χέειν ἀργῆτος ἐλαίου,
τετράμορον κηροῖο· τὰ δὲ ἐν περιηγεί γάστρη
θάλπε κατασπέρχων ἔστ’ ἀν περὶ σάρκες ἀκάνθης
μελδόμεναι θρύπτωνται· ἔπειτα δὲ λάζεο τυκτήν
εὐεργῆ λάκτιν, τὰ δὲ μυρία πάντα ταράσσειν
συμφύρδην ὀφίεσσιν· ἔκας δ’ ἀπόρεσον ἀκάνθας,
καὶ γὰρ ταῖς κακοεργὸς ὄμῶς ἐνιτέτροφεν ίός·
γνῖα δὲ πάντα λίπαζε καὶ εἰς ὄδόν, ἦ ἐπὶ κοῖτον,
ἢ ὅταν αὐνάλεον θέρεος μεθ’ ἀλώια ἔργα.”

(www.poesialatina.it > ns > Greek Nicander-*Theriaca*)

And its English translation:

[...] If however, you can cast snakes coupled at a crossroads, (Fig. 4) alive and just mating, into a pot, and the following medicaments besides, you have a preventive against deadly disasters. Throw in thirty drachmas’ weight of the marrow of a freshly killed stag and one-third of a chous of rose-oil, - essence which perfumers style ‘prime’ and ‘medium’ and ‘well-ground’ - and pour on an equal measure of raw, gleaming oil and one-quarter of



Figure 3. Theriaca and Alexipharmacata by Nicander, 11th cent., Constantinople, Provenance: Biblioteca Vaticana; Saint-Germain-des-Prés, Paris, Bibliothèque nationale de France, MS Suppl. gr. 247, Facsimile Edition, photo 3.



Figure 4. Theriaca and Alexipharmacata by Nicander, 11th cent., Constantinople, Provenance: Biblioteca Vaticana; Saint-Germain-des-Prés, Paris, Bibliothèque nationale de France, MS Suppl. gr. 247, Facsimile Edition, f.7r

wax. These you must quickly heat in a round, bellying pot until the fleshy portions are softened and come in pieces about the spine. Next take a shaped, well-made pestle and pound up these many ingredients in a mixture with the snakes; but cast aside the vertebrae, for in them a venom no less deadly is engendered. Then anoint all your limbs, be it for a journey or for a sleep or when you gird yourself after work at the threshing-floor in summer's drought [...]”²³

The other, Alexipharmacata, may also have been derived from Apollodorus. It consists of 630 hexameters concerning poisons and their antidotes. Both works are obscurantist, written in unimaginative, archaic language.²⁴ A sample of this poem also is presented:

“ἐν δ’ Ἀκοναίοις δηλήειν ἀκόνιτον ἐνεβλάστησεν
δρόγυκοις.
τῷ καί που τιτάνοιο χερὸς βάρος ἔσσεται ἄρκος
πιμπλαμένης δτε νέκταρ ἐύτριβι κιρρὸν ἀφύσσης
μετρήδην - κοτύλη δὲ πέλοι καταμέστιος οἴνης -
σὺν δὲ καὶ ἀβροτόνοιο ταμών ἄπο καυλέα θάμνου
ἢ χλοεροῦ πρασίοιο τὸ δὴ μελίφυλλον ὑδεῦσι· καὶ
τε σὺ ποιήεντος ἀειθαλέος χαμελαίης βλάστην
πηγάνιόν τε πόροις, ἐν βάμματι σίμβλων σβεννὺς
αιθαλόεντα μύδρον γενύεσσι πυράγρης, ἡὲ σι-
δηρήεσσαν ἄπο τρύγα τήν τε καμίνων ἔντοσθεν
χοάνοιο διχῆ πυρὸς ἥλασε λιγνύς· ἄλλοτε δὲ χρυ-

σοῖο νέον βάρος ἐν πυρὶ θάλψας ἡὲ καὶ ἀργυρόεν
θολερῷ ἐνὶ πάματι βάπτοις, πολλάκι δ’ ἡμιδαὲς
χειρὸς βάρος αἴνυσο θρίων παῦρα χαμαιπίτνος,
τότ’ ὄντιδος αὖν δρεῖς ἡὲ νέον ῥάδικα πο-
λυκνήμοιο κολούσας, τέτρασιν ἐν κυάθοισι χαδεῖν
μελιανθέος οἴνης· ἡ ἔτι μυελόεντα χαλικρότερον
ποτὸν ἵχοις ὅρνιθος στρουθοῖο κατοικάδος εῦθ’
ὑπὸ χύτρω
γυῖα καταθρύπτησι βιαζομένη πυρὸς αὐγῆ·”²⁵

[...] And the deadly aconite flourishes amid the Aconaean mountains. For one so poisoned gypsum to the weight of a handful will perhaps be a protection, if you draw thereto tawny wine in due measure with the gypsum reduced to fine powder - let it be a full cotyle of wine - and add stalks of wormwood, cutting them from the shrub, or of bright green horehound which they call Honey-leaf; administer also a shoot of the herbaceous, evergreen spurge-olive and rue, quenching in vinegar and honey a red-hot lump of metal between the jaws of the fire-tongs, or dross of iron which the flame of the fire has separated within the melting-pot in the furnace; or sometimes just after warming in the fire a lump of gold or silver you should plunge it in the turbid draught. Or again you should take leaves, half a handful's weight, of the ground pine; or a dry sprig of pot marjoram from the hills, or cut a fresh spray of field basil, and cover them in four cyathi of honey-sweet wine. Or you may take some broth, still meaty and undiluted, made from a domestic fowl [...]”²⁶

As Nicander's poems contain a bewildering number of plant names, wherever possible links have been provided to the relevant Wikipedia articles, in line with the translators' notes in their 'Index of Fauna, Flora etc'. However, in many cases, the identification of the modern plant name is far from certain. As the translators say: "The interpretations of Ancient Greek plant-names put forward by those who have given much time and thought to the study differ widely; many are tentative and uncertain, while some plants have far defied identification [...] and in Nicander the difficulties of identification, already formidable in themselves, are enhanced by the doubt whether the poet knew what he (or his authority) was talking about".²⁷

1st/2nd cent AD

Rufus of Ephesus

Rufus of Ephesus lived during the reign of Trajan. He was a prolific writer on many medical issues, mainly

anatomy and melancholia. His treatises were widely used in the following centuries, especially by Islamic authors. In contrast with the majority of eminent physicians of his time he didn't stay in Rome, spending his time in Alexandria and mainly in Ephesus. Servilius Democritus refers to a pharmacologist named Rufus, probably the one from Ephesus, as the writer of pharmacological recipes in verse. Although some botanical verses are tentatively attributed to him, their authorship remains uncertain. These verses were published in Venice in 1499 under the title "de viribus herbarum deo alicui consecratarum" and were included in subsequent publications such as the Aldine edition of Dioscorides in 1518, the second edition of Fabricius' "Bibliotheca Graeca" and in Leipzig in 1832, as noted by Gossen in p3.²⁸

Furthermore, an anonymous poem known as the "Carmen de herbis", which is believed to possibly be the work of Rufus, is appended to the text by Dioscorides in Codex Vindobonensis mgr 1. This anonymous poem provides an overview of sixteen healing herbs (Carmen de viribus herbarum) and is punctuated by a full-page illustration of coral with a personification of a deity in folio 391v²⁹. The verses confirmed to be Rufus's are the eight botanical ones preserved in Galen's "Mixtures and Powers of Simple Drugs" (xi. 796 K).

2nd cent. AD

Eudemus of Pergamum

Eudemus, a pupil of Themison the physician, was associated with the Methodic school of medicine and lived in Rome during the 1st century. He is said to have described symptoms of hydrophobia and authored a poem detailing remedies for bites from venomous creatures. This particular poem has survived because it was incorporated into Galen's second volume of "De antidotis". Eudemus achieved the esteemed position of court physician but met a tragic end; he was arrested, tortured, and executed due to his involvement in the conspiracy of Sejanus.

The poem begins as follows:

1 Ιησιν μάθε τήνδε πρός ἐρπετά, ἦν Φιλομήτωρ
Νικήσαι, πείρα κέκρικεν Αντίοχος.
Μήνον από ρίζης ολκήν διδραχμίαν ορύζας,
Σύν τώ δέ ἐρπτύλλον κλώνας ισορρεπέας.
Σύν δ' οπόν εκ πάνακος στήσας ἵσον ηδέ τριφύλλον
5 Καρπόν, όσον δραχμής σταθμόν ἀγοντα δίδουν,
Ανίσουν, μαράθρου τε και ἀμμιος, ηδέ σέλινου
Εξ ενός, ἐν πληρών σπέρματος οξύβαφον.
Συν δ ορόβουν λείου δύο οξύβαφ εμπασ αλεύρουν,
10 Πάντα δ ομού Χίω νέκταρι συγκεράσας,
Κυκλοτερείς ανάπλασσε τροχούς, ισοτητι μεριζων,

Τηιιδραχμοϊο ροπής, ὅφρ αν ἔκαστος ἔχῃ.
Χίω δ εγκεράσας τάδε μίγματα, πικρόν εχίδνης,
Ημίσεως δραχμήν, ιόν ἀποσκεδάσεις.

15 Τώ δέ ποτώ και δεινά φαλάγγια, καί σκολιοίο
Σκόρπιου εκφεύξη κέντρα φέροντ οδύνας.³⁰

To highlight the challenges associated with translating poems from classical languages into English, I present two different English translations of the aforementioned poem, as graciously provided upon my request. The first one is an excellent liberal rendition by Professor Janusz Ostrowski of the Centrum Medyczne Kształcenia Podyplomowego in Poland, crafted in the poetic form:

"Learn about this snake-fighting brew, hark!
Crafted deftly by Antiochus Phylomentor's mark.
Dig up the root of the viper's bane,
Two drachms in weight, its potency plain.
And likewise, take the creeping thyme's stems,
In equal measure, as potent as gems.
Measure out juice from oponaks just as weighty,
Add clover fruit (one drachm, I advise greatly).
Gather one oksybaph of seeds in a blend:
Anise, dill, cumin, and celery, they'll mend.
Two oksybaphs of fine-ground spelt flour go in,
Blend all with Chinese wine, a medicinal spin.
Then mold round pills with precision, do strive,
Each weighing a half-drachm to thrive.
Mixed with Chinese wine, this dose shall outshine,
The venom of serpents, a perilous sign.
Arachnids that scare, this potion shall fight,
And stings of scorpions, in the darkest of night".

The second version is a faithful rendition of the original, rendered grammatically accurate but without rhyming, by the professional translation company, Rhyme & Reason Language Services.

"Learn about this anti-snake medicine therefore,
Which Antiochus Philometor effectively created.
Dig out a root of spignel weighing two drachmae
And an equal number of thyme wet stems.
Measure juice from the opopanax of the same weight,
Give trefoil fruit (one drachma I advise)-
Collect one denari of seed at a time:
Anise, dill, cumin, and celery.
Add two denarii of fine vetch flour
And mix all this with Chian wine quite well
Then shape the round pellets so that
Each one has a weight of exactly half a drachma.
Mixed with Chian wine, this dose conquers
The bitter venom of a dangerous viper or snake.
Fear-inducing spiders will be defeated by this drink,
As will the painful stings of the crooked scorpion".

2nd/3rd cent.AD**a. Galen**

Galen was the most renowned physician of antiquity, after Hippocrates. He authored numerous works on medicine and other subjects. This article does not aim to elaborate further on Galen's life and works, but only to comment on his opinion of versified medical recipes. He lauded these for their utility, particularly for ensuring the accuracy of the weights of medicaments and aiding memorisation.³¹ When referencing the remedies of Damocrates, Galen commended his versified recipes because they "are more useful than prose recipes, not only for the sake of memory, but also for the precision in the proportions of the various ingredients". This preference is reiterated when he discusses Andromachus's recipes for theriakē and mithridatium; however, he favours Damocrates's versions for their exactitude. Galen's writings also include a recipe by Philo of Tarsus for colic. Furthermore, he found the poetic form beneficial as a concluding element in his pharmacological texts, ending five of his books with verse recipes by Damocrates: three in "Places 5", four in "Places 8", one in "Types 1", five in "Types 6", and four in the final book, "Types 7". This practice of concluding his pharmacological treatises with verse recipes mirrors the concept of a conclusion and softens the harshness of the medical content.³² The latter comment by Totelin is reminiscent of a comment by Michael Psellus from the 11th century, which we will explore further in Part B of this article.

b. Serenus Sammonicus

Serenus, epitomising the literary figures of an era marked by a revival of archaic forms, stood as a distinguished successor to Marcus Cornelius Fronto and Aulus Gellius. His stature and role were deeply entwined with the era's fervent dedication to grammar and a mastery of ancient lore. It is widely believed that he was put to death in AD 212 at a banquet hosted by Caracalla.³³ Serenus authored the "Liber medicinalis," composed in elegiac distichs, also known as "De medicina praecepta". This work, consisting of 1,115 elegiac hexameters, organised pharmaceutical knowledge methodically from head to heel—"a capite ad calcem". A fragment of *Medicina Praecepta* concerning the treatment of gout reads:

XLII. Podagrae depellendae

*Quaedam sunt rabidae medicamina digna podagrae,
Cui ter tricenas species Epidaurius ipse*

*Dixit inesse deus: requiem tamen indere morbo
Fas erit, et tristem saltem mulcere dolorem.
Ergo age et arreptum salicis frondemque li-
brumque
Cum vino tere, sic contractos perline nervos.
Aut quum prima mali sese ostentabit origo,
Fervida non timidis tolera cauteria plantis:
Seminecise hirci reserato pectore calces
Insere, sic dirae reprimes primordia pestis.
Aut si corruptus persederit altius humor,
Trita cupressus ibi Baccho jungetur acerbo,
Panibus et teneris: cohiebitque addita questus.
Parva sabucus item hircino collita sevo,
Triticaceaeque acido manantes amne farinae,
Aut nitido ranae decoctum viscus olivo
Sive chelidoniae succus, sed mixtus aceto.
Sunt quibus apposita siccatur hirudine sanguis.
Non audita mihi sit fas, sed lecta referre: Hoc
quidam rabidus morbo per tempora messis
Vicino plantas frumenti pressit acervo
Evasitque gravem casu medicante dolorem.³⁴*

And the English translation

"There is no remedy that can completely cure podagra, a cruel disease of which Aesculapius lists ninety species; however, its ardour can be soothed and its pains made less acute. Some relief can be obtained by taking willow leaves and bark crushed in wine. As soon as the first attacks occur, you must have the courage to apply a burning iron to the soles of your feet. By plunging your feet into the throbbing entrails of a goat that has just been disembowelled, you will halt the progress of the incipient disease. But if the pain is deeper and more intimate, apply a poultice of cypress, vinegar and soft bread, and the pain will be suppressed. Henbane combined with goat's fat is also a good specific treatment. You can also use wheat flour mixed with vinegar, or frog intestines cooked in pure olive oil, or chelidonia juice mixed with vinegar. Some people apply leeches to themselves and are relieved by the release of blood. Allow me to report, not what I have heard, but what I have read: a man suffering from gout at harvest time suddenly felt relieved of his ailment when he happened to step on a sheaf of wheat".

Serenus' best-known recipe is undoubtedly the 'abracadabra' recipe, which includes the first known occurrence of that magical word. It recommends writing the word on a piece of parchment, which is then used as an amulet for the treatment of a particular type of fever. (Fig. 5)

Much more fatal [than other fevers] is that which is called 'hemitritaios'. In Greek words; this in our language. Nobody could express, I believe, and neither did parents wish for it. Write upon a piece of papyrus the word ABRACADABRA. And repeat it more times underneath, but take away the last letter. So that more and more individual elements will be missing from the figure, Those which you constantly remove, while you retain the others, Until a single letter remains at the end of a narrow cone. Tie this to the neck with a linen thread; remember that! (Quintus Serenus, Liber Medicinalis 51.1-9)

Serenus used inscribed parchment as a healing ingredient in at least one other recipe, for treating insomnia in people suffering from fevers:

*"Not only does the most loathsome fever consume wretched patients,
It further deprives them of longed-for sleep,
Lest they should benefit of the heavenly gift of peaceful sleep.
Therefore inscribe a piece of parchment with random words,
Burn it, then drink the ashes in hot water". (Quintus Serenus, Liber Medicinalis, 54.1-5)³⁵*

Interestingly, this practice known as the “magic paper treatment” has persisted, notably near Greece, in the village of Koutsi in North Epirus (now part of southern Albania). This was documented by military doctor G. Kammas during his service with a Greek Army unit stationed there in 1913. According to Kammas, the local “healer”, a Mr. Thomas, prescribed a peculiar remedy for patients suffering from renal colic. He advised them to light four pieces of paper, soaked



Figure 5. One possible representation of the ‘Abracadabra’ amulet. Wikimedia Commons.

in lard, and then cover their heads with a blanket and lean over the flames to inhale the fumes. In a similar vein, Mr. Thomas treated urine retention by attaching four pieces of paper, inscribed with magical words, to the four limbs of the afflicted. Remarkably, in both scenarios, recovery was assured!³⁶

3rd cent. AD.

The Carmen graecum de herbis (Greek poem about herbs)

This treatise, authored anonymously by a Greek between the 2nd and 3rd centuries AD, comprises 215 lines of epic hexameters. It explores the healing properties of approximately fifteen different plants (1–6: chamaemelum; 7–23: rhamnus; 24–39: artemisia; 40–54: pentadactylus; 55–73: vervain; 74–91: dictamnus; 92–104: lelisphakos; 105–113: cyparissus; 114–127: centaury; 128–139: bouphthalmus; 140–172: peony; 173–178: polium; 179–91: moly; 192–211: sea-oak; 212–216: chrysanthemum). The first surviving lines read:

Τοὺς δὲ πυρέσσοντας τὸ χαμαίμηλον θεραπεύει σὺν ροδίνῳ λεῖον τετριμένον, ὥφελιμον δέ τοῖς μετριάζονσιν τὸ φυτόν. φύεται δ' ἐπὶ θινῶν τὸ βραχὺ καὶ κάλλιστον, δὲ βαστάζονσιν ἱητροί ἀρχομένον θέρεος, μέγας Ἡλιος ἡνίχ' ὀδεύῃ ἔβδομον ιππεύσας τετράχυγον ἀντυγα πώλων".

«Those suffering from fever chamomile heals, rubbed down smoothly with rose (oil?); this plant is also useful for those who do not feel too well. On sandy soil it grows, short and most beautifully, which healers pick at the beginning of summer, when the great Helius goes for the seventh time(?), having steered his four-yoked chariot of steeds»

Although it stands in the tradition of the didactic medical poems of the past, it heavily borrows from Homer. It is an evident descendant of the past didactic pharmacological verse tradition. Its rare characteristic is the inclusion between many “scientific” recipes of several allusions to magic. Indicatively, De herb. 7–13, praises the virtues of rhamnus:

“Ράμνος ἔχει πανάκεια<ν> ἐν οἴκοισιν παναρίστην φυομένη φραγμοῖσιν ἀκανθῆν πετάλειον. ὥρου δ' ἐστὶ φυτόν. τὸ δὲ σύμφορόν ἐστι βροτοῖσιν βαστάζειν τότε ράμνον, ὅταν φθίνουσα Σελήνη 10δέρκηται πάντεσσι βροτοῖς κατὰ μακρὸν Ὀλυμπον. κρημναμένη δύναται γάρ ἀποστρέψαι κακότητας φαρμακίδων τε κακῶν καὶ βάσκανα φῦλ' ἀνθρώπων".

“Rhamnus contains the very best panacea at home(?), growing a thorny petal among its shrubs.

*It is a night (?) plant. It is advantageous for men to carry this root when the waning Selene looks down on all men from Olympus. Hanging it can ward off the evils of both evil witches and the malicious tribes of men*³⁷

4th/5th c. AD

Marcellus Empiricus

Marcellus Empiricus, a political figure of the late fourth century, exemplified the provincial aristocracy during the transition from paganism to Christianity. He authored a comprehensive Latin treatise titled *De medicamentis liber*, which catalogues 350 different ingredients and over 2,000 recipes. The work concludes with a 78-line didactic poem in hexameters titled “Carmen de speciebus”, which serves as an abstract or summary, referred to by Marcellus as a *sphragis*.³⁸ The poem begins in a grandiose manner, presenting its fictional sources:

‘What Apollo taught his son, what Chiron taught Achilles, what Podalirius and Machaon once learned from their father [Asclepius] – he who once transformed into a snake and went up into the high temple of Palatine Rome; what the old man of Cos [Hippocrates] taught, and what Abdera taught him, what theory or method or simple experience determines: that book holds this, drawn from differing schools of thought’

It continues by instructing the patient in verses 9-18: “Here you will find, described by names and remedies, the ingredients and the corresponding weights and measures which you, being a wise man, will control unerringly. See to it that you are not misled, and that an inept treatment of a doctor does not turn the remedy which has been procured for healing, to harm. Thus, choose doctors endowed with exceptional judgment regarding

the circumstances, the disease and the condition brought by the age, whether to provide a remedy for the ailments of the sick person with a herb or rather with an incantation: for an incantation bringing about miracles by means of mysterious words, is a reliable remedy for healing”. Further on, he is more specific: [...]

Add also (first either pound or grind with circular movements) the fresh stuff which the garden has or the dry stuff which the smoke-chamber has, garlic and thyme, herbs and healthy savoury, cabbage and radishes, and endives with their long fibres, and mint and mustard, coriander and cabbage of the first cutting, colewort and parsley, mallows and health-giving beet, rue and cress and bitter wormwood—mix it—and potent pennyroyal and also some mild cumin. And let the date from Judaea not be lacking, nor the prune from Damascus; and when you have pulverized this by grinding it with many circular movements, serve it well-cooked in broad shallow dishes or in great pots. But, cook it with a lid on, so that the brew does not become smoky and has a bad taste, which the sick person might immediately dislike”.

The English translations are provided by Gilliers.³⁹ The translation in prose misses the poetic feeling of the Latin original. Try speaking aloud melodic and harmonious lines such as line 31: *Cadmia, chalciti, chalcantho, chalcecaminio* (‘with calamine, rock alum, vitriol, melted copper’); or line 56: *galbana, sandaracam, samsucum, sporon, alumen* (‘galbanum sap, sandarac resin, marjoram, seeds, alum’).⁴⁰

Discussion

The General Discussion and Conclusions will be published in the end of Part B of this article.

ΠΕΡΙΛΗΨΗ

Περί μερικών Ελληνικών και Λατινικών ιατρικών συνταγών με την μορφή ποιημάτων. Η θέση τους στον κόσμο. Μέρος Α

Αθανάσιος Διαμαντόπουλος, Νεφρολόγος/Αρχαιολόγος, MD, Ph.D., BSc

Σε αυτό το Μέρος Α του άρθρου μας, μελετάμε τις ιατρικές συνταγές σε στίχους στην ελληνική λογοτεχνία από την ελληνιστική έως τη ρωμαϊκή αυτοκρατορική εποχή. Αναπόφεντα, αναφερόμαστε εν συντομίᾳ σε παρόμοιες συνταγές στην κλασική και την ύστερη λατινική γλώσσα, καθώς τα δύο είδη ήταν συνυφασμένα επί αιώνες. Απαιτείται λεπτομερέστερη μελέτη της λατινικής βιβλιογραφίας στον τομέα αυτό. Συζητούνται οι λόγοι που οδήγησαν σε αυτά τα διδακτικά ποιήματα καθώς και το μετρικό ύφος της σύνθεσής τους. Παρουσιάζονται αποσπάσματα των συνταγών (όλα σε αγγλική μετάφραση και αρκετά και στην πρωτότυπη γλώσσα), με χρονολογική σειρά και περιορισμένες βιογραφικές πληροφορίες για τους συγγραφείς τους. Αυτοί είναι οι εξής: Ο'Ομηρος (ως ο απότερος πρόγονος), ο Οβίδιος, ο Αγλαΐας του Βυζαντίου, ο Ανδρόμαχος ο Πρεσβύτερος, ο Φίλων της Ταρσού, ο Δαμοκράτης, ο Νίκανδρος, ο Ρούφος ο Εφέσιος, ο Εύδημος της Περγάμου, ο Γαληνός, ο Σερένιος Σαμμονικός, το *Carmen graecum de herbis* και ο Μάρκελλος Εμπειρίκος. Στο Μέρος Β θα συνεχίσουμε με το ίδιο είδος συνταγών κατά τη διάρκεια του Μέσου και του Ύστερου Βυζαντίου. Θα συμπεριληφθούν παραδείγματα από τα μεσαιωνικά λατινικά και από την ισλαμική ιατρική βιβλιογραφία, προκειμένου να αναδειχθεί το διεθνές πολιτισμικό περιβάλλον στο οποίο εντάσσονται αυτοί οι ελληνικοί στίχοι. Στο τέλος του Β' μέρους θα ακολουθήσει η γενική συζήτηση και συμπεράσματα.

Λέξεις Κλειδιά: Διδακτική ποίηση, Αγλαΐας του Βυζαντίου, Φίλων Ταρσού, Δαμοκράτης, Μάρκελλος ο Εμπειρικός, Ανδρόμαχος ο Πρεσβύτερος, Νίκανδρος

REFERENCES

1. Maddy P. How applied mathematics became pure. The review of symbolic logic. Cambridge (GB): Cambridge University Press; 2008 Jun; 1(1):16.
2. Gilman E. Music and medicine (f) The Scottish society of the history of medicine: report of proceedings. 1984-85. p. 37.
3. Symposium By Plato, 360 B.C.E, Translated by Benjamin Jowett, Section 4: 185c - 189b, The Internet Classics Archive, Classics. mit. edu>
4. Uden J. Pharmacological literature in late antiquity: local prescriptions, global poetics. Available from: <https://www.academia.edu/19672116/> This is the text of a paper given at Oxford in July 2015, at the ISLALS conference (theme: 'Local Connections in the Literature of Late Antiquity'). p.2.
5. Mackenzie T. Poetry and poetics in the presocratic philosophers: reading Xenophanes, Parmenides and Empedocles as literature. Cambridge (GB): Cambridge University Press; 2021; i-ii.
6. Schuler M R, Fitch J. Theory and context of the didactic poem: some classical, mediaeval, and later continuities. Florilegium [Internet]. Toronto (CA): University of Toronto Press; 1983 [cited x];5:21. Available from: <https://utpjournals.press/doi/pdf/10.3138/flor.5.001>
7. Pindar. Olympian: for Theron of Acragas, Chariot race 476 BC. Svarlien D A, editor. Perseus Project: Perseus Digital Library [Internet]. Boston (MA): Tufts University; 1990, 3:331-345. Available from: <https://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A1999.01.0162%3Ab ook%3DO.%3Apoem%3D>
8. Homer. Homer's Odyssey, Rhapsody 4: τὰ ἐν Λακεδαίμονι, lines 219-232
9. Homer. The Odyssey. Murray AT, translator. Cambridge, (MA): Harvard University Press, London (GB): William Heinemann Ltd; 1919.
10. Johnson M. Ovid on cosmetics: medicamina faciei femineae and related texts. London (GB), New York (US): Bloomsbury; 2016. p. 46.
11. Overduin F. Elegiac pharmacology: the didactic heirs of Nicander? O'Rourke D; Canevaro L G, editors [Internet]. Swansea (WAL): The Classical Press of Wales; 2019. Available from: <https://repository.ubn.ru.nl/handle/2066/209005/> doi: 10.2307/j.ctvd58tb5.7. p. 97-122.
12. Karaberopoulos D, Karamanou M, Androutsos G. The theriac in antiquity [Internet]. London (UK), New York (US): The Lancet; 2012 May 26. Available from: [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(12\)60846-0/fulltext/](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(12)60846-0/fulltext/) doi: 10.1016/S0140-6736(12)60846-0
13. Galen. De Antid, 1.6, De Ther, ad Pis 100.6. vol. xiv. p. 32-42.
14. Hautala S. Transmitting (and hiding) knowledge in ancient Greek pharmaceutical poetry. Proceedings of the 11th conference of the international society for the study of European ideas (ISSEI); 2008 July 28-Aug. 2; Language Center, University of Helsinki (FIN). Helsinki (FIN): International Society for the Study of European Ideas (ISSEI); 2008.
15. Galen. De compositione medicamentorum secundum locos (I 4, XIII 267 – 269) Kühn.
16. Overduin F. A Riddling Recipe? Philo of Tarsus' Against Colic (SH 690, 2018, Mnemosyne, Issue: 4, Vol., 71, pp

593-615.

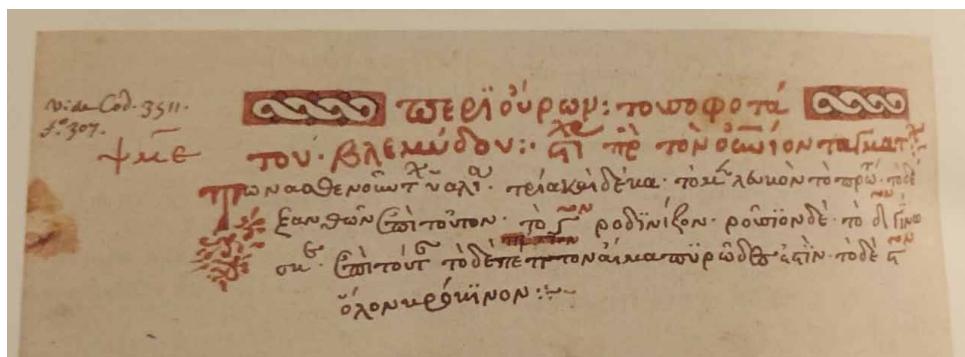
17. Hautala S. As a matter of fact, this is not difficult to understand!: the addresses to the reader in Greek and Latin pharmacological poetry. In: *Stud Anc Med.* .2014, 42:183-200.
18. Galen. *De Compos. Medicam. sec. Locos.*, v. 5, vii. 2, viii. 10, x. 2, vol. xii., vol. xiii.; *De Compos. Medicam. sec. Gen.*, i. 19, v. 10, vi. 12, 17, vii. 8, 10, 16, vol. xiii.; *De Antid. i. 15, ii. 2, etc, 15, vol. xiv.*
19. *Types 6.17* (K13.945.16-18)
20. *Types 7.16* (K13.1058.5-10)
21. Hautala S “As a Matter of Fact, This is Not Difijicul to Understand!”: The Addresses to the Reader in Greek and Latin Pharmacological Poetry, in: *Stud Anc Med.* .2014, 42 p. 185
22. Totelin L. And to end on a poetic note: Galen’s authorial strategies in the pharmacological books. *Studies in History and Philosophy of Science* [Internet]. 2012 Jun 43(2):307–315. Available from: <https://www.sciencedirect.com/doi/10.1016/j.shpsa.2011.12.019>
23. Nicander of Colophon. The poems and poetical fragments. Gow A.S.F, Scholfield A.F, editors, translators Cambridge (GB): Cambridge University Press; 1953.
24. Nicander. *Alexipharmacata and Georgica*. Gow A.S.F, Scholfield A.F, translators (1953). Attalus [Internet]. 2019 Oct. 25, Available from: <https://www.attalus.org/poetry/nicander.html>
25. Nicander. *Alexipharmacata. Poesia Latina* [Internet]. Available from: http://www.poesialatina.it/_ns/Greek/testi/Nicander/Alexipharmacata.html
26. Nicander. The poems and poetical fragments. A.S.F. Gow A.S.F, Scholfield A.F, editors, translators. Cambridge (GB): Cambridge University Press; 1953.
27. Nicander. *Alexipharmacata and Georgica*. Attalus [Internet]. 2019 Oct. 25 [cited x]. Available from: <https://www.attalus.org/poetry/nicander.html>
28. Abou-Aly. A The Medical Writings of Rufus of Ephesus. [PhD dissertation on the Internet]. [London (GB)]: University of London; 1992 [cited x]. Available from: <https://discovery.ucl.ac.uk/id/eprint/1317541>
29. Tomaselli C. Smarthistory guide to Byzantine art. Smarthistory [Internet]. 2021. Available from: <https://pressbooks.pub/smarthistoryguidetobyzantineart/front-matter/editors/>
30. Tadajczyk K.T., Eudēmus physician, intriguer and poet. *Farmacia Polska*, vol. LIX, Nr. 24, 2003 Dec. 15-31, p. 103.25.
31. Galen. *De antidotis 2, 2, K XIV* 115.
32. Totelin L. And to end on a poetic note: Galen’s authorial strategies in the pharmacological books. *Studies in history and philosophy of science* [Internet]. 2012 Jun.;43(2):307–315. Available from: <https://www.sciencedirect.com/doi/10.1016/j.shpsa.2011.12.019>
33. Champlin E. *Serenus Sammonicus*. *Harvard Studies in Classical Philology* 1981;85:189-212.
34. Szwajcer M, Podagrae depellendae, 1845. In: Panckoucke editor. *Table des matières de Serenus Sammonicus*, Paris, XLII
35. Totelin L. Healing words: Quintus Serenus’ pharmacological poem. *The Recipes Project* [Internet] 2016 Jan. 14 [cited x]. Available from: <https://hypotheses.org/doi/10.58079/tcw4>
36. Kammas G. Practical cure of mumps. Introductory note by Antonakopoulos G. Athens (GR): Deltos; 2006; 32:55-58. (in Greek)
37. Overduin F. The Carmen de viribus herbarum (GDRK 64): Between Magical Pharmacology and Homeric Didactic. *Acta Class. Univ. Sci. Debr.* 2021 Oct. 10, vol. 57:129–142
38. Uden J, *ibid*, p. 2.
39. Gilliers L. The *De medicina*, a 4th/5th-century poem of Gallo-Roman origin, rediscovered. *Mnemosyne* [Internet]. 2016 Jul [cited x];71(9). Available from: <https://www.researchgate.net/doi/10.1163/1568525X-12342239>
40. Uden J, *ibid*, p. 5.

Corresponding author:

Athanasios Diamandopoulos
 18, St. Andew str., Romanou, Patras, Greece, 26500
 e-mail: 1453295@gmail.cm

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

Petros Bouras-Vallianatos¹



Bibliothèque nationale de France, Parisinus gr. 2315, f. 271v

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*.¹ The former focuses on various venomous animals (insects, snakes, etc), and the latter

deals with poisons and antidotes.² Several examples may be pointed out from the Middle Ages in various languages and traditions.³ In Byzantium, one should mention the long didactic poem *On Medicine* in iambic dodecasyllables by Michael Psellos (1018–ca. 1076).⁴ 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.⁵

¹Associate Professor of History of Science, Department of History and Philosophy of Science, National and Kapodistrian University of Athens

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 interpretive 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 *manthanō*. 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, clysters, 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 anti-microbial 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 pre-modern 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 Psellos’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 αἰμάτων τῆς φλεβοτομίας τῶν ἀσθενῶν.
Stichera on distinguishing between the [different kinds of] venesected blood of patients.

Ὕχος β'. ὅτε ἐκ τοῦ ξύλου.
Tone 2. When he took Thee off the Wood.

Μάθε καὶ τὰ αἷματα λοιπὸν τῆς φλεβοτομίας ὄπόσα καὶ τὶ σημαίνουσι· δίχα τοῦ ἰχῶρος γάρ τὸ αἷμα μέλαν ῥύειν, ῥιγὸς ἔχει· ἰχῶρα δὲ ποιήσειν ἐκεῖνο κάλλιστον· ἐλκῶδες δὲ τὴν νόσον λύσιν δηλοῖ, οὕσης ἡ μελλούσης· εἰ δ' ὅλον βένετον καὶ ὅλως οὐχ αἷμα, χρόνου ἡ ἔξαμηνιαίου βίωσις.

Αἷμα καταπράσινον φανὲν ἡ μετὰ τὴν πέμπτην ἐκδήλως μηνύει θάνατον ἡ μεθ' ἡμέραν ἔβδομον· εἰ δ' ὀλοκίτρινον ἐπὶ ὥχρα παρόμοιον σχιστῇ ἀρσενίκῃ, θάνατον μαντεύεται· ὡς πίσσα ρέυσαν δ' αὐτό, τοῦτο ἐκτικὸν προμηνύει ἔλκος· εἰ δὲ λευκὸν ἡ ἐκρεύσει ἡ βιορβωδες ἀπὸ σήψεως.

Τοῦτο δ' ὡς κογχύλη ἐκρυὲν θάνατον σημαίνει προδήλως· εἰ δ' ἔλκος, ἡμισυ καὶ ἡμισυ αἷμα δέ, συνάμα δὲ ρέυσει καλόν· ὑγιαίνει ταχέως γάρ· εἰ λάκκον δὲ μέσον ἔχει, φέρει θάνατον· εἰ δὲ δυσώδες παχύ, ἔχον ὀστρακώδη λωρίαν, χρόνον ἔξαμηνον ζήσας, θνήσκει ἔξ οὗπερ τοῦτο ἔρευσεν.

Χρῶμα φοινικοῦν τὸ ἐσχηκός αἷμα, ἀφοβίαν μὲν ἔχει, μακρονοσίαν δέ· ἔμαθες τὰ αἷματα ὡς ἐν συντόμῳ· λοιπὸν ἀγωνίζουν καὶ σπούδαζε καὶ φίλει τοὺς πόνους, δίωξον τὸν ὑπνον τε καὶ ῥάθυμιαν αἰσχράν· σέβου τὸν Θεόν, τρέμε κρίσιν· βίωσον ἀμέμπτως· μιμήσκου τούτων καὶ ἔμοι τοῦ ὑπομνήσαντος.

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. If intensely green blood appears either after the fifth or the seventh day [of the disease], it clearly reveals death. If it is completely yellow like orpiment, it foretells death. If it flows like pitch, then it predicts a consumptive sore. If white or murky blood flows, it is the result of putrefaction.

If what flowed is like purple dye [in colour], it certainly denotes death. If it is a sore, the blood will flow in two equal parts. If it flows all together, it is a good sign; for [the patient] will recover quickly. If there is a hole in the middle, it will cause death. If it is thick, has an unpleasant smell and is like a striped shell, [the patient] from whom such blood flowed will live for six months but [then] die. 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 τὰ κρίσεις τῶν ψελίων τῶν δεκατριῶν.
Stichera on distinguishing between the thirteen kinds of urine vial [according to colour].

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

Τῶν ἀσθενῶν ψελία μάθε τρισκαίδεκα· τὸ μὲν λευκὸν τὸ πρῶτον· τὸ ξανθὸν δ' ἐπὶ τούτῳ· τὸ τρίτον ρόδινίζον· ρούσιον δὲ τὸ τέταρτον γίνωσκε· αἷμα καθάπερ πυρωδες πέμπτον ἔστι· τὸ δὲ ἕκτον ὅλον κρόκινον.

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.

Μετὰ δὲ τοῦτο ώς κίτρον ἴσθι τὸ ἔβδομον· τὸ ἐφεξῆς δὲ μέλαν καὶ τὸ ἔνατον ἄσπρον, ὕσπερ καὶ τὸ ὄνδωρ· δέκατον δὲ σὺν τρυγίᾳ ὑπόλευκον· τεθολωμένον δὲ ἔστιν ὅλον αὐτό, γάρος ὕσπερ τὸ ἐνδέκατον.

Τοῦ δωδεκάτου τὸ εἶδος μόνον οὐ πέφυκεν· οὐθερόν οὐδ' αὐθις καθαρόν, ἀλλ' ὁρᾶται μίγμα πεφυρμένον βοῦριός ἐστι· τρισκαιδέκατον δύσωχρον· ἀλλὰ πονήσας ἐνταῦθα, μάθε λοιπὸν τουτωνὶ καὶ τὴν διάγνωσιν.

You should know that after that is the seventh one, which is like citron in colour. Next is the black one and the ninth one is colourless like water. The tenth one is off-white, like the colour of wine sediment. The one which is entirely cloudy, resembling brine, is the eleventh.

The twelfth is not of one sort alone, nor being turbid, but not clear either; it is like sludge and looks like a stirred mixture. The thirteenth is very pale in colour. Work hard and learn how to diagnose these different kinds of urine vials.

‘Ο κανών.

Canon.

‘Ωδὴ α’.

‘Ηχος β’· ἐν βυθῷ κατέστρωσε ποτέ, τὴν Φαραωνίτιδα.

Ode 1.

Tone 2. His overwhelming might once laid low in the deep all Pharaoh's host.

Τὸ λευκὸν ἐκ ψύξεως ἐστὶ καὶ νεφροαλγήσεως· ιατρεύ-έσθω δ' ὁ πάσχων κλυστήρια· δραστικὰ τὰ ἔχοντα μαραθρόρριζα καὶ θρυμβόξυλα· τοῦτον δὲ ἀντί γε τοῦ νάρδου, ἀλειψον καλὸν χαμαιμηλέλαιον·

The white is the outcome of frigidity and kidney pain. The sufferer should be cured by the use of clysters; the ones made of fennel root and savory are the most effective. Instead of applying spikenard, you can anoint [the patient] with this nice chamomile oil.

If you see a yellow cloud suspended in the middle of the vial, be well aware that the sick person's health is going to be fully restored. If the patient has a nosebleed, this is definitely a shorthand sign of cure.

If there is no nosebleed, make a julep produced from naked barley. Strain the juice of boiled jujubes and sandalwood, add sugar and boil again, and go and give it to the sick.

After these and when with God's help, my friend, you see something like a shell at the bottom of the patient's vial, immediately venesect and [the patient] will look radiant with good health soon.

‘Ωδὴ γ’· ἐν πέτρᾳ με τῆς πίστεως.

Ode 3. On the rock of the faith.

Τὸ τρίτον ύελίον δὲ ῥόδινίζον· ξανθῆς ἀπὸ χολῆς γὰρ συνέβη τοῦτο· καὶ πάνυ γε ὁ πάσχων κατεθερμάνθη· εἰ μαῦρον δὲ νέφος μέσον κρέμαται, ἀληθείᾳ γίνωσκε τοῦτο θανάσιμον.

The third kind of urine vial is rose-coloured, caused by yellow bile, and the sufferer becomes overheated. If a black cloud is suspended in the middle, know that this is really a deadly sign.

Εἰ μέσον δὲ οὐκ ἔδης τὸ μαῦρον νέφος κρεμάμενον, ἀλλ' ἄνω τοῦ ύελίου κέκτηται καὶ τίπα ώς ἐλαιώδη, χολὴ ἔξεκαυσεν τὸν ἀσθενήσαντα· καὶ ψυχρὰ ώς δύναμις τοῦτῳ προσέφερε.

If you do not see the black cloud suspended in the middle, but there is an oily film in the upper part of the vial, the bile has overheated the patient; to strengthen him, offer cooling agents.

Ψυχροῖς γάρ εὶ μὴ σβέσεις χολὴν ἐν τάχει, κοιλίας κρατηθείσης τοῦ ἀσθενοῦντος, φρενῖτις ἐπιγίνεται τῷ ἀθλίῳ· διὸ καὶ πότισον ὡς δοκιμώτατον ἀναλόγως, φίλτατε, τὸ ὀξυφοίνικον.

Κατάπλασμα ποιήσας φῷοῦ μετ' ἄσπρον· ψυλλίῳ τε συνάμα καὶ κριθαλεύρῳ· ἐπίθες τῷ νοσοῦντι παρὰ τὸ ἥπαρ· λειώσας σπέρματα μετὰ σαχάρεως ἀγγουρίων κάμνοντι τοῦτο πότισον.

Πινέτω δὲ κριθόχυλον ἐν τῇ δίψῃ ὁμοῦ μετ' ὀξυμήλων καὶ βλασταρίων· ψυχρὸν δὲ καὶ κλυστήριον εἰσδεχέσθω σὺν κριθαλεύρῳ τε καὶ ιοσαχάριτι· εἰ δροσάτον ἔχεις, δὸς τοῦτο κάλλιον.

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.

Ωδὴ δ'· ἐλήλυθας ἐκ παρθένου.

Ode 4. From a Virgin you came.

Τὸ τέταρτον, τὸ καὶ ρούσιον νέφος ἐνέσχηκεν ἐν αὐτῷ κρεμάμενον, τὴν λεγομένην ὑπόστασιν, ἵσθι ὡς κεκράτηται γαστὴρ τοῦ πάσχοντος, ὅθεν καὶ ἡσθένησεν.

Κατάπλασμα συσκευάσας τῷ ἄνω παρόμοιον τῷ ἀνθρώπῳ πρόσφερε καὶ ποτιζέσθω γλυκύτερον· ἐπειτα κλυστῆρι ἰατρευέσθω μηδὲ ὅλως ἄλας ἔχοντι.

Κατάπυρρον ὡς τὸ αἷμα τὸ πέμπτον, ὡς ἔφημεν· τῶν δὲ διττῶν στοιχείων γάρ ἀναμιχθέντων, τοῦ αἵματος μετὰ ξανθίζούσης δὲ χολῆς σκοτίζουσιν ὅλον τὸν ἔγκεφαλον.

Σκοτίζουσι μετὰ τούτου καὶ κόρας καὶ φρόνησιν, καὶ λαλεῖ παράφορα καὶ ψηλαφεῖ τὰ ἴματα· ἀγρίως ὁ ἀνθρωπὸς ὁρᾶ, ξηράς τε ἔχει τὰς ρίνας ὡς οὐδέποτε.

Καὶ καίεται τοῦ τοιούτου ἡ γλῶσσα ὡς κλίβανον καὶ κοιμᾶται κάτοχα, παρεφθαρμένος ὡς τέλεον· τρίζει τοὺς ὀδόντας τε διϋπνισθείς, βλοσυρὰς δὲ κόρας δείκνυσιν.

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.

The fifth one is the most flame-coloured like blood, as we said; for, when the two elements are mixed together, i.e. blood and yellow bile, they cloud the entire brain.

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 glower.

Ωδὴ ε'· ὁ φωτισμός, τῶν ἐν σκότει κειμένων.

Ode 5. The enlightenment of those in darkness.

Οἶους λοιπὸν ποτήριον ἐπάρας ἥμισυ μόνον καὶ τὸν τετραγγουρόζωμον, συμφύτῳ σὺν αμάραντο καὶ ζωμῷ κολοκύνθῃ· ἀμα τούτῳ καὶ ροδοστάγματος ὅσον ποτηρίου ἐνὸς εἰς ποσότητα.

Ἄσπρα φῶν μετὰ τούτων ἀπάντων σύμμιξον τρία· ἐπειτα μανδήλια πέντε ἔχων, ταῦτα ἄλασσον καὶ συσφίγγων ὀλίγον· οὕτω κατάπλασσε πάντα βεβρεγμένα καλῶς ἐν τῷ ἥπατι.

So take only half a glass of vinegar and the juice of a large cucumber, together with comfrey, amaranth, and the juice of colocynth and add enough rose water to fill a glass.

Mix three egg whites with all these, then get five handkerchiefs, pulverize and squeeze them lightly, and in this way apply well-soaked plasters to the liver.

Τίθει ταύτὸν ἐφ' ἐκάστην ἡμέραν λοιπὸν τρισάκις ἐπὶ τῇ πρωΐᾳ μέσης ἡμέρας καὶ τῇ ἑσπέρᾳ· ὀξυφοινίκων εἴτα πόσιν δίδου τῷ ἀσθενήσαντι, κνῆκον καὶ σάχαρον πρωΐαν νηστεύοντι.

Βρέχε δ' αὐτῷ ριδοστάγματι πρῶτον καὶ τότε δίδου καὶ τὰς θριδακίνας· δίδου εἰς βρῶσιν τῷ ἀσθενοῦντι καὶ ιντίβιον· τοῦτο ἄμα δίδου μετὰ σαχάρεως τρώγειν καὶ τῇ νεύσει Θεοῦ ιαθήσεται.

Ωδὴ ζ' · ἐν ἀβύσσῳ πταισμάτων κυκλούμενος.

Ode 6. Surrounded by a depth of offences.

Τὸ δὲ ἔκτον ώς ἔφημεν κρόκινον νέφος, ἐὰν ἔχῃ δὲ μαῦρον κρεμάμενον, ώς ἀληθῶς θανάσιμον, εἰ μὴ ἄλλο τι πάθος προσγέγονεν.

Ἐκ στομάχου καὶ γὰρ ἂν ἐγένετο, τούτου δυσπεπτήσαντος, δευτεροτρίτωσον ὑέλια, ἄνθρωπε, καὶ τριῶν τὴν ἰδέαν κατάμαθε.

Καὶ ἂν ὥσι τὰ τρία παρόμοια, θάνατον σημαίνουσιν· εἰ δ' ἀλλαγήσονται πρὸς τὸ λευκὸν κρινόμενον ἢ ξανθόν, ὑγιαίνει ὁ ἄρρωστος.

Μαρουλλόσπορον οὖν καὶ χαμαίμηλα καὶ βασιλικόσπορον σὺν κριθαλεύρῳ τε καὶ τὸν ζωμὸν ἀνάμιξον τὸν τοῦ σεύτλου καὶ τίθει ἐν ἥπατι.

Τὸ τοιοῦτον ώς ἔμπλαστρον τίθει δὲ καὶ ἐπὶ τὸ μέτωπον τοῦ ἀσθενήσαντος· καὶ ιατρείαν ποίησον τῷ ἄνθρωπῳ· καὶ δώης τὴν ἴασιν.

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.

Ωδὴ ζ' · ἀντίθεον πρόσταγμα, παρανομοῦντος τυράννου.

Ode 7. The godless order of a lawless tyrant.

Τὸ ἔβδομον κίτρινον ώς θέα κίτρου· ἐὰν ἔχῃ δὲ κάτωθεν καὶ νέφος ώς σεμίδαλιν κριθέν, καταμάνθανε τὸ ὑελίον αὐτό· τοῦτον οὖν διαίτησον λεπτῶς καὶ ιαθείη, Κυρίου θέλοντος.

Τὸ ὅγδοον μέλαν δὲ ώς ἐκ μελαίνης χολῆς ἦν ἐνίσχυσε· χολὴ γὰρ μεθ' αἴματος στοιχεῖα δ' ἀνέμιξεν· καὶ κινδυνεύειν ποιεῖ πνεύμονα καὶ ἥπαρ καὶ χολὴν· καὶ συσκοτίζει κακῶς τὸν ἄνθρωπον.

Σταφίδας καὶ ζίνζιφα συναποβράσας ζουλάπιον ποίησον καὶ πότιζε τὸν πάσχοντα· καὶ ἄλλο ζουλάπιον μετὰ σελίνου ρίζῶν, λουπιναροκίχωρα, ἐν αἷς καὶ ἀδιάντων τὰς ρίζας ἔνωσον.

Ἐν τούτῳ ἐπίβαλε καὶ λίτραν μίαν σάχαρον καὶ πότιζε ἡμέραν ἐφ' ἐκάστην τε τὴν μίαν ἐκ πρώτου γε καὶ τοῦ δευτέρου ἔξῆς· ἀγριαγγούρεας τὸν ζωμὸν καὶ ροβαλεύρου αὐτῷ κατάπλασσε.

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.

The seventh is yellowish resembling the colour of citron; if it has a cloud in the lower part, which is judged similar to the finest wheaten flour, pay attention to this vial. So ask him to follow an attenuating diet, God willing, he will be cured.

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.

Ωδὴ η΄. Τὸν ἐν καμίνῳ τοῦ πυρός.

Ode 8. The God who came down into the furnace.

Ωσπερ τὸ ὕδωρ καθαρὸν τὸ δὲ ἔνατον· ἄν γοῦν ἐπάνω ὥσει ἔλαιον ἔχῃ, εἰς δὲ τὸν πάτον αὐτοῦ οὐκ ἄνω οὐ κάτω ὑπόστασιν, ἡπαρ τοῦ νοσοῦντος καὶ στόμαχος ὁ πάσχων.

Ἄπο ψυχρότητος αὐτῷ ὑπεισῆλθε γάρ ή ἀρρωστία καὶ ἡτόνησε φύσις· καὶ οὐ χωνεύει καλῶς καὶ μένει ἀνόρεκτος, βλέπει δὲ πρὸς ὑδρωπικίαν τὴν κακόσχολον νόσον.

Τῷ γοῦν στομάχῳ ἀλοιφὰς καὶ ἐμπλάστρους τὰς θερμὰς αὐτῷ ἐντίθει· καὶ μαστίχιον ἔνδον μετὰ λαδάνου ἐνθεὶς τὰ σπλάγχνα, τὸ ἡπαρ καὶ τὸν στόμαχον, ἀλειψον ἐλαίῳ πηγάνου, χαμαιμήλων.

Ξυλοζιγγίβερ, γαλαγγάν, καρυόφυλλον, κύμινον, καρναβάδιν καὶ μακροπέπερι, στάχος σὺν γλυκανίσῳ λαβών, πυρέθρῳ, ἀκόρῳ καὶ σπέρματα σεληνοανήθων μετὰ μοσχοκαρύδων.

Λυβιστικόν τε σὺν αὐτοῖς καὶ τὴν κύπερον ὁμοῦ Ἀλεξανδρείας εἰς ἴγδιον συντρίψας καὶ κοσκινίσας καλῶς, σάχαρ τρεῖς λίτρας ἐπίβαλλον, κύλικας δὲ δύο ριδόσταγμα συνάμα.

Χύτρᾳ καινῇ ταῦτα βαλῶν καὶ ποτήριον ἐκ μέλιτος ἔψει καὶ πηχθέντα ἐκεῖθεν συναναμίξας καλῶς τὸν τούτου κατάπλασσε στόμαχον, ἀλλὰ καὶ τὸ ἡπαρ πρωΐας καὶ ἐσπέρας.

Σύχνασον τοῦτον εἰς λουτρὸν καὶ τὸν ἄκρατον μὴ ὕδατι μιγνύων καὶ τῇ πόσει πινέτω· ὁ ἀρρωστος καὶ ἀπαλλαγῇ τῆς κατεχούσης νόσου.

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.

Take ginger root, galangal, clove, cumin, caraway, long pepper, spikenard, anise, pellitory, sweet flag, seeds of celery and dill seeds, and nutmeg.

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.

Ωδὴ θ΄· ἀνάρχου γεννήτορος, Υἱὸς Θεὸς καὶ Κύριος.

Ode 9. The Son of the Father without beginning.

Τὸ δέκατον πέφυκε λευκὸν θολὸν παρόμοιον ἀειδάρου τῷ οὐρῷ, νεφρὰ δὲ ἐκ ψύξεως πάσχει ὁ νοσήσας· αὐτὰ γὰρ ἐκ φλεγματισμοῦ ἔχει πεπλησμένα, διὸ καὶ ἐξέλκυσον κλυστηρίῳ σὺν τὰ φλέγματα.

Προβάτου συνέψησον καλῶς τὴν κάραν σύμαλλον μετὰ ἀλατος μόνου καὶ κλυστηρίασον· σπόρον δὲ καρδάμου ἄς πίη καὶ γαλαγγάν μετὰ τοῦ κυπέρου· εὐθὺς δὲ τὸν πάσχοντα εἰς τὸ σκέλος φλεβοτόμησον. Θολὸν τὸ ἐνδέκατον τρυγίαν ἔχον κάτωθεν, ἐκ τῆς φούσκης δὲ ἥλθεν ἔχούσης οὐρῆμα καὶ πρὸς δυσουρίαν ἐπειγεῖ ὁ ἀσθενῶν· ἡ λίθον ἡ ἄμμον γάρ, ὁ τοιοῦτος ὑποστήσεται.

Ἄς πίη καστόριον ἐν τάχει καὶ ὄριγανον, ἐλαιόστεα ἄμα τριπτὰ, εἰς βρῶσιν τε ἔστω ὀκτάποντος· βλαστάριά τε καρπῶν, στάχος, γαλαγγάν τε λυγόσπερμα ρύχης τε καὶ κινάμωμον, ἀδίαντον.

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. The eleventh is cloudy having sediment on the bottom [of the vial] which came from the bladder, which contains urine; and the patient has pressing dysuria due to stone or sand and he suffers.

Let him quickly drink castoreum and oregano, and let him eat pounded olive pits, octopus, vine tendrils, spikenard, galangal, seed of the chaste tree, cinnamon, and maidenhair.

Ἐξαποστειλάριον.
Ὕχος γάρ ὁ οὐρανὸν τοῖς ἀστροῖς.

Exapostilarion.

Tone 3. Having embellished heaven with the stars.

Τὸ γαλακτῶδες δὲ οὖρον, πήκτωμα ἔχον ἐξ ὄλου,
θάνατον μάθε σημαίνει, ἐξ ἀπαντος τῷ ἀρρώστῳ· τὸ
βιορβορῶδες καὶ ὅζον σημεῖον ἵσθι θάνατον.

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

Δυού ἔμμετρα 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 εξέτασης 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. Τα κείμενα σώζονται σε διάφορες εκδοχές και συχνά αποδίδονται είτε στον Νικηφόρο Βλεμμύδη είτε στον Μάξιμο Πλανούδη, υστεροβυζαντινούς διανοούμενους και διάσημους δασκάλους ανώτερων εκπαιδευτικών προγραμμάτων στην Κωνσταντινούπολη και την Νίκαια.

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

REFERENCES

1. The most recent edition of the texts is by Jacque J, *Nicandre. Œuvres. Tome II. Les thériaques. Fragments iologiques antérieurs à Nicandre*, Paris: Les Belles Lettres, 2002; and Jacques J, *Nicandre. Œuvres. Tome III. Les Alexipharmaciques. Lieux parallèles du livre XIII des Iatrica d'Aétius*, Paris: Les Belles Lettres, 2007.
2. The most recent study on Nicander's poems is by White H, *Studies in the Poetry of Nicander*, Amsterdam: Hakkert, 1987. On Nicander's toxicology, see the informative papers by Scarborough J, 'Nicander's Toxicology I: Snakes', *Pharmacy in History* 19 (1977), 3-23; Scarborough J, 'Nicander's Toxicology II: Spiders, Scorpions, Insects and Myriapods', *Pharmacy in History* 21 (1979), 3-34, 73-92.
3. See, for example, Ibn Sīnā's (d. 1037) *Poem on Medicine* (*Urjūzah fī al-Ṭibb*) in Arabic, edited by Jahier H and A Noureddine, *Avicenne: Poème de la médecine*, Paris: Les Belles Lettres, 1956; and Gilles de Gorbeil's (d. 1224) poem *On Urines* in Latin, edited by Kliegel P, *Die Harnverse des Gilles de Gorbeil*, Rheinische Friedrich-Wilhelms-Universität Bonn: PhD thesis, 1972.
4. The text has been edited by Westerink L G, *Michaelis Pselli Poemata*, Leipzig: Teubner, 1992, 190-233. On Psellos's sources and audience, see Hohlweg A "Medizinischer 'Enzyklopädismus' und das ΠΙΘΗΜΑ ΙΑΤΠΙΚΟΝ des Michael Psellos", *Byzantinische Zeitschrift* 81 (1988), 39-49 and Hörandner W, 'The Byzantine Didactic Poem – A Neglected Literary Genre? A Survey with Special Reference to the Eleventh Century', in *Poetry and its Contexts in Eleventh-century Byzantium*, ed. F Bernard and K Demoen, Farnham: Ashgate, 2012, 55-67, at 61, respectively.
5. On amateur physicians (*philiatroi*) and intellectuals interested in medicine in Byzantium, see Bouras-Vallianatos, P, *Innovation in Byzantium Medicine: The Writings of John Zacharias Aktouarios (ca.1275-ca.1330)*, Oxford: Oxford University Press, 2020, 106-110.
6. Mitsakis K, 'Byzantine and Modern Greek Parahymnography', in *Studies in Eastern Chant*, ed. D. Conomos, vol. 5, Crestwood NY: St Vladimir's Seminary Press, 1990, 9-76.
7. Diamandopoulos A, 'Uroscopy in Byzantium', *American Journal of Nephrology* 17 (1997), 222-227. Bouras-Vallianatos, *Innovation in Byzantium Medicine*, 40-45.
8. The work has been studied from a medical point of view by Diamandopoulos A, *Musical Uroscopy*, Patra: Achaikes Ekdoseis, 1996.
9. Liu A et al. 'Rose bud extract as a natural antimicrobial agent against *Staphylococcus aureus*: Mechanisms and application in maintaining pork safety', *LWT - Food Science and Technology* 176 (2023), 114527.
10. Bouras-Vallianatos P, 'Cross-Cultural Transfer of Medical Knowledge in the Medieval Mediterranean: The Introduction and Dissemination of Sugar-Based Potions from the Islamic World to Byzantium', *Speculum* 96 (2021), 963-1008.

11. Ideler J L, *Physici et medici Graeci minores*, vol. 2, Berlin: G. Reimer, 1842, 318-322. Kousis A, 'Les oeuvres médicales de Nicéphoros Blémmydès selon les manuscrits existants', *Πρακτικά Ακαδημίας Αθηνῶν* 19 (1944), 56–75.
12. Diamandopoulos A, *Musical Uroscopy*, 1996.
13. Skarpelos A, editor, 'Nephrological parahymnography: the texts and their presentation at the international scientific conference in Delphi', [Internet]. 15 February 2001. Available at: http://i-m-patron.gr/i-m-patron-old.gr/keimena/nefrologiki_010214.html (accessed 2 February 2024).
14. <https://www.bbc.co.uk/programmes/b098gpgs> (accessed 2 February 2024).

Corresponding author:

Prof. Petros Bouras-Vallianatos,
National and Kapodistrian University of Athens,
Department of History and Philosophy of Science,
University Campus, 15771, Athens, Greece
e-mail: pbourasval@phs.uoa.gr

“The Knight in the Panther’s Skin” by Shota Rustaveli: Salutogenic Aspects

Ramaz Shengelia¹, Levan Jaja²

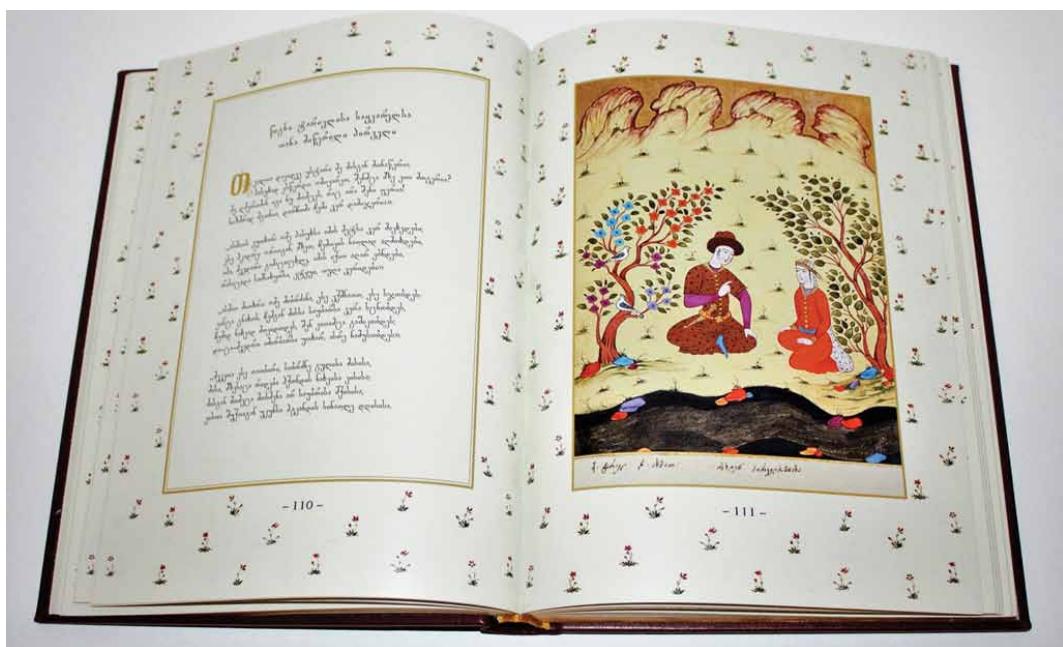


Figure 1. Photographic edition of the 17th-18th century manuscript of the poem (the so-called Tsereteli manuscript).

Abstract

The article provides a discussion of the specific salutogenic aspects of medical knowledge in Shota Rustaveli’s “The Knight in the Panther’s Skin” – a distinguished piece of Georgian literature. Consideration of specific passages from the poem and corresponding commentary demonstrates the author’s medical knowledge, as he stresses the significance of positive emotions, a healthy environment, and mood on human health, thus having a therapeutic effect. Regarding the knowledge reflected in similar scientific literature, which is significant for the history of Georgian medicine, the work offers a more specific and, in some cases, newer vision of the salutogenic aspects in “The Knight in the Panther’s Skin”. Along with the author’s knowledge, we emphasise the fact that during that period, there was a logical link between the medical-biological thinking of the era known as the “Golden Age”. This connection represents a natural expression of the level of the scientific sphere, simultaneously with cultural and political progress in the country. In addition to providing an overview of specific medical areas in “The Knight in the Panther’s Skin”, the article will explore the scientific and other literature of the era and a later period, where similar approaches are described. The issues discussed in the article, regarding their nature and different aspects, could be of interest for studying the history of medicine of that specific era.

Key Words: Shota Rustaveli, didactic poetry, salutogenesis

¹TSMU, Head of the Department for the History of Medicine and Bioethics

²TSU, doctoral student, Ancient World History

Introduction

“The Knight in the Panther’s Skin” by Shota Rustaveli (12th c.) is a poem woven into the fabric of the Georgian people (Fig. 2), which influenced and shaped the mentality, moral, and ethical values of many generations of the nation throughout the centuries. The poem is written in 16-syllable lines, employing syllabic-tone, and masculine-ending rhythms. This poetic masterpiece has played a paramount role in the formation and development of the form of Georgian poetry.

The poem belongs to the chivalric romance genre and was written during the period when similar literary works appeared in Europe (Chretien de Troyes (1180s), Wolfram von Eschenbach (1195-1216), Robert de Boron (1190-1199)). Against the background of typological similarity and certain analogies in plots, “The Knight in the Panther’s Skin” is much more comprehensive and informative for understanding the spiritual and material essence of the most successful Georgian state during the time of its composition.

One could argue that the series of crusader wars, which began at the close of the 11th century, served as a means for Western countries to comprehend the Oriental world, and became a catalyst for specific philosophical and literary influences. In terms of its worldview, the poem evidently possesses a Renaissance character, despite being written well before the Western European Renaissance.

The poem “The Knight in the Panther’s Skin” has been translated into numerous languages globally and was included in the World Cultural Heritage list.

The poem encompasses a vast, profound, and at times sacred knowledge, spanning from cosmogony to the natural and exact sciences. It contains very interesting, practically significant, and conceptually valuable details of the medical-biological sphere. In the era known as the “Golden Age” of Georgia, political and cultural advancements were paralleled by significant progress in literature, science, and education. The country hosted two academies, Gelati and Ikalto, where, according to researchers, alongside the traditional quadrivium and trivium disciplines^{1,2}, higher education in the medical and biological fields was also offered.^{3,4} The study of “The Knight in the Panther’s Skin” commenced as early as the 1930s⁵, when the foundation was laid for studying fiction in the context of scientific development.

Method and results

Textual study of “The Knight in the Panther’s Skin”.



Figure 2. On the left: A fresco in the Cross Monastery of Jerusalem, where Shota Rustaveli ended his life after becoming a monk. Shota Rustaveli is dressed in secular clothes typical of a Georgian nobleman, and he has a purple-coloured mantle with a collar of karakul fur draped over his shoulders. He wears a Georgian hat made of white fur trimmed with black and kneeling and standing before the great fathers of the Church - Maximus the Confessor and John of Damascus. 12th cent? 17th cent? On the right: The fresco after being vandalised by extremists in 2004. It was later restored.

The poem was compared with Georgian classical medical literature of around that period: the “Incomparable Medical Handbook” [UstsoroKarabadi] (10th c.) and “Medical Book” (13th c.), anatomical-physiological tractates translated from Greek in the relevant era: “On Human Nature” by Nemesius of Emesa (4th – 5th c.), “On the Making of Man” by Gregory Nyssen (4th c.), “Elements” by Proclus the Successor (5th c.), “The Fountain of Knowledge” by John of Damascus (7th c.). We attempted to identify the conceptual genesis of one or another passage. Specific medical correlations in “The Knight in the Panther’s Skin” were extensively analysed by Professor Michael Shengelia who, among various other aspects, emphasised an area of particular interest to us – the significance of the environmental conditions and emotions for health.³

In this article, we provide some passages of a medical nature from “The Knight in the Panther’s Skin”⁶ with an English translation, part of which will be accompanied by brief explanations.⁷ The episodes provided here discuss one principal aspect – the favourable impact of a healthy environment, positive emotions, good mood, and spirits on human health. This impact has been repeatedly emphasized in medical texts of Late Middle Ages. Indicatively, in the “Regimen Sanitatis Salerni” written in 1,200 A.D. for an Anglorum Regi (King of England). “Si tibi deficiant medici, medici tibi fiant, - Haec tria: mens laeta, requies, moderata diaeta” (i.e. “if you lack medical men, let these three things be your medicine: humour, rest and sobriety”). Also the recommendation : “He would cure this man, who has depression, with anything

pleasant and soothing, which comes from the hearing and melody; these are effective as the conversations and narrations of his earnest and desired friends are" is found in the Vlemmydes' or Planoudes' motto supplied in the prose text of the "Correlation between fever and urines" (13th cent). Both quotations correspond to earlier ideas of Plato who reputably taught that "when a soul loses its harmony then melody and rhythm assist it in regaining its peace and order". (Reported by Ath. Diamandopoulos in his treatise "Musical Uroscopy", Patra: Achaikes Ekdoseis, 1996).

As mentioned above, motifs regarding the use of positive emotion, aesthetic pleasure, and appreciation of the beauty of nature for the improvement of health frequently appear in the poem. Tariel, the protagonist, desires to mount a horse, ride, and enjoy the view of nature, the river, and the fields in order to improve his depressive condition and get better. It should be noted that these pieces of advice are formulated as medical prescriptions in the poem and they should not be regarded as simple advice to a friend; this demonstrates systemic medical education.

I said: 'Lord, my heart is much stronger now. I feel able to ride.

I long to mount a good horse and travel the kingdom far and wide.'

They brought me a horse and I mounted him. The king rode by my side. (362,2,3,4).

To help Tariel finally improve his health and mood as soon as possible, even the King arranges a feast, hunting, games, and songs:

"I went to court. The king said: 'You are no longer sick. Is that clear?'

He made me mount quiverless, did not allow me even a spear.

He mounted, and let fly the falcons. Every pheasant hid with fear;

All the king's archers formed into ranks. All of them started to cheer" (373).

"After coming in from the plain, we made a feast at home that day.

Singers and minstrels were not silent. Each had his musical say" (374,1,2).

Tariel himself attempts to cure his sadness and sorrow and get better:

"I strove to be happy, too, but my anguish overmastered me.

I thought of her and from the fire in my heart could not get free.

I took all my comrades to my house. They called me an aloe-tree.

I drank and feasted to hide the pain and grief that tormented me" (375).

The most comprehensive and prominent description of the use of positive emotions for healing is described in Avtandil's advice given when he found Tariel in an enfeebled state. Avtandil did his best to improve his condition, and asked the stressed and weakened Tariel:

"Don't send me away heart-broken. Just grant me one desire, I plead.

Let me see you, ravisher of my soul, on horseback. Mount your steed.

Perhaps that will be enough: the present grief I feel will recede.

I shall certainly go and leave you then, and to your will pay heed."

Avtandil multiplied his pleading. "Mount!" he continued to say.

He knew being on his horse would chase Tariel's sadness away.

He bent the reedy stem of his body, looked down where The Knight lay.

Tariel sighed and moaned no more. Avtandil forced him to obey. (899; 900).

Avtandil believed in the healing power of riding, the beauty of nature, and generally, positive emotions. Thus, he expected that mounting the horse even once would yield the desired results, regarding the author's remark "He knew that mounting the horse would dispel his sorrow".

Tariel followed Avtandil's advice and got better as a result:

"He made the other's graceful form sway as he took him to the plain.

They rode a while. He looked better in the saddle, holding the rein" (901,3,4).

Avtandil believed that riding alone was not sufficient; he attempted to influence his friend through pleasant conversation as well:

The Knight entertained Tariel; he spoke words as if they could cure.

For his sake, he moved coral-coloured lips in phrases to assure,

Words to make young an aged listener's ears: such was their allure.

He dispelled his grief, and gave him the strength and vigour to endure (902).

Rustaveli emphasised the power of words in influ-

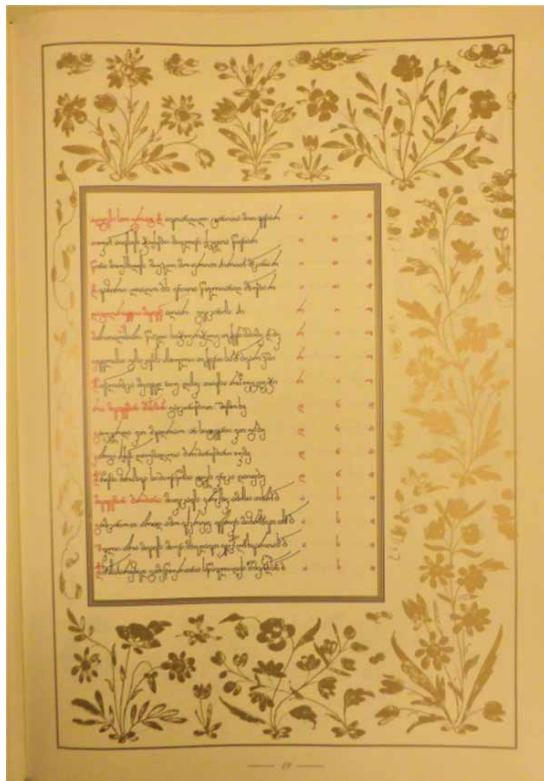


Figure 3. Page 19 of Shota Rustaveli, Vep'xistqaosani.

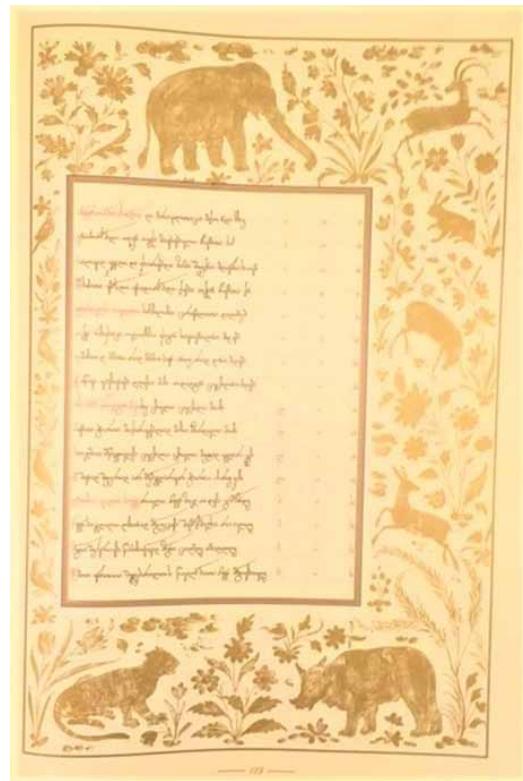


Figure 4. Page 113 of Shota Rustaveli, Vep'xistqaosani.

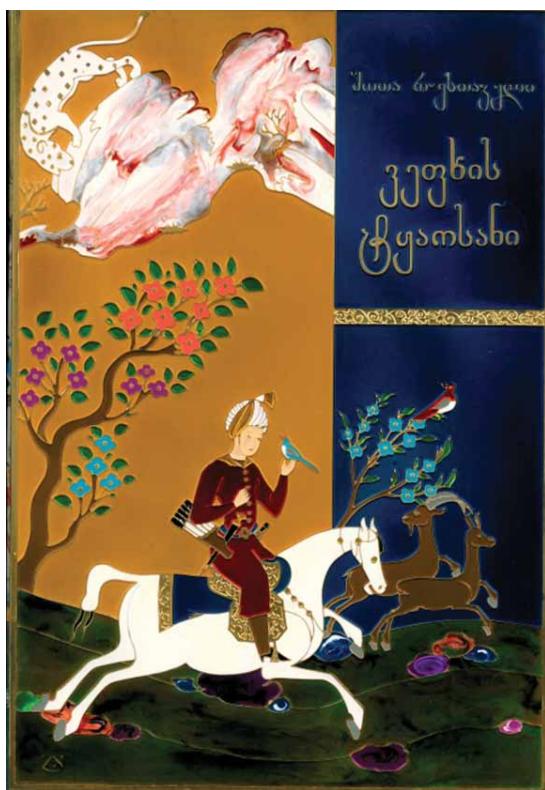


Figure 5. The slipcase of the facsimile is handmade and has been decorated using cloisonné enamel. It was designed and created by the traditional Georgian jewellery company, Zarapxana.

encing a sick person. Avtandil attempted to improve his friend’s condition through verbal impact, recalling the treasure said by the “scientists”, and “wise men”, as he is well aware of the importance of “treatment with words”. Finally, Tariel, who has lost his mind due to sadness and sorrow, said “something meaningful”, due to the efforts of the “healer of the conscious” (Avtandil).

Thus, in “The Knight in the Panther’s Skin”, the significance of the value of words, the beauty of nature, songs, music, aesthetic pleasure, and all positive emotions in general for enhancing one’s health is not coincidental, nor is it merely highlighted as a result of the author’s empiric observations. Rather, it is portrayed as a specific teaching, a distinct system of treatment: almost all characters in the poem resort to this healing method when they need it (Tariel, Rostevan, Avtandil) as if following ancient Georgian medical traditions, such as the “Book of Healing”⁸ (13th century), an outstanding Georgian medieval medical work. In this, a separate chapter is dedicated to the positive impact of walking, including slow walking as well as the influence of one’s environment on human health, such as in the above-mentioned passages of the poem “The Knight in the Panther’s Skin”. The favourable influence of a healthy environment, the enjoyment of beautiful sights, pleasant music, or songs is also discussed in the 16th-century

medical book, "Iadigar Daudi". Similar passages can be found in late medieval period literature; for example, Sulkhan-Saba Orbeliani's "The Book of Wisdom and Lies" mentions that medicines alone are not sufficient for healing the sick. Factors such as mood, belief, mental satisfaction, and psychical impact are regarded as significant in the healing process.

Conclusion

To conclude, "The Knight in the Panther's Skin" provides a full-scale description of the medical-aesthetic measures firmly accepted in ancient Georgian medicine, which is quite logical, considering the cultural and educational environment within which Georgian literary and specific scientific works of that period were written.

In this article, following the discussion of the episodes from "The Knight in the Panther's Skin" provided here, we can briefly formulate the following conclusion:

1. The author of "The Knight in the Panther's Skin" had extensive and systemic knowledge in the field of medicine and, particularly, in the salutogenic area, which is of interest to us.
2. The literary work emphasises the significance of a

healthy environment and positive emotions.

3. The medical and aesthetic knowledge exhibited by the characters in the poem is not arbitrary; it is intimately connected to the evolution of medical and biological thought during that era.
4. The level of political and cultural-educational development of the poem's era is organically linked to scientific progress, specifically in the field of medicine.
5. The medical knowledge in "The Knight in the Panther's Skin" was based on and preconditioned by the existing translated and original literature.

Georgian scientific literature provides a discussion of the history of Georgian medicine in this respect, showcasing an interest in the aforementioned issues across past centuries. Furthermore, this article highlights the significance of examining such literature. The attempt to provide a broader perspective on these issues from different viewpoints is a fundamental component of this article.

Recently, the British Library collections have been enriched by generous donations of a facsimile from the Art Palace of Georgia - Museum of Cultural History (Fig. 3, 4 and 5).

ΠΕΡΙΛΗΨΗ

«Ο Ιππότης με το Δέρμα του Πάνθηρα» του Shota Rustaveli: υγιεινοδιαιτητικές απόψεις

Ramaz Shengelia, Levan Jojua

Το άρθρο παρέχει μια ανάλυση συγκεκριμένων πτυχών της υγιεινοδιαιτητικής αγωγής που υπάρχουν στο έργο του Shota Rustaveli «Ο Ιππότης με το Δέρμα του Πάνθηρα» - ένα εξέχον έργο της Γεωργιανής λογοτεχνίας. Η εξέταση συγκεκριμένων αποσπασμάτων του ποιήματος και του σχετικού σχολιασμού καταδεικνύει τις ιατρικές γνώσεις του συγγραφέα, ο οποίος τονίζει τη σημασία των θετικών συναισθημάτων, ενός υγιούς περιβάλλοντος και της διάθεσης για την ανθρώπινη υγεία. Όσον αφορά τις γνώσεις που αποτυπώνονται στην αντίστοιχη επιστημονική βιβλιογραφία, η οποία είναι σημαντική για την ιστορία της Γεωργιανής ιατρικής, το έργο προσφέρει μία πιο συγκεκριμένη και, σε ορισμένες περιπτώσεις, πιο καινούρια θεώρηση τους. Μαζί με τις γνώσεις του συγγραφέα, τονίζουμε το γεγονός ότι κατά τη διάρκεια εκείνης της περιόδου, που είναι γνωστή ως «Χρυσή Εποχή», υπήρχε μια λογική σύνδεση μεταξύ ιατρικής και βιολογικής σκέψης. Η σύνδεση αυτή αποτελεί φυσική έκφραση του επιπέδου ανάπτυξης στην επιστημονική σφαίρα, ταυτόχρονα με την πολιτιστική και πολιτική πρόοδο της χώρας. Εκτός από την επισκόπηση που παρέχεται για συγκεκριμένους ιατρικούς τομείς στο έργο «Ο Ιππότης με το Δέρμα του Πάνθηρα», το άρθρο θα εξετάσει την επιστημονική και μη βιβλιογραφία της εποχής και μίας μεταγενέστερης περιόδου, όπου περιγράφονται παρόμοιες προσεγγίσεις. Τα θέματα που αναλύονται στο άρθρο, όσον αφορά τη φύση τους και τις διάφορες πτυχές τους, θα μπορούσαν να παρουσιάζουν ενδιαφέρον για τη μελέτη της ιστορίας της ιατρικής της συγκεκριμένης εποχής.

Λέξεις Κλειδιά: Shota Rustaveli, Διδακτική ποίηση, υγιεινοδιαιτητική αγωγή

REFERENCES

1. Kekelidze K., History of Ancient Georgian Literature, Tbilisi (GE): Metsnireba;; 1980. p. 82-83.
2. Nutsnidze Sh., History of Georgian Philosophy, Tbilisi (GE): Publishing House of the Academy of Science of Georgian SSR; 1956.
3. Shengelia M., Studies of the History of Georgian Medicine, Tbilisi (GE): Metsnireba;1981, p. 98-99.
4. Shengelia R., History and General Theory of Medicine. Tbilisi, 2012, pp 140-141.
5. Kotetishvili L., Medical Ideas in The Knight in the Panther's Skin, Tbilisi (GE): Soviet Medicine; 1937.
6. Rustaveli S., The Knight in the Panther's Skin, Georgian Literature, v. 4, Tbilisi(GE): Nakaduli; 1988.
7. Rustaveli S., The Knight in the Panther's Skin, New translation by Lyn Coffin. Turkey (TU): Poezia Press; 2015.
8. Book of Healing, Tbilisi (GE): State Publishing House; 1936.

Corresponding author:

Professor Ramaz Shengelia
Nino Ramishvili street 31a, apart. 14, 0162,
Tbilisi, Georgia 33, Vazha Pshavela avenue, 0177,
Tbilisi State Medical University

Poetic recipes from Nidā'ī, an important sixteenth-century physician, in Durr-i Manzūm

Ayşe Balat¹, Ahmet Acıduman²

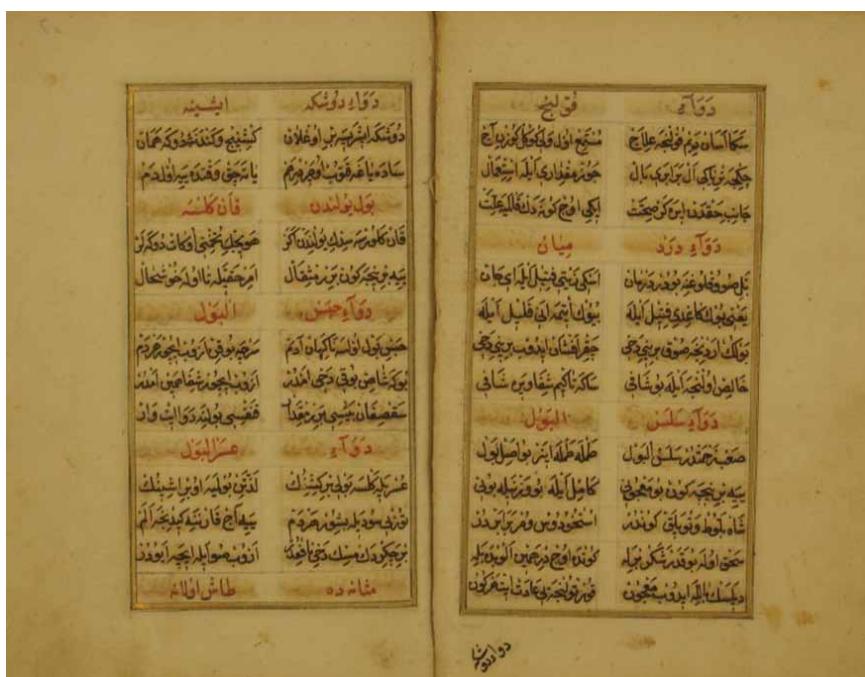


Figure 1. The copy found in Istanbul Süleymaniye Manuscript Library, Nuruosmaniye Collection, Nr. 3556. The beginning pages related to the urinary system.

Abstract

It has been known that some of the medical works in the Islamic world in the Middle Ages were composed in verse to create concise information, be easily memorised, and be beneficial for students and the public. This practice has also been observed in Turkish medicine throughout history. The present study aims to introduce Physician Nidā'ī from Ankara, an important sixteenth-century physician, and his renowned poetic work, Durr-i Manzūm, focusing on the sections related to urinary system problems. In this study, we evaluated Durr-i Manzūm, which has many copies in Turkish and European libraries and has been found in Istanbul Süleymaniye Manuscript Library, Nuruosmaniye Collection, Nr. 3556. Nidā'ī has poetic compositions regarding six common nephrological problems: Urinary incontinence, bedwetting in children, haematuria, urinary retention, urination difficulty, and bladder stones. Every subject consisted of a different number of couplets; the difficulty of the disease was briefly mentioned in some couplets, and then appropriate compositions were written in detail in a poetic style. Nidā'ī used poetic recipes excellently and wanted to show that medicine is

¹MD, Department of Pediatric Nephrology, School of Medicine, Gaziantep University, Gaziantep, Turkiye; ORCID: 0000-0002-8904-1348

²MD, PhD, Department of History of Medicine and Ethics, Faculty of Medicine, Ankara University, Ankara, Turkiye; ORCID: 0000-0003-2021-4471

not an incomprehensible and complicated science by recommending concise and straightforward treatments for certain diseases. The fact that it was copied until the beginning of the nineteenth century, with numerous copies available in both national and international libraries, demonstrates that his work is readily comprehensible to both the public and medical professionals, thereby earning it considerable respect.

Key Words: *Nidā'ī, Durr-i Manzūm, poetic recipes*

Introduction

Although medical works in the Islamic world in the Middle Ages were often written in prose, it is also known that there were works written in verse.¹ The *urjūza* type, which is used in works on several subjects such as the Quran, Arabic grammar, history, maritime, astronomy, and even mathematics, as well as medicine,² involves singing poetry in the *rajaz* meter. This particular form was used especially in didactic works. With this, a summary of information was created, aiming for easy memorisation and benefiting students.³ One notable example of this is *Urjūza fī al-Tibb* by Ibn Sīnā (980-1037), a famous physician and philosopher of the period known as the “Golden Age of Islamic Science and Medicine”.^{2,4} In addition to his work *Urjūza fī al-Tibb*, which is a summary of *al-Qānūn fī al-Tibb*, and was used as a widespread tool in the process of transmitting medical knowledge from teacher to student, initially in the East and later in the Western world with its translations, Ibn Sīnā also wrote the following works in the *urjūza* form; *Urjūza fī Tadbīr al-Ṣīḥha fī Fuṣūl al-Senet al-Arba'a*, *Urjūza fī Vasāya al-Tibbiyye*, *Urjūza fī Mujarrabāt fī al-Tibb*, *Urjūza fī Ma'rīset al-Tanaffus wa al-Nabda*, *Urcūza fī al-Tashrih*.^{2,5} The *urjūza* form paved the way for the emergence of new verse forms, with *mathnawī* being one of them.³

Similarly, translating a medical work into verse to facilitate learning has been one of the practices seen in Turkish medicine throughout history, and *mathnawī* has also been used for this purpose. Ahmādī's *Tarwīh al-Arwāh*,^{1,6,7} as well as Darwīsh Siyāhī's (from La-rende) *Macmū'at al-Tibb* are among the important medical works composed in verse during the Classical Period of Ottoman Medicine.⁸ Furthermore, Muhyī al-dīn Mahī, a student of Sharaf al-dīn Ṣabunjuoghlu, adapted Ḥājī Pasha's work *Tashīl* into verse.^{9,10} It is worth mentioning that Physician Nidā'ī also transformed his work *Manāfi' al-Nās* into verse under the name *Durr-i Manzūm*.^{11,12}

The present study aims to introduce Physician Nidā'ī and his renowned poetic work, *Durr-i Manzūm*, and to present the sections related to urinary system

problems by translating them into English and incorporating them into the academic literature.

Physician Nidā'ī and *Durr-i Manzūm*

Information about Physician Nidā'ī from Ankara, a prominent figure of 16th-century medicine, can be compiled from the insights he provided in his various works. According to Uzluk's article,¹³ Hekim Nidā'ī's father, whose real name is Sha'bān, emigrated from the city of Jerusalem and came to Engürü (Ankara), where he got married and had five children. Considering that he stated that he was 35 years old in 950 H. [1543/1544], during the composition of his work *Asrār-i Ganj-i Ma'nā*, it is inferred that he was born in 915, perhaps in the month of Shaban [November/December 1509]. Uzluk's belief that Nidā'ī was born in the month of Sha'bān may come from Nidā'ī statement within the verse information, where he mentions being given the name Sha'bān. In Diriöz's article¹⁴ about Sha'bān Nidā'ī, this verse text, which Uzluk also benefited from, was translated into prose with greater detail, and similar explanations were made.

Nidā'ī gives some information about his life in the 60th Chapter (last chapter) of *Manāfi' al-Nās*, titled “Sabab-i ta'līf-i kitāb”. In this section, Nidā'ī states that he is from Ankara, the youngest of five siblings, and explains how he was blessed with medicine. During his travels, he developed a close relationship with the Crimean Khan, Sahib Giray Khan, by becoming his teacher, causing jealousy among the Khan's relatives. After the Khan sent him to Sultan Suleiman as an ambassador, they continued to denigrate him, and the Khan believed these accusations. Subsequently, he notes that upon his return, he was thrown into the dungeon by the Khan, enduring seven years of imprisonment. During this time, he faced numerous attempts to end his life in the political arena, and yet in that world of loneliness, he wrote 22 books on the science of Sufism. Later, he reveals that after being saved from this dangerous place with the help of God, a blessed older man from the lineage of the Prophet, who was over a hundred years old, taught him the science of medicine.¹⁵

Following her research, Diriöz¹⁴ makes the following evaluation regarding Nidā'ī's arrival in Crimea and its aftermath:

“.... Considering that he wrote his book *Manāfi' al-Nās* in 1566, we can say that he studied medicine between 1551 and 1566, and after these studies, Nidā'ī introduced himself as a physician.”¹⁴

In *Osmanlı Müellifleri* (Ottoman Authors),¹⁶ one of the few sources that provide information about Nidā'ī, it is documented that he returned from Crimea, and arrived in Konya, where he stayed with the governor, Prince Selim II, and joined the Mavlawi sect. Additionally, the same source mentions that upon Sultan Selim II's ascent to the throne in Istanbul, Nidā'ī also relocated there, where he lived until he eventually passed away.

In her study and works on Nidā'ī, Diriöz¹⁴ stated that Nidā'ī was a master poet who was well-versed in all the subtleties of Dīwān poetry and Islamic Turkish Literature. She notes that he adeptly incorporated Arabic and Persian words and phrases as required by the century he lived in, and that despite using compounds, he displays a firm grasp of the Turkish language. Kurdoğlu¹⁷ describes Nidā'ī as a mystical person, while Diriöz¹⁴ makes a similar evaluation, stating that all of Nidā'ī's works are with the inspiration of God.

Özçelik¹⁸ reports that the number of works associated with Nidā'ī in various sources ranges between seven and nineteen. However, some of these works are merely chapter titles in the author's larger works, and some are mistakenly attributed to him. While Uzluk¹ treats *Tarjama-i Nazm-i Lokmān Ḥakīm* and *Vasiyyat-nāma* as separate works in his review, resulting in a count of seven. In his review, Yılmaz¹⁹ divides the five works he takes as belonging to Nidā'ī into two parts: literary and medical. His literary works are *Ganj-i Asrār-i Ma'nā* and *Tanbīh-nāma*. His medical works are *Rabi' al-Salāma*, *Manāfi' al-Nās*, *Vasiyyat-nāma*, *Tarjama-i Nazm-i Lokmān Ḥakīm* and *al-Durr al-Manzūm fī al-Tibb*.

Physician Nidā'ī concisely wrote *Manāfi' al-Nās* and then compiled *Durr-i Manzūm*. He explains at the beginning of the work that the title, recorded in various library records under the names of *Manzūma fī al-Tibb*, *Manzūma-i Nidā'ī*, *Manzūma-i Tibb*, *Tibb al-Manzūm* and *Risāla-i Hikmat*, is *Durr-i Manzūm* and that it was written in 975/1567. He also states his pen name as Nidāyī in the *Dībāja-i Kitāb* (Prologue of the Book) section.¹¹

Ay,¹¹ who conducted a thesis on the work, asserts that the work was written in *mathnawī* verse form from beginning to end. He states that the work, spanning

721 couplets, incorporates relevant quotations from verses and hadiths related to the subject. According to Ay¹¹ *Durr-i Manzūm* is a popular everyday guide on medicine-related subjects. He argues that it was written in very simple Turkish so that readers could immediately solve the problems they encounter, benefit from it without needing anyone else's help, and read and understand it easily. Therefore, he emphasises that it should not be surprising that the purpose of art is secondary in the work.

Ay's analysis¹¹ has shown that the first three couplets of the work express the existence and unity of Allah; in the subsequent Prayer section, the poet metaphorically likens himself to a diver in search for pearls in the sea of Wisdom, offering praises to the Sultan of that period, Selim II, starting from the 13th couplet. Following this, in the *Dībāca* section consisting of 23 couplets, the poet declares that he will write a beneficial work for people and initiate it with a hadith of Prophet Muhammad.

In the first chapter of the work, which consists of four parts, he reminds us that human beings were created as the noblest of creatures. He discusses *anāṣir-i arba'a* (four elements: fire, air, water, and earth) and *akhlāṭ-i arba'a* (four humours: yellow bile, blood, phlegm, and black bile), and says that if one of the four secretions increases or decreases, the balance is disrupted and disease occurs. On the other hand, when the four of them are in harmony with each other, the body is healthy.¹¹

In the second chapter, the poet and physician Nidā'ī, focusing on diseases, starts by addressing common ailments such as colds, eye diseases, mouth and dental diseases, throat conditions, and chest disorders. Then, he covers general diseases that afflict the body, namely fissures, syphilis, skin diseases, sweating, palpitations, tremors, jaundice, ascites, and fever. The chapter ends by explaining lower back disorders, types of haemorrhoids and their treatment, fungal infections, warts, myofascial pain, and urinary tract diseases.¹¹

In the third chapter of the work, details about fruits and flowers, the preparation of sherbets, the diseases for which they are used, their benefits, etc., are explained. The fourth chapter is devoted to *tiryāq* (thriac, antidote), and its preparation, use, and benefits. The work ends with the *Khātimat al-Kitāb* (Epilogue of the Book) section, where the poet argues that if the treatments are used, they will be successful. After praying to Sultan Selim II, he wishes that those who find a cure from this remember him in their prayers. This study will present examples written in a poetic style related to nephrology.¹¹

Material and Methods

In this study, the focus is on *Durr-i Manzūm*, which has many copies in Turkish and European libraries. The specific copy examined is from the Istanbul Süleymaniye Manuscript Library, Nuruosmaniye Collection, Nr. 3556 as illustrated (Figures 1 and 2).²⁰⁻²² Additionally, a comparison is made with the copies in the library as mentioned above, including the Atif Efendi Collection, Nr. 1971 and Esad Efendi Nr. 2468.

The studied sections were transcribed into the modern Turkish alphabet and then translated into English.

Results

Nidā'ī has poetic compositions for six common nephrological problems: Urinary incontinence, bed-wetting in children, haematuria, urinary retention, urination difficulty, and bladder stones. They are shown in Tables 1 to 6, respectively.



Figure 2. The copy found in Istanbul Süleymaniye Manuscript Library, Nuruosmaniye Collection, Nr. 3556. The last page related to the urinary system.

There are five couplets addressing urinary incontinence (Table 1). The first couplet states how the condition occurs (continuous or drop by drop) and how difficult the situation is. The second couplet poetically emphasises that the paste should be prepared thoroughly. In the third couplet, he discusses the combination of plants to be used (fruit of *Castanea vulgaris*, the buckthorn, *Rhamnus cathartica*, *Cyperus bulbosus*, frankincense, *Lavandula staeas* and Myrrh, the resin of *Commiphora myrrha*). In the fourth couplet, he recommends consuming three dirhams a day by mixing them with sugar, and in the fifth couplet, he suggests, if preferred, combining them with honey and consuming them in the form of a paste, likely to facilitate its use. Additionally, he emphasizes making it a daily habit until recovery.

There are two couplets addressing children bed-wetting (Table 2). In the first couplet, Nidai suggests preparing a mixture by pounding various plants (*Coriandrum sativum*, *Marrubium vulgare*, and *Allium porrum*). In the second couplet, it is recommended to add the mixture to plain oil and to take three dirhams each at bedtime.

For the two couplets discussing haematuria (Table 3), it has been stated that the carrot seed should be pounded properly and consumed for days and that with the permission of God (Allah), the bleeding will improve.

There are three couplets concerning urinary retention (Table 4). Sparrow, falcon droppings, or magpie brain are suggested remedies for sudden urinary retention.

The section addressing difficulty in urination (Table 5) comprises of three couplets. In the first couplet, an expression implies that difficulty urinating makes life difficult (impairs the quality of life). In the second couplet, he recommends cooking radish with milk and drinking it on an empty stomach until the pain subsides. He states that even a grain of musk is good when crushed with water and ingested (the grain here is a unit of weight used in those periods).

There are five couplets on individuals with bladder stones (Table 6). The first couplet states that people who do what has been suggested will be healed. In the second couplet, he describes a mixture of some plants (a piece of the liquorice (*Glycyrrhiza glabra* root), bayberry, pepper, celery (*Apium graveolens* L), and the winter cherry (*Physalis alkekengi* L.). The third couplet introduces pigeon droppings and three parts of filtered honey. In the fourth couplet, he emphasizes that strong individuals should eat two miskals of this mixture, while others should adjust

Table 1. Medication for urinary incontinence.

Devā’-i selesi’l-bevl	Medication for urinary incontinence
Şa'b zahmetdür selesi'l-bevl Tamlı tamlı iner bu aşıl bevl	An ailment troublesome, incontinence of urine Drip by drip, descends hard to endure in
Yiye bir nice gün bu ma'cunu Kâmil eyle bu vezn-ile buni	Savor this paste, for many a day Perfect it thus, with care each way
Şâh bellǖt ve topalaç kündür Ustuḥûdûs ve mürr berâberdür	Chestnut and buckthorn olibanum, the season's prime, Lavender and myrrh, in harmony they chime
Sahk ola bu kadar şeker birle Günde üç dirhemin alubda bile	Filled with sweetness, sugar's gentle power, Three dirhams daily, for health to flower.
Dileseñ bal-ila idüb ma'cün Kurtulunca yi 'âdet it her gün	Should you desire, with honey, a paste to prepare, Partake daily until freedom's air you share

Table 2. The remedy for bedwetting in children.

Devā’-i döṣege işeyene	The remedy for bedwetting in children
Döṣege işer-ise bir oğlan Kişnîc ve kendene'i döge hemân	If a lad wets the bed, take heed, Pound the coriander and horehound each.
Sâde yağa katub üçer dirhem Yatacağ vakı̄da yiye ol dem	Three dirhams into purest butter delight, Ere he rests, bid him take it at night.

Table 3. Bleeding from the urinary tract.

Bevl yolundan kan gelse	Bleeding from the urinary tract
Çan gelürse sıdîk yolından eger Havîcîn tohmañ uñat döğeler	If from the urinary passage blood appears, Pound the seeds of carrots without fears.
Yiye bir nice gün birer mîskâl Emr-i Hakk-ile tâ ola hös-hâl	For many days, savor a miskal right, Until with God's decree, all turns bright.

Table 4. The remedy for urinary retention.

Devā’-i habsi’l-bevl	The remedy for urinary retention
Habs-i bevl olsa nâgehân ädem Serçe boķın ezüb içür her dem	When held by sudden halt of urine's flow, Drink pounded sparrow stool, ease this woe.
Buña şâhîn boķı emdür Ezüb içür şifâ hemîn emdür	For falcon stool, a potent cure, Crushed and consumed, a remedy to bear.
Sakşığan beynisi birer miķdâr Kanğısı bulına devâ it var	The magpie's brain, in measured part, Whichever found, go treat with healing art

Table 5. The remedy for urination difficulty.

Devā’-i 'usri'-bevl	The remedy for urination difficulty
'Usr-ile gelse bevli kişinüñ Lezzetin bulmaya o bir işinüñ	When urine arrives with hardship's strain, No joy in tasks, all efforts in vain.
Turbî süd-ile bişür her dem Yiye ac kârnâna gidince elem	Cook turnip with milk, a healing sight, Eat on empty stomach, till pains alight.
Bir çekirdek misk dağı nâfi'dür Ezüb şu ile içe eyüdür	A grain of musk, a helpful aid, Crushed in water, a choice well-made.

Table 6. The remedy for a person with bladder stone.

Meşānedē ṭaş olana	The remedy for a person with bladder stone
Taş olursa meşānedē cānā Bu yiter itme aña ġayri deva	When stones besiege your bladder, O dear, This remedy alone, no need for further gear.
'Irk-ı sūs defne yemişi fulfül Kerefüs kākunec birer cüz' i ḫıl	Liquorice root, bayberry, and pepper's spice, Celery and winter cherry, each in precise slice.
Hem kebütter necāsetinden al Üç eczaca ḫıl muşaffā bal	From pigeon's stool, the essence to take, Three parts strained honey, a measure to make.
İki miskāl yiye kavī ādem Ğayriya ḥaline görē vir hem	Two miskals for the robust and sound, Tailored for each, in others' specific round.
Eridüb ṭaşı kum idüb gidere Bu devā ile ol murāda ire	Turn stones to sands, let them softly disappear, This remedy shall work, its purpose clear

their intake according to their strength. It is noted that with this medicine, the stones will melt and turn into sand, and the will achieve their wish.

Discussion

Ay,¹¹ who conducted a linguistics thesis on Nidā'ī's *Durr-i Manzūm*, comments that this work was written in plain Turkish to enable the public to easily solve the medical problems they encounter in daily life without needing anyone else's help. In addition to Ay's comment, in her study on the importance of this work in Turkish Medical History, Çankaya,²³ states that Turkish medical terms are preferred, with the occasional inclusion of Arabic and Persian terms. For example, in the relevant section on the treatment of headaches, it is mentioned that the Arabic word "şudā'" is used in the title, while the Turkish equivalent "baş ağrısı" is used in the first line following this.

Indeed, similar examples were encountered in the sections examined. For example, under the title "Bevl yolindan ḫan gelse (if blood comes from the way of urine)", an explanation in the first line reads "ḥan gelürse sidik yolindan (if blood comes from the way of urine)", where the Turkish equivalent of "sidik (urine)" is used here instead of the Arabic "bawl". Additionally, it is observed that the names of the substances used as medicine are presented in Turkish and/or Arabic in the texts.

In her study, Çankaya²³ states that Nidā'ī wanted to demonstrate that medicine is not an incomprehensible and complicated science by recommending concise and straightforward treatment methods for some diseases. This approach rendered his work easily understandable by both the public and physicians and, thus, highly respected. Çankaya's observation is supported by the

fact that this work was copied until the beginning of the nineteenth century and that numerous copies are found in libraries.

In her review, Çankaya²³ notes that Nidā'ī's original medical findings and treatment methods were not found in *Durr-i Manzūm*. Instead, he applied general treatment methods compiled from the works of previous physicians and provided the drug compositions they recommended, occasionally suggesting and applying his own treatment methods. Çankaya²³ comments that he uses expressions such as "mücerrebdir (tested)", "tecrübe kılmışım (I have experienced)", "imtihan ettim (I have tested)" or "tecrübe ettim (I have experienced)" to indicate his methods.

After the general evaluations in the literature regarding Nidai's work as a whole, more specific assessments can be made about the text studied.

In the couplets addressing urinary incontinence, the difficulty of the disease is defined, and suggestions are made regarding its treatment. As observed, one of the mentioned plants in the mixture in the third couplet is frankincense, also known as olibanum, which is an aromatic resin obtained from trees of the genus *Boswellia*. It is used to manage several health problems. Interestingly, in a study published this year, the effectiveness of a frankincense-based herbal product in urinary incontinence was investigated. It has been found that the mean frequency of urinary incontinence and amount of leakage significantly decreased in the frankincense-based herbal product group in the fourth week compared to the placebo, suggesting its potential use as a complementary treatment.²⁴

Enuresis is very common, especially during sleep in children. There are two couplets about bedwetting at night. He suggests preparing a mixture by pound-

ing various plants and describes the doses. However, no current research has been found regarding the effectiveness of these compounds, similar to the other suggested ones for haematuria, urinary retention, and difficulty in urination.

In the second couplet addressing bladder stones, a mixture of some plants has been described, and in the last couplet, he states that the stones will melt and turn into sand. The mentioned plants are rich in flavonoids, which are a large group of plant polyphenols with alleged beneficial effects on several common diseases.²⁵

Celery (*Apium graveolens* L.) was mentioned in the second couplet. It is rich in flavonoids and effective in breaking calcium crystals. In many plants, apigenin is a natural product belonging to the flavone class, the aglycone of several naturally occurring glycosides. In an experimental study, the anti-calculi effect of apigenin was compared with that of celery extract, and it was found that celery extract has a better ability to break down kidney stones than apigenin.²⁶

The litholytic activity of a mixture of some plants, including Kakanj (*Physalis alkekengi* L.) together with Parshioshan (*Adiantum capillus-veneris* L.), Duqu (*Peucedanum grande* C.B. Clarke), and Kharekhasak (*Tribulus terrestris* L.) have been investigated in Sprague Dawley rats. The study results showed that this mixture reduced the number of calcium oxalate crystals in the urine and also reduced and prevented the growth of urinary stones. Moreover, the protective

effect was found to be more than its curative effect.²⁷ However, it is difficult to predict the effectiveness of the mixtures Nidā'ī suggested, which were said to be effective based on the experience of that period on urinary system stones.

Conclusions

Translating medical work into verse to facilitate learning has also been a practice in Turkish medicine throughout history. It is clear that poetic expressions facilitate memorability and remembering. Physician Nidā'ī from Ankara, an important physician of the sixteenth century, composed his work *Manāfi' al-Nās* into verse under the name *Durr-i Manzūm*. His work suggests that he adeptly used poetic recipes.

In this study, his poetic compositions regarding six common nephrological problems - urinary incontinence, bedwetting, hematuria, urinary retention, urination difficulty, and bladder stones - have been examined.

Acknowledgements: The authors would like to express their gratitude to Instructor Osman Aydin (Instructor / Interpreter, Gaziantep University, Turkiye), especially for his great contributions to translating poetic recipes into English in this paper.

Conflict of Interest: The authors make no declarations of potential conflicts of interest.

ΠΕΡΙΛΗΨΗ

Φαρμακευτικές ποιητικές συνταγές από τον Nidā'ī, έναν σημαντικό γιατρό του 16ου αιώνα, στο *Durr-i Manzūm*

Ayşe Balat, Ahmet Acıduman

Η παρούσα μελέτη αποσκοπεί να παρουσιάσει τον Nidā'ī από την Άγκυρα, έναν σημαντικό ιατρό του δεκάτου έκτου αιώνα, και το διάσημο ποιητικό έργο του, το *Durr-i Manzūm*, εστιάζοντας στις ενότητες που αναφέρονται στα προβλήματα του ουροποιητικού συστήματος. Ως υλικό μελετήσαμε το *Durr-i Manzūm*, βάσει του χειρογράφου Nuruosmaniye Collection, Nr. 3556 που βρίσκεται στη Κωνσταντινούπολη στην Βιβλιοθήκη Χειρογράφων του Süleymaniye (Figures 1 and 2).

Ο Nidā'ī χρησιμοποίησε άριστα τις συνταγές σε ποιητική μορφή. Στόχος του ήταν να δείξει ότι η ιατρική δεν είναι μια ακατανόητη και περίπλοκη επιστήμη, συνιστώντας περιεκτικές και σαφείς θεραπείες για ορισμένες ασθένειες. Το γεγονός ότι ανατυπωνόταν ως τις αρχές του δεκάτου ενάτου αιώνα, με πολυάριθμα αντίτυπα διαθέσιμα σε εθνικές και σε διεθνείς βιβλιοθήκες, αποδεικνύει ότι το έργο του είναι εύκολα κατανοητό τόσο από το κοινό όσο και από τους επαγγελματίες ιατρούς, κερδίζοντας έτσι ιδιαίτερα περίοπτη θέση στην ιστορία.

Λέξεις Κλειδιά: Nidā'ī, *Durr-i Manzūm*, ποιητικές φαρμακευτικές συνταγές

REFERENCES

- Acıduman A. Şair ve hekim Ahmedî'nin *Tervîhü'l-Ervâh* adlı manzun eserinde "geriatri" üzerine bir bölüm [A chapter on "geriatrics" in *Tarwih al-Arwah*, the poetical work by poet and physician Ahmadi]. Ankara (TR): Üniversitesi Tıp fakültesi Mecmuası; 2016; 69(2):69-74.
- Abdel-Halim RE. The role of Ibn Sina (Avicenna)'s medical poem in the transmission of medical knowledge to medieval Europe. *Urol Ann.* 2014; 6(1):1–12. Available from: <https://www.ncbi.nlm.nih.gov/> doi: 10.4103/0974-7796.127010.
- Özkılıç İ. İbn Sînâ'nın "el-Urcûze fi'l-Mantık" risalesi (Sunum ve Metin). M.Ü. İlahiyat Fakültesi Dergisi. 2007; 32:127-156.
- Kruger HC. Avicenna's Poem on Medicine. Springfield (IL): Charles C. Thomas; 1963.
- Ağırakça A. History of Islamic Medicine [From the Beginning to the VI/XIII Century]. İstanbul (TR): Akdem Yayıncıları; 2010.
- Şehsuvaroğlu BN. Şair ve Hekim Ahmedî (Hayati ve Eserleri). İstanbul (TR): İsmail Akgün Matbaası; 1954.
- Acıduman A. Şair ve hekim Ahmedî'nin *Tervîhü'l-Ervâh* adlı tıbbî mesnevîsinde çocukların sağlığının korunması üzerine [On the protection of the health of children in medical masnavi, entitled Tarwih al-Arwah (Rest of Souls), by poet and physician Ahmadi]. *Çocuk Sağlığı ve Hastalıkları Dergisi.* 2013; 56(4):218-227.
- Uzluk FN. Bir Türk hekimi ve tıbba dair manzum bir eseri. *Türk Tib Tarihi Arkivi.* 1937; 2:45-52.
- Uzluk FN. Hattat olarak Sabuncuoğlu Şerefeddin. *Dirim.* 1951; 26(9-10):188-195.
- Kaya Gözülü E. Muhyiddin Mehî'nin Müfid (Nazmî't-Teshîl) adlı eserinin Türk dili ve tıp tarihindeki yeri ve önemi [The role and importance of the work called as Müfid (Nazmî't-Teshîl) written by Muhyiddin Mehî in Turkish language and medical history]. *Türkiyat Araştırmaları Dergisi.* 2009; 25:119-136.
- Ay Ü. Nidâ'i Durr-i Manzûm (İnceleme-Karşılaştırmalı Metin). Yüksek Lisans Tezi. Danışman: Yrd. Doç. Dr. Nihat Öztoprak. T.C. Marmara Üniversitesi, Sosyal Bilimler Enstitüsü, Türkîyat Araştırmaları Enstitüsü, Türk Dili ve Edebiyatı Anabilim Dalı, Eski Türk Edebiyatı Bilim Dalı. İstanbul (TR); 2000.
- Ölker P, Direkçi B. Hekim Mehmed Nidâ'i'nin manzum tıp risâlesi Keyf-i Kitâb-ı Nidâî [Mehmed Nidâî's verse medicine treatise, Kayf-i Kitab-ı Nidai]. Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 2009; 22:295-305.
- Uzluk FN. Ankara'lı hekim Nidâî. *Selâmet.* 1962; (3):13.
- Dirioz M. Şaban Nidâî. In: Köker AH (ed). Hekimbaşı Kaysuni-zade Mehmed Efendi (1512-1569), Ankara'lı Şair Hekim Nidai (1502-1570), Türk Hat Sanatı. Kayseri (TR): Erciyes Üniversitesi Matbaası; 1990. p. 41-65.
- Acıduman A. Ankaralı hekim Nidâî' ve ünlü eseri *Menâfi'i'n-Nâs*: XVI. yüzyıldan çocuk hastalıkları ve tıbbî deontolojiye bir bakış [Physician Nidâî from Ankara and his famous work Manafi al-Nas (Benefits of People): a glance at pediatric diseases and medical deontology from the 16th century]. *Çocuk Sağlığı ve Hastalıkları Dergisi,* 2013; 56(3):151-167.
- Bursali Mehmed Tahir. Osmanlı Müellifleri (Hazırlayan: Özen İ). 3. Cilt. İstanbul (TR): Meral Yayınevi; 1975.
- Kurdoğlu VB. Şair Tabibler. İstanbul: İstanbul Fetih Cemiyeti, İstanbul (TR): İstanbul Enstitüsü Neşriyatı; 1967. p. 104-117.
- Özçelik S. Nidâî. In: TDV. İslâm Ansiklopedisi. 33. Cilt. İstanbul (TR): Türkiye Diyanet Vakfı; 2007. p. 77-78.
- Ankaralı Hekim Nidâî. Genc-i Esrâr-ı Ma'nî (İnceleme-Metin) (Hazırlayan: Yılmaz N). Kayseri (TR): Laçın Yayıncıları; 2009.
- Nidâî. Durr-i Manzûm. İstanbul (TR): Süleymaniye Manuscript Library, Nuruosmaniye Collection, Nr. 3556.
- Nidâî. Durr-i Manzûm. İstanbul (TR): Süleymaniye Manuscript Library, Atif Efendi Collection, Nr. 1971.
- Nidâî. Durr-i Manzûm. İstanbul (TR): Süleymaniye Manuscript Library, Esad Efendi Collection, Nr. 2468.
- Çankaya N. Hekim Dervîş Nidâî'nin ed-Dürrü'l-Manzûm adlı eserinin Türk tıp tarihî açısından önemi. In: Sarı N, Bayat AH, Ülman Y, İşmî M (eds). 38. Uluslararası Tıp Tarihi Kongresi Bildiri Kitabı, 1-6 Eylül 2002 [Proceedings of the 38th International Congress on the History of Medicine., 1-6 September 2002]. Ankara (TR): AKDTYK, Türk Tarih Kurumu Yayıncıları; 2005. p. 835-843.
- Karbalaei M, Daneshpajoh A, Khanjani N, Sohbati S, Mehrabani M, Mehrabani M, Mehrabani M. Efficacy of frankincense-based herbal product in urinary incontinence: A randomized, double-blind, placebo- and active-controlled clinical trial. *Phytother Res.* 2023;37(5):1754-1770. doi: 10.1002/ptr.7691.
- Zeng X, Xi Y, Jiang W. Protective roles of flavonoids and flavonoid-rich plant extracts against urolithiasis: A review. *Crit Rev Food Sci Nutr.* 2019;59(13):2125-2135. doi:10.1080/10408398.2018.1439880.
- Stiani SN, Syahidah FM, Fikriani H, Subarnas A, Rusdiana T. Anticalculi Activity of Apigenin and Celery (*Apium graveolens* L.) Extract in Rats Induced by Ethylene Glycol-Ammonium Chloride. *J Pharm Bioallied Sci.* 2019; 11(Suppl 4):S556-S561. doi: 10.4103/jpbs.JPBS_202_19.
- Parveen R, Wadud A, Shamsi S, Parveen S. Antilithiatic activity of a non-pharmacopoeial Unani formulation in chemically induced urolithiasis in rats. *J Complement Integr Med.* 2021;18(4):685-694. doi: 10.1515/jcim-2020-0426.

Corresponding author:

Ayşe Balat, MD

Department of Pediatric Nephrology, School of Medicine, Gaziantep University, Gaziantep, 27310, Turkey
e-mail: abalat@gantep.edu.tr; aysebalat@hotmail.com

The teaching of the Art and Science of Medicine*

Dennis V. Cokkinos¹



Figure 1. Parliament Hall. Dennis Cokkinos at the podium.



Figure 2. The President of the Hellenic Republic Ms Katerina Sakellaropoulou in the centre. To her right Prof. Nektarios Tavernarakis Head of Institute of Technology and Research. To her left Nicholas Markatos former Rector National Technical University of Athens, Prof. Dennis V. Cokkinos. To his left Gerasimos Siasos Rector of National Kapodistrian University of Athens

Abstract

Teaching of medicine hails back to the age of Hippocrates; in the “Oath” he considers his teachers equal to his parents. Teaching, clinical practice and research constitute the three pillars of medicine, and they are interconnected. The methods of teaching medicine are very important. Auditorium lectures are being replaced by teaching in small groups and problem-oriented teaching. Still the enthusiasm of the teacher who can also become a mentor is a critical ingredient. The teacher should not just transmit but also create knowledge. The advent of artificial intelligence provides new auxiliary tools but also poses new challenges. We must not forget that we are shaping the future of tomorrow.

Key Words: *Education, research, clinical practice, mentor, artificial intelligence*

Your Excellency the President of the Hellenic Republic,

I want to thank you for the honour of your presence tonight. I consider this award to be the greatest possible distinction for an academic teacher. The Vasilios Xanthopoulos and Stefanos Pneumatikos Award es-

tablished by the Institute of Technology and Research of the University of Crete attests to the perennial value of teaching in every aspect of intellectual activity.

I accept this award on behalf of all the University Schools of Greece and their dedicated members, present and past. I am deeply touched by the fact that

¹Denis Cokkinos, Professor Emeritus Cardiology University of Athens, University Research Associate, Biomedical Research Foundation Academy of Athens

*Lecture delivered on December 22- 2023 on the occasion of the Excellent University Teaching Award in memory of Vassileios Xanthopoulos and Stefanos Pneumatikos

this award had been previously bestowed to my great teacher Konstantinos Gardikas who ideally embodied this profession exactly 30 years ago (Fig. 3).

As for the role of the teacher, Hippocrates was the first to indelibly stress the legacy of this art, in his “Oath”:

I consider him who taught me this art equal to my own parents.

All the great educational institutions must be rooted in tradition. We can still hear the words of Pythagoras: *One should leave behind him students.*

However, we must realise that tradition itself, without consideration for the future, is a fruitless pastime. According to the great American President Abraham Lincoln, to predict the future we must create it. It would be an inexcusable mistake to believe that our students are merely a population of malleable pupils to conform and obey, rather than our successors who will continue and advance our own work.

Dear Professor Nectarios Tavernarakis, Chairman of the Institute of Technology and Research; Professor Maria Euthymiou President, of the committee of awards of the Vassileios Xanthopoulos and Stefanos Pneumatikos Award; and members of the committee; honourable ministers; Mrs. Psarouda-Benaki, past president of the Hellenic Parliament; honourable secretary-general of the Ministry of Education; honourable Academician; Rector and past Rectors of the University of Athens; Mrs. President of the Association of Professors Emeriti of the University of Athens; Mr. President-elect of the European Association of Professors Emeriti; dear colleagues, university teachers; fellow Physicians; dear students; ladies and gentlemen.

The kind introduction by Professor Panagiotis Macheras, although somewhat of an overstatement



Figure 3. Konstantinos Gardikas 1913-2003.

coming from this source, is a great honour for me.

The term ‘Profession’ includes all manifestations of the transmission of knowledge. In Plato’s ‘Protogoras’, it means stating clearly and succinctly the task performed¹. In Latin literature ‘professio’, according to Scrivonius Largo (1st century AD), signifies a statement of devotion and faith².

I had the fortune of being exposed to various aspects of teaching in my school, Athens College, which I attended as a recipient of a scholarship.

From my 6 years at the University of Athens I retain the best impressions. Public Greek universities provide important services and are ranked highly in all evaluation systems. They form the paragons of Hellenic and international society. At this stage of discussion of founding private non-profit universities, our state should provide them with every support.

I had the privilege of specialising in internal medicine under the great Professor Konstantinos Gardikas. In Houston, Texas, amidst the challenging work against pain and death, I was fortunate to form a close bond with my great teacher and mentor, Robert D. Leachman, whom I met during Ward Rounds and was impressed by his teaching prowess (Fig. 4).

I also experienced the inspiration of following the legendary Denton A. Cooley, the greatest cardiac surgeon of his time performing with dexterity equal to inspiration (Fig. 5).

At the Biomedical Research Foundation of the Academy of Athens, I had the opportunity to delve into the life’s work of academician Gregory D. Skalkeas, a man with limitless vision and unequalled achievement. During this time, I had the privilege to communicate with young researchers and share their dreams and



Figure 4. With Robert D. Leachman (Centre). The author is noted with the white dot (1970)

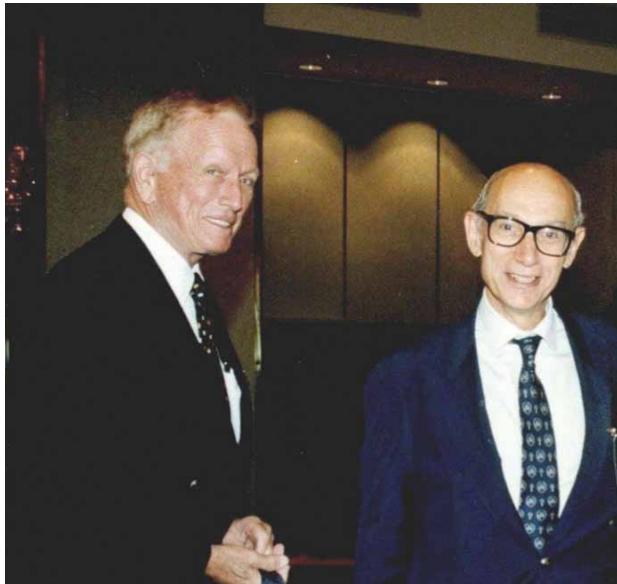


Figure 5. Denton A. Cooley (left) and Dennis Cokkinos.

quests (Fig. 6).

Teaching methods continue to evolve and progress. The laureates of the Xanthopoulos-Pneumatikos Award bear testimony to these efforts. Thus, amphitheatre time is reduced. However, this experience must not be abolished. Opening and closing lectures should introduce and recapitulate each year's efforts. Additionally, invited personalities can serve as inspirational models.

Teaching in small groups, problem-based, and question-based learning have been introduced. Careful planning is of course desirable. However, excessive attention to detail can become pedantic and tiresome. Technique should not kill art or "techne". However, certain elements never change: enthusiasm and vision. Without these ingredients and lacking inspiration while relying on high ideals and intellectual culture, the teacher cannot transmit his art and knowledge. God-inspired poet, Angelos Sikelianos, wrote in his great poem "The Clairvoyant" (Fig. 7): "So that I will

BIOMEDICAL RESEARCH FOUNDATION ACADEMY OF ATHENS



Figure 6. The BRFAA and its founder, Academician Gregory D. Skalkeas.

serve with new wine all the youth around".

All definitions are, by definition, incomplete; therefore, the simpler ones should be preferred. According to Wikipedia:

Art is a diverse range of human activity, and its resulting product, that involves creative or imaginative talent generally expressive of technical proficiency, beauty, emotional power, or conceptual ideas.

A basic prerogative of art is technical dexterity, which empowers natural talent. However, empathy, compassion, and humanitarian spirit characterize the art of the physician^{3,4}. These qualities should be taught not only in the first preclinical years but also at the bedside in later years.

Above all, there is a supreme quality: the stance for life. Once again, Hippocrates stated in his "Oath":

I will maintain my life and my art pure and chaste.

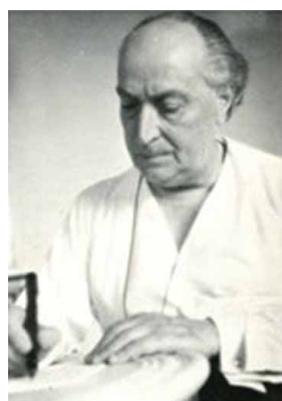
Ethics and deontology are taught early in most medical schools, but they also should be recapitulated at later stages when the physician is exposed to the challenges of clinical practice⁵.

Additionally, moral courage should be taught. Aristotle lists it as the first virtue in "Nicomachean ethics". He aptly states that Socrates believes that courage is a "science" to be taught⁶.

An indispensable companion to the Art of Medicine is Science, which has, in reality, marked the history of humankind. A recent example: without vaccines and antiviral drugs, the coronavirus pandemic could have possibly wiped out humanity.

According to the Oxford Dictionary: *Science is knowledge about the structure and behaviour of the natural and physical world, based on facts that you can prove, for example by experiments.*

As for the emergence of science, already by the 5th Century BC, two giants of the Hellenic spirit marked



**"So that I will serve
with new wine
all the youth around"**

Figure 7. Angelos Sikelianos "The Clairvoyant", 1909. Thymélé, vols. 1-3. [Athens] 1950-55.

a seminal evolution within less than 50 years.

In his great tragedy "Prometheus Bound", Aeschylus (525-455 BC) writes⁷:

I have stopped mortals from gazing at death.

This gift to humankind is ascribed to divine powers.

However, in his book on "Ancient Medicine", Hippocrates (460-377 BC) ascribes this role to humans who take reign of their own fate⁸:

Now this need rendered medicine to be sought and found by humans.

It is acknowledged that scientific knowledge doubles every year, with electronic knowledge expanding even more rapidly. To effectively absorb and utilise these advancements, two key elements are necessary: the elimination of superfluous information and the cultivation of curiosity, encouraging the pursuit of new data and the formulation of questions over rote memorisation of answers. Naturally, a foundational body of knowledge is essential for any scientist, who cannot rely solely on sources such as Google. A teacher's role transcends that of a mere manager; they must generate knowledge to garner respect.

Secondly, the procedure of research must be taught since research opens brave new worlds and is indispensable for progress. According to the National Science Foundation⁹:

Research is planned search or critical investigation aimed at discovery of new knowledge with the hope that such knowledge will be useful in developing a new product or service or a new process or technique or in bringing about a significant improvement to an existing product or process.

It must be understood that research, clinical practice, and education are the three fundamental requirements for the proper practice of Medicine (Fig. 8).

Research itself has three interacting and multidirectional facets: (Fig. 9)

For the correct teaching of clinical research to students and doctors in training, in addition to the University Hospitals, those belonging to the National Health System should be utilised. Our universities must expand their academic role to as many fixtures as possible with a primary role dedicated to State hospitals. The role of doctors serving in these Hospitals must be adequately acknowledged, potentially with the title of clinical professor which is a respected title in the United States. Of course, for basic and translational research, the excellent research institutions in this country must also participate. It is well understood that young trainees who also are trained in research have a much better career, both clinical and academic^{10,11}.

Of course, not only active university personnel

should be involved in the process of teaching and transfer of knowledge, but also emeriti and retired Professors in a recognised capacity. In this stage of their academic life, they are eminently suited to become mentors of the young. In Homer's Odyssey goddess Athena was disguised as Mentor, an old friend of Ulysses, to help his son Telemachus in the quest of his father's fate. Since then, the term "mentor" has been reserved for a mature, experienced, and unselfish preceptor who, out of interest, assists his younger peers.

In the last part of my address, let me briefly refer to the torrential avalanche of Artificial Intelligence, which has pervaded our lives and is essential for all expressions of life and science. As already stated, the explosive increase of knowledge and data renders its exploitation necessary. However, even on the pioneering other side of the Atlantic, it is stressed that artificial intelligence is not yet taught effectively in academic institutions and that it must be included in the curriculum. However, its teaching should be undertaken by experts and, if necessary, in collaboration with institutions dedicated to this purpose¹². At the Biomedical Research Foundation of the Academy of Athens, we have initiated a teaching collaboration with

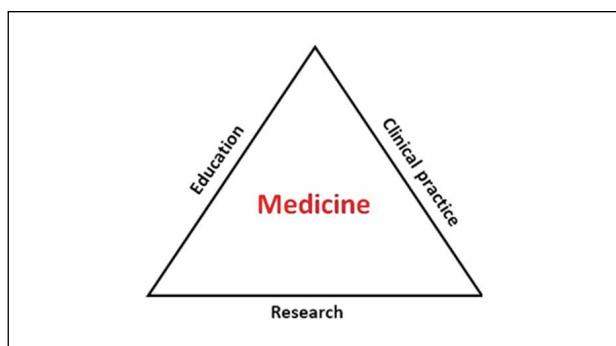


Figure 8. Education, Clinical practice, and Research are the three pillars of Medicine.

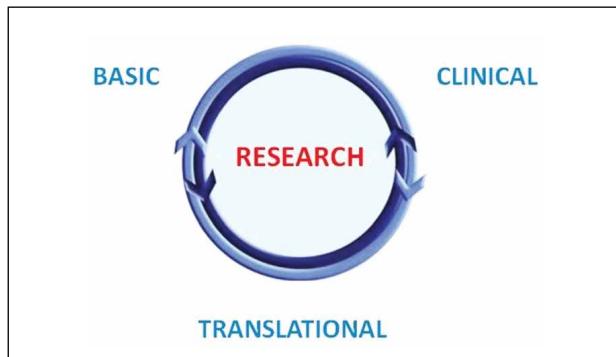


Figure 9. The 3 interesting facets of research.

the Research Centre Archimedes, which was created by the activity “Greece 2021”.

Importantly, as in all other expressions of science, there is a fundamental requisite: This effort should be undertaken seriously, sincerely, and not for financial gain or the ephemeral lights of notoriety.

Let the definition of Aristotle on tragedy guide us¹³.

An important and perfect action which has a large dimension.

Let us not forget that we are preparing the generations to come.

Thank you very much for your attention.

ΠΕΡΙΛΗΨΗ

Η Διδασκαλία της Τέχνης και της Επιστήμης της Ιατρικής

Διονύσης Κόκκινος

Η διδασκαλία της ιατρικής ανάγεται στον Ιπποκράτη, ο οποίος στον Όρκο του θεωρεί τους δασκάλους του ίσους με τους γονείς του. Οι μέθοδοι διδασκαλίας μεταβάλλονται. Η διδασκαλία από αμφιθεάτρου δίδει τη θέση της σε μάθηση σε μικρές ομάδες και βάσει προβλημάτων, αλλά ο ενθουσιασμός είναι το κύριο συστατικό του δασκάλου ο οποίος πρέπει να παράγει γνώση και όχι απλώς να τη μεταδίδει. Ο δάσκαλος συχνά γίνεται και μέντωρ. Η διδασκαλία, η έρευνα και η κλινική πράξη είναι οι τρείς στύλοι της ιατρικής. Η έλευση της τεχνητής νοημοσύνης προσφέρει πολλά βοηθήματα αλλά δημιουργεί πολλές προκλήσεις. Δεν πρέπει να λησμονούμε ότι ετοιμάζουμε τη γενιά του αύριο.

Λέξεις Κλειδιά: Εκπαίδευση, έρευνα, κλινική πράξη, μέντωρ, τεχνητή νοημοσύνη

REFERENCES

1. Arapakis GI. Plato, Protagoras 319 A. Athens: the treasury; 2010. p. 169.
2. Hamilton JS. Scrivonius Lagus on the medical profession. Bull Hist Med. 1986;60:209-16.
3. The art of medicine. Empathy in the age of the electronic medical record. Perspectives 822 [Internet]. 2019 Sept 7; 394 (10201): 822-3. Available from: [https://www.thelancet.com/doi.org/10.1016/S0140-6736\(19\)32036-7](https://www.thelancet.com/doi.org/10.1016/S0140-6736(19)32036-7).
4. Donohue MO. Compassion: the art of medicine. Curr Inv Cln Med Res.[Internet]. 2020 Jan; 1(1):1-3. Available from: <https://www.stephypresspublishers.com/> DOI: 10.53902/cicmr.2020.01.000501
5. Christopoulou-Kokkinou V. Thoughts about ethics and deontology in medicine: archives of Hellenic medicine. [Internet]. 2021; 38(6):727-735. ISSN 11-05-3992. Available from: <https://www.mednet.gr/archives/>
6. Aristotle. Nicomachean Ethics, Book 3, Chapter 8. Aristotle, Nicomachean Ethics H. Rackham, Ed, www.perseus.tufts.edu ed. J. Bywater, Aristotle's Ethica Nicomachea. Oxford, Clarendon Press. 1894. translator H. Rackham).
7. Aeschylus. Prometheus bound, line 247., Aeschylus, with an English translation by Herbert Weir Smyth, Harvard University Press. 1926.
8. Hippocrates. On ancient medicine Part 3. <http://classics.mit.edu/Hippocrates/ancimed.html>, translator, Francis Adams
9. NSF. Definition of research. National Science Foundation [Internet]. 2007. Available from: <http://www.Nsf.gov/statistics/randdef/business.cfm>.
10. Lee GSJ, Chin YH, Jiang AA, et al. Teaching medical research to medical students: a systematic review. Med Sci Educ. [Internet] 2021 Jan 8; 31(2):945-962. Available from: <https://pubmed.ncbi.nlm.nih.gov/> DOI: 10.1007/s40670-020-01183-w. eCollection
11. Partridge M.R. Translating research into practice: how are guidelines implemented? European Respiratory Journal [Internet]. 2003; 21:23s-29s; Available from: <https://ersjournals.com/> DOI: 10.1183/09031936.0.00054503
12. Ramesh AN, Kambhampati C, Monson JRT, Drew PJ. Artificial intelligence in medicine. Ann R Coll Surg Engl [Internet] 2004 Sep; 86:334-338. Available from: <https://pubmed.ncbi.nlm.nih.gov/> DOI: 10.1308/147870804290
13. Aristotle on Poesy (1449b-1450b). [classics.mit.edu](http://classics.mit.edu/Aristotle/poetics/The%20Internet%20Classics%20Archive%20Poetics%20by%20Aristotle.html) › Aristotle › poeticsThe Internet Classics Archive | Poetics by Aristotle, translator S. H. Butcher.

Corresponding author:

Dennis V. Cokkinos
e-mail: dcokkinos@bioacademy.gr

The German-American physician and philologist Achilles Rose (1839-1916), the grand Philhellene

Gregory Tsoucalas¹, Lazaros Vladimiroς²

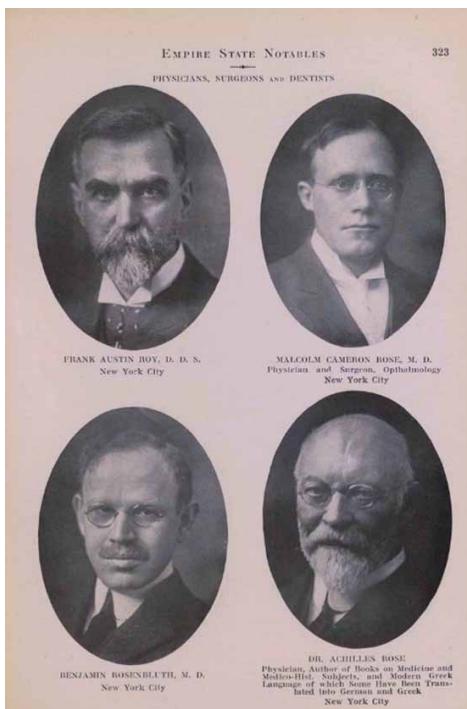


Figure 1. Early 20th-century publication of the State of New York with small biography portraits, including this of Achilles Rose (bottom right side).

Abstract

Achilles Rose, a German-American physician of the late 19th century, became famous for his persistent global struggle to promote the Hellenic language as the official language in medicine and science in general. Having studied in Zurich, Jena, and New York, he became a general practice physician. His most well-known medical treatise was "The Carbonic Acid in Medicine", and he was the author of various works celebrating the Greeks and their vivid language. The Medical Society of Athens elected him as a member of a committee for such a purpose. Although Latin appeared to have won this linguistic battle, Hellenic terms eventually conquered international nomenclature. Greece must not forget this valiant Philhellene.

Key Words: *Hellenic language, carbonic acid, Columbia University.*

¹Assistant Professor of the History of Medicine and Head of the History of Medicine and Medical Deontology Department, School of Medicine, University of Crete, Greece

²MD, PhD., Gynaecologist, Historian of Medicine

Introduction

Physician Achilles Rose was born on February 4th, 1839 in the mountain village Ruchla (ca 450 meters altitude) in the state of Thuringia in central Germany¹⁻². Ruchla was founded in the early era of the Renaissance by miners who appreciated the beautiful mountainous and wooded landscape. Gradually, due to their permanent settlement, they became involved in metallurgy, focusing mainly on the exploitation of iron ores and the production of weapons of the time. The area also gained recognition for breeding finches (*Fringilla coelebs*)³. Records of death certificates demonstrate that his parents, Gustave Rose and Anna Muller Rose of German origin, lived and died in Ruchla, while Achilles at the age of 22 immigrated to the United States of America⁴. Some sources indicate that Achilles was born in Ohrdruf, near Gotha in the forest of Thuringia⁵.

The 19th century, marked by two great revolutions in France and the New World, as well as two industrial revolutions, was a period of rapid technological change and huge shifts in scientific understanding and medical progress. As medical knowledge increased, the prospect of a specialized language of medicine underwent a period of nationalization among the biggest countries in Europe, with varying effects on different national languages and the progressive emergence of new terms. Latin ceased to be the dominant language of global communication among physicians. However, Latin persisted to exist, and a systemic unification of medical

terminology occurred in 1895, with the publication of the *Basiliaca Nomina Anatomica*. This publication included Latin terms alongside their equivalent terms in English. It was the first step towards English domination in medical terminology around the globe⁶. In the newly formed Kingdom of Greece, in the Othonion University of Athens, Ioannis Olympios (1802-1869), professor of Surgery, Pathology, and Ophthalmology published the “Textbook in Surgery” in 1852. It was a translated four-volume epitome of surgery by the German surgeon and ophthalmologist Maximilian Joseph von Chelius (1794-1876) [Figure 2]. With this masterly work, Olympios significantly influenced the Hellenic Medical Nomenclature, as he had introduced, if not invented, new genius terms in surgery, anatomy, and medicine in general⁷⁻⁸. American physician Thomas Lathrop Stedman (1853-1938) was among the pioneers who had proposed Hellenic language. In his 1896 work “Modern Greek Mastery, A Short Road to Ancient Greek”, he suggested that this choice wont wound the pride of any European nation. By proposing the adoption of Greek, a vivid language which had been already accepted by François-Marie Arouet (Voltaire, 1694-1778) and Scottish Professor of Humanity John Stuart Blackie (1809-1895), inaugurated an international debate [Figure 3]⁹.

Despite the global medical society already having chosen Latin and English nomenclature, Achilles Rose, following in the footsteps of Stedman, became the crusader advocating the re-birth of Hellenic-based

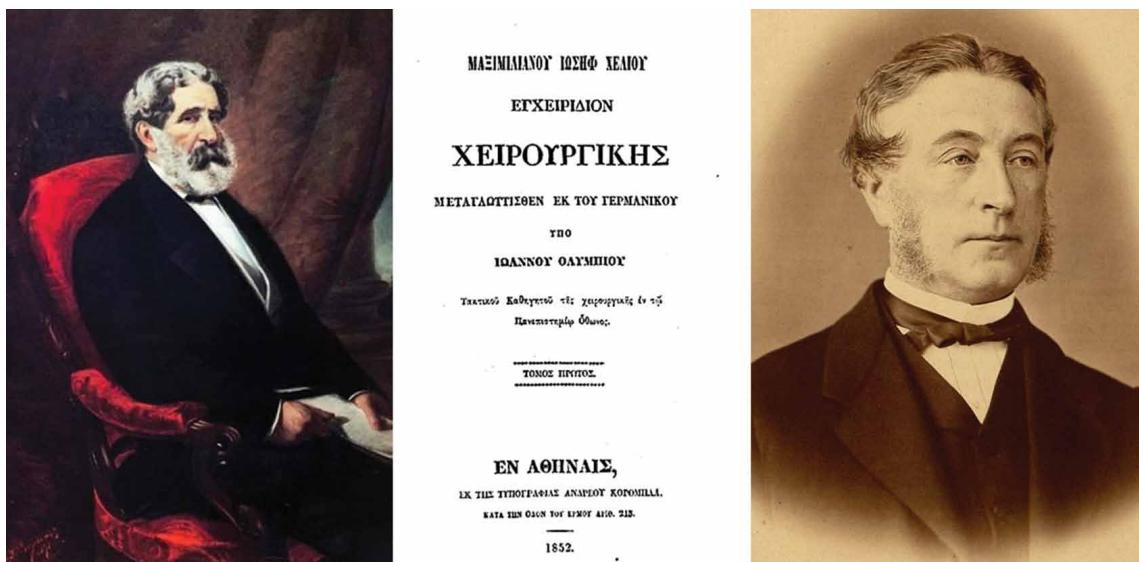


Figure 2. Ioannis Olympios, oil painting portrait, University of Athens (left side). Olympios’ “Textbook in Surgery”, a translated four volume epitome of surgery originally written by the German surgeon and ophthalmologist Maximilian Joseph von Chelius (centre). German surgeon and ophthalmologist Maximilian Joseph von Chelius (right side).

The German-American physician and philologist Achilles Rose (1839-1916), the grand Philhellene

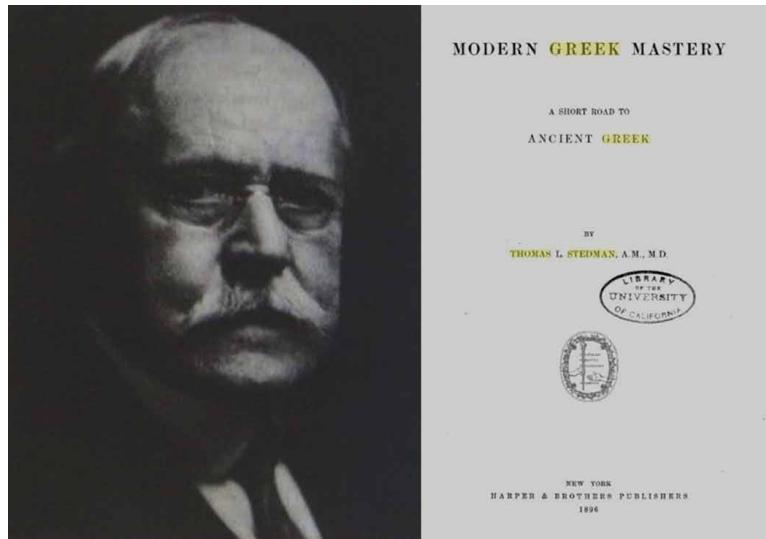


Figure 3. Thomas Lathrop Stedman (left side) and his work "Modern Greek Mastery, A Short Road to Ancient Greek", 1896 (right side).

terminology, stating that the language of the Greeks was the most accurate to describe anything and everything. This historical review aims to re-create the portrait of this intellectual figure in medicine - an esteemed representative of 19th-century Philhellenism, the German-American physician and philologist Achilles Rose [Figure 4].

Life and work

Soon after graduating from the high school of Ruchla, Achilles Rose studied medicine, first at the

University of Zurich and then at the University of Jena, from 1860-1863, where he attended the lectures of the newly appointed German professor of Internal Pathology Carl Jakob Adolf Christian Gerhardt (1833-1902)¹⁰⁻¹⁵. At the age of 22 (years 1863 and 1864 are mentioned in various sources), he immigrated to New York USA, to enter Columbia University (New York College of Physicians and Surgeons), where he became a student in the Faculty of Medicine at the College of Physicians and Surgeons^{1-2,16}. He successfully completed his studies in 1872¹⁴. He then settled in a house on 173 Lexington Avenue¹⁵ and practiced medicine in his private office on 2nd Boulevard of New York n. 8 to 9¹⁶, where he worked for several decades¹⁷. At the beginning of the 20th century in Constantinople (now Istanbul), most probably in 1910, the scientific journal Hippocrates, the first in the Hellenic language in Turkey, celebrated his inauguration issue. Achilles Rose was mentioned among its editors¹⁸. His important work and skills led him to the position of Adjunct Professor of Medicine at New York University¹⁹, becoming an Instructor in Diseases of the Stomach, as evidenced by his signature in various texts and journals of the era²⁰. He eventually became the Editor of a new journal called the International Surgical Record along with E.J. Schreurtz²¹. Throughout his life, Achilles composed a prolific body of scientific work, both in medicine and philology, with an emphasis on Hellenic antiquity and the modern Hellenic state [Table 1] [Figure 5]. He gave a series of speeches and wrote a plethora of works to project the Hellenic language as the official language of medical science globally. He received international recognition for his works,

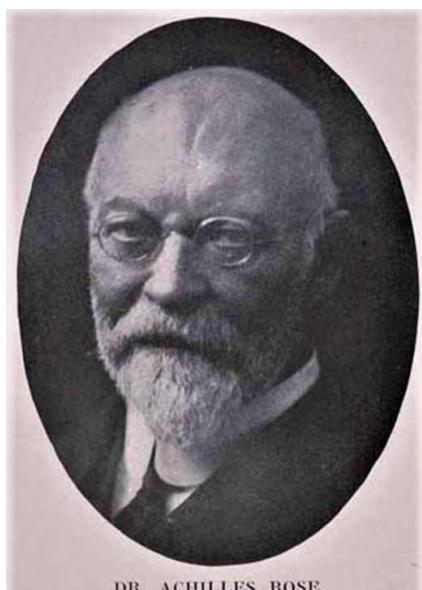


Figure 4. Achilles Rose, portrait, early 20th century publication of Empire States Notables, New York.

Table 1. Achilles Rose's work.

N/A	Work title, Publisher, City, Year	Type of work	Language
1	Carbonic Acid Gas as a Local Application to Chronically Inflamed Mucous Surfaces, Annals of Anatomy and Surgery, 1883	Book	English
2	Greichisch als allgemeine Sprache der Aerzte und Gelerhten überhaupt. Za Rudolph Virchow's Rectorastrede: Lernen und Forschen. Gustav Stechert, New York & Leipzig & London & Paris 1893.	Book	German
3	Greek as the International language of physicians and scholars in general (March 15th, 1894). The New York Medical Academy 1894;(11):189-227.	Speech-Lecture printed	English
4	Living Greek, the Language of Physicians and Scholars. International Record of Medicine and General Practice Clinics 1894;(62):9-11.	Paper	English
5	The question of an international language. Medical Record 1895;(48):287.	Paper	English
6	What is the significance of the splashing sound of the stomach? New York Medical Journal 1895;1:5.	Paper	English
7	Hot Water and Ulcer of the Stomach. The Omaha Clinic 1895;8:265.	Paper	English
8	The Proper Pronunciation of Greek, Lecture, Academy of Medicine, Hosack Hall, New York, March 1894, June 5. Education 1896.	Speech-Lecture printed	English
9	Concerning the most civilized races. The Post Graduate 1896;(11):6:461	Letter to the Editor	English
10	The Oedema of the Larynx. The Post Graduate 1896;(11):6:221	Speech printed Lecture	English
11	Some new methods of diagnosis and treatment of diseases of the stomach demonstrated in a case of Achylia Gastrica. The Post Graduate 1896;(11):4:144-150.	Paper	English
12	Greek Anthropology, D. Appleton, 1897, New York	Book	English
13	Christian Greece and Living Greek, Peri Hellados Publications, New York, 1898	Book	English
14	Η χριστιανική Ελλάς και η ζώσα ελληνική γλώσσα (Μετάφραση στην Ελληνική υπό Μιχαήλ Κωνσταντίνου Πρώτης Καθηγητού των ελληνικών γραμμάτων εν Λονδίνω), Τυπογραφείο Νεολόγου, Κωνσταντινούπολη, 1898	Book	Hellenic
15	Die Griechen und ihre Sprache: seit der Zeit Konstantins des Grossen, Wilhelm Friedrich, Berlin, 1899	Book	German
16	The progress of women in modern Greece. The American Journal of Nursing 1900;(1)11:779-785 J.	Paper	English
17	Gastropostosis in Dominion Medical Monthly. The Canada Lancet and Practitioner 1900;1:161	Speech printed Lecture	English
18	Dilatation of the Esophagus without Anatomical stricture, XIIIe Congrès International de Médecine, Masson et cie, Paris, 1900-1901	Conference paper	English
19	Methylene bleu and methyl bleu, Post Graduate 1901;16(8):831-834	Paper	English
20	Methylene blue in malarial disease and the substitution of methyl bleu for methylene blue. New York Medical Journal 1901;74(9):902-903	Paper	English
21	Atonia Gastrica und eine neue Methode der Behandlung derselben. Deutsche Prax Munchen 1901;8:15.	Paper	German
22	Floating kidney idoltry; A polemic. Medical Standard Chicago 1902;12:8.	Paper	English
23	Methylene blue and quinine in the treatment of malarial fever. New York Medical News 1903;82(1):39-40	Paper	English
24	Physician vs Bacteriologist, Professor O. Rosenbach. Translated by Achilles Rose The Post Graduate 1904;19:1294.	Paper	English
25	Quinine and methylene blue in malarial infection. Therapy Gazette of Detroit 1904;28(3):216	Paper	English
26	Prehistoric Trephining. American Medicine 1904;2nd January, volume 81	Paper	English
27	Atonia Gastrica, Funk & Wagnalls, New York, 1905	Book	English
28	Onomatologia gastrologica, Saint Louis Medical Review, 1905	Paper	English

The German-American physician and philologist Achilles Rose (1839-1916), the grand Philhellene

Table 1. Achilles Rose's work (continued).

N/A	Work title, Publisher, City, Year	Type of work	Language
29	Onomatologia gastrological. Transactions American Gastro-Enterology Association 1905;12:14.	Paper	English
30	Is nervous dyspepsia a disease sui generis? New York Medical Journal 1906;12:3.	Paper	English
31	International tasks of the University. Medical Reviews of New York 1906;12:12.	Paper	English
32	Modern methods in the medical treatment of gastric disease. New York Medical Journal 1907;8:8.	Paper	English
33	Denkschrift überarztliche Kunstsprache, den in Marburg am 30. Juli 1907 zusammenkommenden Rectores magnifici aller deutschen Universitäten zur Beratung vorgelegt. German Academy of New York 1907.	Speech-Lecture printed	German
34	Memorandum of medical language, presented to the Rectorius magnificis of all German universities, meeting in Marburg on July 30, 1907, for consideration. Medical Briefs of Saint Louis, 1907.	Speech-Lecture printed	English
35	Barbarism in medical language, A.R. Elliott, New York Medical Journal 1907;8:7.	Paper	English
36	Aetiology, pathology and therapy of medical slang. American Medical Compend 1907	Paper	English
37	Malaria in Greece. New York Medical Journal 1908;87(15):680-682	Paper	English
38	Medical Greek; Collection of Papers on Medical Onomatology and a Grammatical Guide to Learn Modern Greek. Peri Hellados Publication Office, Athens, 1908	Book	Hellenic
39	The Nomenclature of the American Dermatological Association. The Journal of Cutaneous Diseases Including Syphilis 1908;(26):175.	Paper	English
40	Ancient Greek Medicine. New York Medical Journal 1908;8:4.	Paper	English
41	Μακαρονική Γλώσσα και Υποκριτία εν τη Ιατρική, New York, 1900-1909 (Royal College of Surgeons of England ?)	Paper	Hellenic
42	Napoleon's Campaign in Russia, Anno 1812; The author, New York, 1913	Book	English

including "Carbonic Acid", a treatise on medicine, and "Napoleon's Campaign in Russia", a historical-medical study of the campaign¹⁻².

Achilles became a distinguished member of various societies, including the New York Academy of Medicine, the American Academy of Medicine, and

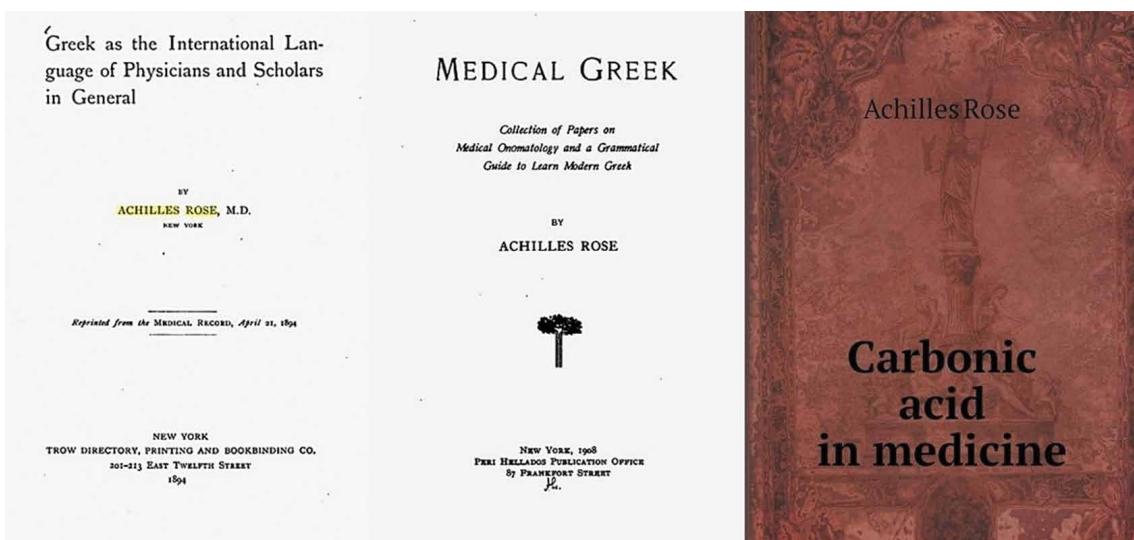


Figure 5. Achilles Rose's treatises, Greek as the international Language of Physicians and Scholars in general (left side), Medical Greek (centre) and Carbonic acid in medicine (right side).

the German Medical Academy of New York². In Greece on April 14, 1907, during the works of the Medical Society of Athens under the presidency of Professor Spyridon Magginas (1839-1920) [Figure 6A], a committee was formed with the initial order to promote the application of the classical Hellenic language in the nomenclature of science, especially in medicine. To honour Achilles Rose for his work regarding his international proposal for the adoption of the Hellenic language as the global language of science, the committee had proposed that Achilles become a member, during a solemn session under its newly elected president, Professor Marinos Geroulanos (1867-1960) [Figure 6B]²²⁻²³. Meanwhile, Achilles joined the Medical Society of Athens as an honorary member²². In 1899, as a grand Philhellene, Achilles was honoured by His Majesty the King of the Hellenes, George I, with the Silver Cross of the Greek Order of the Savior (The Order of the Redeemer, Greek: Τάγμα του Σωτήρος), the oldest and highest decoration to be awarded to civilians by the modern Greek state²³⁻²⁴.

Achilles died of pneumonia on January 10th, 1916, in a private hospital in the Borough of Manhattan, New York²⁵. His daughter, Maria Rose, was closely associated with the Orthodox Christian faith and is mentioned within the autobiography of Meletios Golden (1868 - 1934) [Figure 6C], the founder of the Greek-American-Christian Association²⁶. The use of liquefied carbonic acid as a local anaesthetic, as suggested by Rose, was implemented in modern Hellenic medicine at the beginning of the 20th century by professor of the University of Athens obstetrician-gynaecologist Konstantinos Louros (1863-1957) [Figure 7A]. Louros,

who was then an adjunct professor (Greek: υφηγητής) of Obstetrics and Gynaecology, announced in 1903, during a medical conference, the satisfactory results he had encountered after the use of carbonic acid in a series of gynaecological cases as well as in ten difficult birth deliveries. In his announcement, Louros mentioned that he had personally met Professor Rose in 1900 in Athens when the American Philhellene had visited Greece to admire some places with antiquities and to enroll his daughter in the Arsakeion Lyceum, for her to properly learn the Greek language. Louros had asked Rose to send him from the States a sufficient quantity of liquefied carbonic acid, along with the apparatus for its administration. He used the apparatus for a period of two years, 1901-1903, demonstrating promising results. In the conference proceedings, Louros presented a schematic depiction of Rose's device [Figure 7B]²⁷.

The Global Hellenic Language-Rose's legacy

Among the great men who introduce a global idea and persist in bringing it to our attention, is this physician, Achilles Rose, a native of the German Empire, a visitor and student among the Hellenes, and finally a resident and scholar of New York City²⁸. In 1893, Achilles gave his first public speech on the use of the Hellenic language to the German-speaking Americans of the German Medical Academy of New York, speaking about a language with the longest history among all, a language that wasn't recognized as an official language like Spanish, Portuguese, and French by the USA. This fact was recorded among German-Americans²⁹. A year later he delivered the



Figure 6. Portraits of Spyridon Magginas (left side), Marinos Geroulanos (centre) and Meletios Golden (right side)

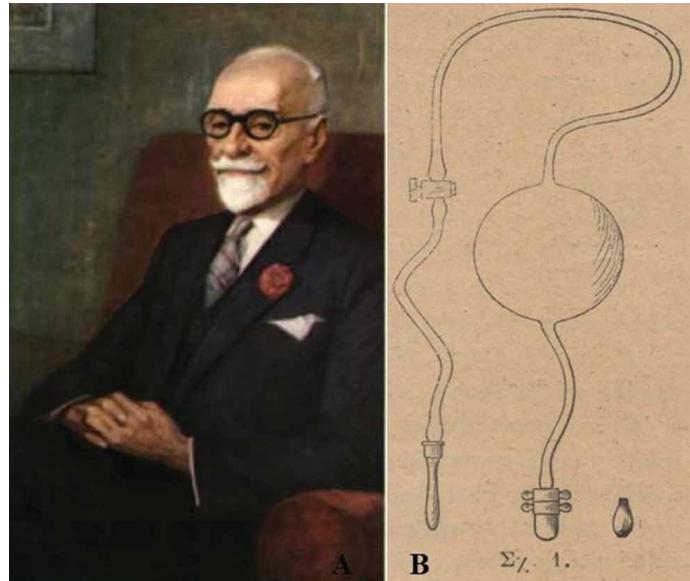


Figure 7. Portrait of Konstantinos Louros, University of Athens (left side) and Achilles Rose's apparatus for Carbonic acid as presented by Louros in 1903 (right side).

regal speech “The Proper Pronunciation of Greek” to the members of the New York Academy of Medicine in Hosack Hall, with the presence of N. Botassi, Consul General of Greece³⁰. In the same year, he held a lecture, later published under the title “Living Greek, the Language of Physicians and Scholars”³¹. In 1908 he published his work “Medical Greek, Collection of Papers on Medical Onomatology and a Grammatical Guide to Learn Modern Greek”, another imposing treatise to heighten the Hellenic language³².

In 1906, in the Panathinaia Journal (Greek: Παναθήναια) his words were noted: “as the first who introduced the truism of Hellenic language, I had published in German Journals a study on scientific nomenclature. It was ten years ago, when I indicated the false practice and the foolishness of many men, to create scientific terms even though they do not comprehend the Hellenic language” (Greek: ὅστις πρῶτος ἐνησχολήθη εἰς τὸ ζήτημα τοῦτο. Πρὸ ὀλίγου ἐδημοσίευσα ἐν τῷ Γερμανικῷ Ιατρικῷ Τύπῳ μελέτην περὶ ἐπιστημονικῆς ιατρικῆς ὄνοματολογίας ... Πρὸ δέκα ἔτῶν ἥδη κατέδειξα τὸ ἐσφαλμένον καὶ ἐνίοτε γελοῖον πολλῶν λέξεων τῆς ιατρικῆς ὄνοματολογίας ἐσχηματισμένων ὑπὸ ἀνδρῶν ἀγνοούντων τὴν Ἑλληνικήν)³³. In another speech in New York, noted as “The Barbarism in Medical Language”, he stated “that starting from the era of Émile Maximilien Paul Littré (1801-1881) [Figure 8A], medical language since its first composition is almost entirely Greek and has not ceased to fall back on this source when the inevitable necessity presents itself of coining new terms”³⁴. The

opponents challenged Hellenic language, supporting the idea of a new international language or persisted in the languages of the “big powerful” countries of the era. Achilles had borrowed the words of Antoine-Laurent de Lavoisier (1743-1794) [Figure 8B], “the onomatology furnishes the real instruments for the operation of the mind; these instruments must be of the best kind and it is indeed working in the interest of science, for the progress of science, when we exert ourselves to improve our onomatology”, and what better means of exertion if not the Hellenic language³⁵. Achilles was the leading figure, a passionate advocate for Hellenic onomatology. Dr Achilles Rose’s proposal of elevating the Hellenic language into the official language of medical nomenclature and terminology dominated world press and scientific debates. Initially, negative opinions emerged, noting that English speakers might struggle to learn additional terms. However, those negative perspectives only scratched the surface of the proposed issue, as an urgent need for more terms arose in the scientific field of medicine. Numerous literature and language experts, both in medical and non-medical papers and journals, supported the Hellenic language, stating that it is a rich, vivid, theatrical, accurate, and to-the-point mother language capable of authoritatively describing all of medicine’s requirements. Among Achilles Rose’s supporters, was the man who started all, Thomas Lathrop Stedman, who in his 1909 “Practical Medical Dictionary” once more noted that scientific language was based mainly in Greek and



Figure 8. Portrait of Émile Littré by lithographer Jean-Baptiste Adolphe Lafosse (1810-1879), Musée des Beaux-arts du Canada, printed by Imprimerie Lemercier ca 1865 (left side) and Portrait of Antoine-Laurent de Lavoisier, lithographie, Museo Nazionale della Scienza e della Tecnologia Leonardo Da Vinci, Milan (right side).

in lesser extent into Latin, considering other additions as barbaric by borrowing Roses' words from his 1907 paper "Barbarism in medical language"³⁶. Rose's pen, the instrument of an enthusiastic physician-philologist to promote the Hellenic language as universal in the field of medicine, made him a martyr to his cause³⁷. "Death of a Noted Philologist" was mentioned as the title in his obituary, not emphasising his medical authority, but instead his contribution in supporting Hellenic medical nomenclature³⁸.

Epilogue

Those of us who possess literary fastidiousness and who take pleasure in reflecting on the arduous hours spent mastering the rudiments of the Greek and Latin languages in the field of medicine, cannot help but

sympathise with the unyielding clash of Rose, standing alone against all odds. In light of the widespread abandonment of Latin in Europe's universities, the prospect of adopting Hellenic as the universal language of physicians initially appeared improbable. Yet, over time, Hellenic terms have gradually come to predominate in international medical terminology, vindicating Achilles's proposal decades after his death. Achilles Rose somehow neglected pure medical science to enoble a daring idea and for that, he was honoured by the Greeks. Regrettably, his name and contributions were overlooked as time passed in the tumultuous modern era of Greece. The history of medicine and Greece ought to recognise his enduring contribution to medical nomenclature and forever honour this valiant Philhellene.

ΠΕΡΙΛΗΨΗ

Ο Αμερικανο-Γερμανός ιατρός και φιλόλογος Achilles Rose (1839-1916), ο μέγας φιλέλληνας

Γρηγόριος Τσουκαλάς

Ο Αχιλλέας Ρόουζ (Achilles Rose), ένας Γερμανοαμερικανός ιατρός στα τέλη του 19ου αιώνα, έγινε διάσημος για τον επίμονο αγώνα του, σε παγκόσμιο επίπεδο, να προωθήσει την Ελληνική γλώσσα ως επίσημη στην ιατρική και την επιστήμη γενικότερα. Με σπουδές στη Ζυρίχη, την Ιένα και τη Νέα Υόρκη, απέκτησε την ειδικότητα του γενικού ιατρού. Η πιο γνωστή ιατρική του πραγματεία ήταν «Το Καρβολικό Οξύ στην Ιατρική», ενώ υπήρξε συγγραφέας διαφόρων έργων στα οποία προήγαγε τους Έλληνες και τη ζωντανή τους γλώσσα. Η Ιατρική Εταιρεία

Αθηνών τον εξέλεξε ως μέλος της Επιτροπής που είχε ακριβώς αυτόν το σκοπό. Αν και τα Λατινικά φαινόταν ότι κέρδισαν αυτή τη γλωσσική διαμάχη, οι Ελληνικοί όροι κατέκτησαν τελικά τη διεθνή ονοματολογία. Η Ελλάδα δεν θα πρέπει να λησμονήσει τον Ρόουζ για αυτό που υπήρξε, ένας σπουδαίος φιλέλληνας.

Λέξεις Κλειδιά: Ελληνική γλώσσα, καρβολικό οξύ, Πανεπιστήμιο Κολούμπια.

REFERENCES

1. Obituary, Achilles Rose. BMJ 1916;(1):306.
2. Obituary, Dr Achilles Rose Dead, Philologist and Author a victim of pneumonia in his 76 year. Time of New York 1916 10 January:13.
3. Ruchla. Encyclopedia Britannica, Chisholm, Hugh, ed, 11th edition. 1911;(23):822.
4. Achilles Rose, 1916. New York, New York City Municipal Deaths, 1795-1949, database, FamilySearch (<https://www.familysearch.org/ark:/61903/1:1:2WH5-RXH:3> June 2020), accessed 21-12-2022.
5. Obituaries 1915-1916. Buffalo Medical Journal 1916;71:432.
6. Honč P, Přívratská J, Hellerová K. Essential Medical Terminology. Karolinum Press, Prague, 2023.
7. Olympios I. Textbook in Surgery, vols 1-4. Andreas Komilas, Athens, 1853.
8. Kouzis A. Centenary 1837-1937, National and Kapodistrian University of Athens. Pyrsos, Athens, 1937.
9. Lathrop Stedman T. Modern Greek Mastery, A Short Road to Ancient Greek. Harper and Brothers, New York, 1896.
10. Curtis T. The London Encyclopaedia, Universal dictionary of science, art, literature, and practical mechanics, vols 30. Encyclopaedia Metropolitana, London, 1817-1845:93, volume 1.
11. Douglas OB. Oedema of the Larynx. The Post-graduate 1896;(11):248-252.
12. Das Deutsche Element Der Stadt New York. German-Americans 1913:219.
13. Empire State Notables. Stafford H, New York 1914:323.
14. Catalogue of the Alumni 1807-1891. College of Physicians and Surgeons in the City of New York, Medical Department of Columbia College. Beadstreet, New York, 1891:103.
15. One Thousand American Men of Mark Today. American Men of Mark, Chicago, 1916:219.
16. The Medical Register of New York, New Jersey, and Connecticut. Under the Supervision of the New York Medico-historical Society. New York, 1883:IXX.
17. Medical directory of the City of New York. Medical Society of the County of New York, New York, 1886:58.
18. Literary Notes. British Medical Journal 1910; (1-2)-Feb 26:518.
19. Degener H. Who is Who in Germany [Wer ist's?], vol 7. Verlag, New York 1914:1403.
20. Rose A. Dominion Medical Monthly. The Canada Lancet and Practitioner 1900;14-15:162.
21. Memoranda. The Detroit Lancet 1881;4:171.
22. Editorial. BMJ 1910;1:1553.
23. Editorial. New England Journal of Education 1909;70:695.
24. Editorial. The Month. The Post Graduate 1901;16:620.
25. Rose A. Year Book of the Medical Association of the Greater City of New York. Medical Association of the Greater City of New York, New York, 1916:25.
26. Golden M. Conversion of a High Priest Into a Christian Worker. Trow Press, New York, 1912:40.
27. Louros K. Local analgesia in Obstetrics and Gynecology. Proceedings of the 2nd Panhellenic Medical Congress in Athens during 4-8 May 1903, pages 708-716. K Papagianis, Athens, 1903.
28. Hughes CH. Achilles Rose. Alienist and Neurologist: A Quarterly Journal of Scientific, Clinical and Forensic Psychiatry and Neurology 1915;36:84.
29. Griechisch als allgemeine Sprache der Aerzte und der Gelehrten überhaupt. New Yorker Medizinische Monatsschrift 1893;5:344-347.
30. Editorial. The Month. The Post Graduate 1896;11:476-480.
31. Rose A. Living Greek, the Language of Physicians and Scholars. International Record of Medicine and General Practice Clinics 1894;(62):9-11.
32. Rose A. Medical Greek; Collection of Papers on Medical Onomatology and a Grammatical Guide to Learn Modern Greek. Peri Hellados Publication Office, Athens, 1908.
33. Rose A. Panathēnaia [Παναθήναια]. Dekapenthēmeron eikonographēmenon periodikon, Hestia, Athens 1906;13-14.
34. Rose A. Barbarism in medical language, A.R. Elliott eds. New York Medical Journal 1907;8:7.
35. Rose A. Aetiology, pathology and therapy of medical slang. American Medical Compend 1907.
36. Lathrop Stedman T. A Practical Medical Dictionary. William Wood and Company, New York, 1911.
37. Editorial. Medical Greek, Book Review. The Medical Times 1908;36:311.
38. Obituary. Achilles Rose, Death of a Noted Philologist. Pacific Medical Journal 1916;59:134.

Corresponding author:

Gregory Tsoukalas

Department, School of Medicine, University of Crete, Greece
Voutes, 71003 PC, Heraklion Greece
e-mail: gregorytsoukalas@uoc.gr

Life expectancy from Prehistoric times to the 21st Century

John Yfantopoulos¹

Abstract

The purpose of this article is to investigate the factors contributing to significant improvements in longevity from the pre-historic times to the 21st century. Examining historical data, we witness an improvement in life expectancy from 20 years in prehistoric times to around 85 years in 2023. Several socio-economic and medical factors have contributed to this improvement, including living conditions, sanitation, housing, nutrition, education, disease prevention, medical advancements, environment, and economic growth. Analysing historical trends we can distinguish seven periods. In prehistoric times, primitive sanitary and living conditions, limited access to basic resources, high rates of accidents and infectious diseases resulted in short human longevity, ranging between 20 to 30 years. During ancient times, several historical sources from Egypt, Greece and Rome estimate life expectancy also at 20 to 35 years. Warfare, infectious diseases, malnutrition, and high rates of infant mortality are recorded as the main factors for this short life span. In the Middle Ages (500–1500 AD), the great killers like the Plagues (Black Death) had a significant impact on the reduction of population. Life expectancy fluctuated around 30 to 40 years. The Early Modern Period (1500–1800 AD) is marked by the advent of the agricultural revolution, enhancements in diet, and better sanitary conditions. Despite these advancements, life expectancy remained relatively unchanged, hovering between 30 and 40 years. With the Industrial Revolution (18th–19th centuries), life expectancy increased to 40–50 years. Advancements in the Twentieth Century, including medical care, sanitation, living conditions, nutrition, reforms in health systems for improved access to health services, and technological innovations, significantly increased life expectancy. These developments, predominantly in developed regions, led to life expectancy surpassing 70 years. The 21st Century is characterised by ongoing improvements in life expectancy, which has reached 85 years. However, significant health disparities persist between nations, regions, and socioeconomic groups. In 2022, the disparity in life expectancy among nations was as large as 33.5 years, with figures ranging from 52.5 years in Chad, Nigeria, and Central African Republic to 86 years in Monaco, Hong Kong, and Japan.

Key Words: *Life expectancy, health inequalities, living conditions, medical history*

1. Life expectancy from Prehistoric times to the 21st Century

Introduction

One of the extraordinary achievements of humankind is the remarkable increase in life expectancy and well-being. Life expectancy is an important indicator because it provides valuable information to understand human behaviour, cultural aspects, living conditions and governmental policies towards survival and quality of life at different times and across nations and socioeconomic groups.^{1,2} Life expectancy³ has been used widely over the years as the best metric for assessing the health status of a population or socioeconomic

group. It is a more comprehensive and representative measure than infant, child, and overall mortality rates. It provides a succinct overview of the overall probability of death within a population, offering a clearer summary than mortality rates alone. Life expectancy⁴ indicators are derived from life tables that record survival and mortality rates within a hypothetical cohort. Life expectancy offers a comparative measure of the average age at death within a population. Various scholars estimate that during ancient times, life expectancy was approximately 30 years across all regions of the pre-modern world. For an extended period, there were only modest increases. The most significant surge

¹D.Phil., Academic Co-Ordinator MBA National & Kapodistrian University of Athens in Health Management
ORCID /0000-0003-0424-6887

occurred during the Age of Enlightenment and the early 19th century.

In 10,000 BCE, during the first agricultural revolution, the world population was around 4 million. Life expectancy at that time was 25 years. During the Roman Empire, there was very little, if any progress. In the 17th century, according to some estimates by Wrigley and Schofield,⁵ life expectancy in some selected European countries like England and the Netherlands reached 37 years. In England, by 1820 and during the industrialisation period, life expectancy fluctuated around 41 years, and in the first decade of the twentieth century climbed to 50 years.⁵ In 1960, this figure was 71 and in 2022 after 62 years, a health gain of 10 years was recorded, reaching 81 years. Similar demographic trends in longevity have been recorded in France and other western European countries. Exploring World Bank data sources,⁶ we found that the health gain in African countries during the period 1960-2022 was almost double, i.e. 18.4 years, in comparison to the health gain in the European Union, i.e. 11.4 years.

The purpose of this paper is to examine the historical evolution of life expectancy from ancient times to the 21st century, highlighting the trends and the unbridged health inequalities in life expectancy among nations.

2.0. Life expectancy throughout the centuries

2.1 Prehistoric Longevity

Very little is known about life expectancy in prehistoric times. In the Palaeolithic and Neolithic eras, life expectancy at birth fluctuated from 22 to 33 years. In 2006, a group of scientists from Central Michigan University⁷ the Brown University⁸ and the University of California analysed fossilised skeletons from archaeological excavations in Africa and Europe using carbon-dating techniques. They concluded that longevity about 30,000 years ago was around 30 years. Diamandopoulos et al⁹ extensively reviewed medical and archaeological literature pertaining to Down syndrome. Their research focused on a Greek Neolithic clay figurine, presumed to be 7,000 years old. They concluded that Down syndrome is an ancient genetic disorder with characteristics similar to its current manifestation in the Western world.

2.2 Ancient Greek and Roman times

2.2.1 Ancient Greece

Some authors argue that life expectancy in Ancient Greek and Roman times was around 20 to 35 years.¹⁰

However, this estimate has faced criticism for being based on data from graveyards and epitaphs of archons, which are considered “notoriously unrepresentative”. Critics also point out that these estimates fail to account for the lifespan of slaves and individuals from lower social classes.

In 2008, Endocrinology professor Menelaos Batrinos¹¹ published a historical note entitled: “The length of life and eugenia in classical Greece”. He argued that in the 5th and 4th century, there was a wide life expectancy variation in Greece, ranging from 45 years to more than 100 and a median estimated life expectancy of around 35 years. He opposed the arguments discussed in several classical sources like the Oxford Classical Dictionary,¹² the Papyrus-Larousse Encyclopaedia,¹³ the Great Lexicon of the Greek Language by Liddell and Scott¹⁴ and the thesaurus of mythical and historical names,¹⁵ presenting estimates of life expectancy in Classical Greece of around 25 to 28 years. This estimate is also supported by Morris.¹⁶ Several research articles published in the *Journal of the Royal Society of Medicine* highlighted that, on the basis of several records from Athens Agora and Corinth, distinguished philosophers and politicians lived on average 56.2 years with a standard deviation of plus or minus 15.5 years. Prof Batrinos' estimates were based on a cohort of 83 “eminent men of classical Greece” for whom detailed knowledge of the time of birth and death are precisely known. In his analysis, he presents a scatter diagram portraying the age distribution of his sample of 83 men. He distinguishes between two groups of people, presented by black and white dots. Black dots refer to the longevity estimates of ‘eminent ancient Greek’. White dots represent a selection of men whose life ended prematurely due to execution, murder, poisoning, disease or suicide and would probably live longer. The cluster of white dots indicates life expectancy of non-eminent Greeks lower than the sample average and the median. Estimated median values were 70 years and the average life expectancy for men was 71.3, with a large standard deviation of 13.4 years. That implies a range in life expectancy from 57.9 to 84.7 years and a health gap of 26.8 years. Batrinos acknowledges the limitation of his study and the unrepresentativeness of his sample. He asserts that the longevity of ancient Greeks is attributed to cultural, environmental, economic and social factors. As we will discuss later, similar views were shared by many historical epidemiologists and Greek Professors of Medicine. The current epidemiological and socio-economic literature on health determinants support this hypothesis, attributing longevity to diet, physical activity, environmental, economic and educational factors. Batrinos emphasises that: “*good living condi-*

tions and a mild climate at the time of intellectual and artistic excellence, the use of slaves for hard work, an animated social life in which the aged actively participated and, not least of all, the respect that aged people were accorded by the younger, all favoured a longer length of life and eugenia (happy aging) or eulongetivity in classical Greece".

This hypothesis is also supported by Hippocrates,¹⁷ who emphasised the importance of lifestyle, physical activity and the economic dimensions of health financing, as discussed in current health economics literature. He favoured the accurate observations of his patients by examining health in relation to patients' living conditions (air, water and places).

2.2.2 Roman Times

Demographic data from Roman times is limited. Several authors^{18,19} have utilised computer models to assess survival rates in the Roman Empire, arriving at estimates similar to those for classical Greek times. These models suggest that, if a Roman survived early threats such as infections or battle wounds and reached the age of 20 or 25, they could expect to live an additional 30 years. It is also believed that women likely had a higher life expectancy than men.^{20,21}

2.3 Early Middle Ages Europe

(5th to 10th century)

Statistics are also scarce. Although average life expectancy was approximately 35 years, individuals who survived the great plagues, accidents, or chronic diseases and reached the age of 40 could expect to live

an additional 15 to 20 years, potentially reaching 60 years of age.²²

2.4 Late Middle Ages

Numerous sources indicate high infant mortality rates during medieval times.⁷ Approximately 30 percent of infants died within their first year. Those who survived past their tenth year could expect to live an additional 32 years. Furthermore, individuals who reached the age of 25 had a life expectancy of an additional 23 years. Interestingly, aristocrats who surpassed the age of 25 could anticipate a significantly greater survival advantage, with an additional 43 years, bringing their total expected lifespan to around 67 years.²³

2.5 From 15th to 18th century

Throughout the 15th to 18th century, infant mortality remained high across Europe. As much as 25% of infants died within their first year of life. Average life expectancy fluctuated between 30 to 40 years. Gradual improvements in sanitation, nutrition and access to clean water and more hygienic environments contributed to substantial increases in life expectancy. Figure 1 presents the estimates of the Scottish researcher T.H. Hollingworth on life expectancy for women at age 15 from Pre-Industrial Times to 1989.

3. Industrial Revolution

The Industrial Revolution spurred economic growth but also led to significant health issues. This period marked a substantial shift from an agricultural

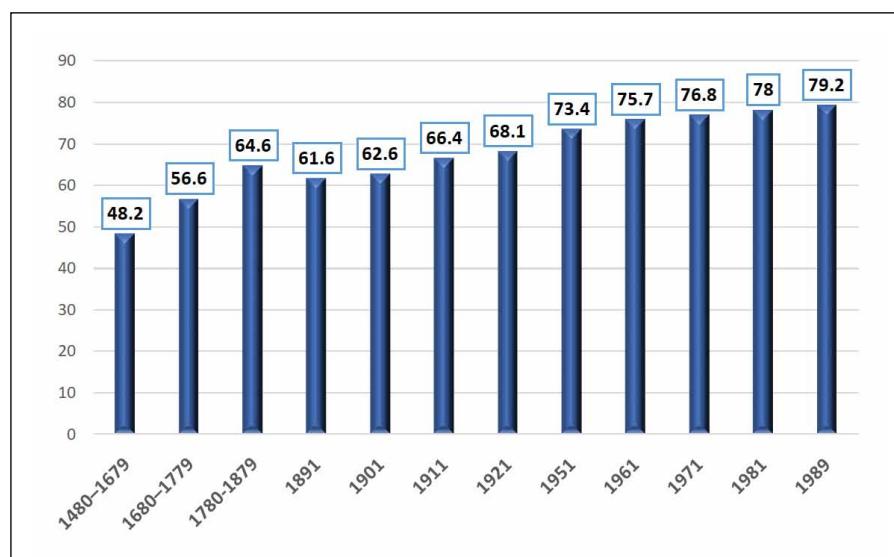


Figure 1. Life expectancy of women at age 15 from 1480 to 1989.

to an industrial economy, necessitating the participation of vast numbers of workers in the production process. Working conditions were often unhealthy, contributing to the spread of infectious and chronic diseases, and a general decline in health. Factors such as illiteracy, poor health, unemployment, and limited access to healthcare and other public services exacerbated social inequalities, affecting life expectancy, employment, and mortality rates. Social studies from the 19th and 20th centuries have documented these inequalities, highlighting their impact not only on individuals but also on society as a whole. A critical area of inquiry is the effect of social and economic transformations during the Industrial Revolution on life expectancy.

Researchers from diverse disciplines, including philosophy, political science, economics, and sociology, have attempted to answer this question. Initially relying on simple empirical observations, they advanced to collecting long-term data series to test various demographic and historical hypotheses. They conducted population-based studies and designed questionnaires aimed at “representative” samples from various regions and socioeconomic classes. They used sampling methods and selected data that reflected different socioeconomic strata among individuals, families, and neighbourhoods. They presented their results in tables and charts and performed statistical analysis to interpret social phenomena and formulate proposals for future social planning and social policy practice.

3.1 First Survey attempts

The first social surveys were more descriptive and less analytical in nature. Furthermore, the statistical documentation and recording of social phenomena was limited. The study entitled “The Working Class of the London Poor”, by H. Mayhew,²⁴ presented in 1861, provided important information about the impact of problematic living conditions, unemployment and social deprivation on health of the working class in London. In his monumental thesis, Henry Mayhew (1812-87) argued: ‘I shall consider the whole of the metropolitan poor under three separate phases, according as they will work, they can’t work, and they won’t work.’ Thus, the book proceeds from interviews with working-class professionals (dockers, factory workers) to street performers and river scavengers (‘mudlarks’) and finally to interviews with beggars, prostitutes, and pickpockets.

During the period 1877-1879, a significant study titled “The European Workers” by F. le Play was published, noted for its comparative approach.²⁵ Pioneers such as Charles Booth and Seebohm Rowntree were

among the foremost to examine the impact of socio-economic conditions on life expectancy.

3.2 Charles Booth²⁶

In 17 volumes of the monumental work “The Life and Work of the Londoners”, Charles Booth (1840-1916) describes the impact of impoverished living conditions, deprivation and under-employment on the health of Londoners in greater London during the period 1892-1897. Booth argued that “the object of my inquiry is to confine myself to the description of things as they are”. Booth’s study was a milestone in the field of European demographic research. As he argued in his 1902 publication, his main contribution was to describe a wide range of unhealthy and social conditions which were reported by people living in the margins of poverty. Beyond the strict methodology and detailed presentation of the social and economic situation of Londoners, he captured the social needs of his time and enabled the British Government to enact a series of laws for a fairer social and economic policy.

3.3 Seebohm Rowntree²⁷

Rowntree’s research, conducted with a meticulously designed statistical approach and robust sampling methodology, was one of the most thoroughly documented of its time. Using a specially designed questionnaire, he carried out face-to-face interviews to comprehensively capture the adverse living conditions of numerous households across various neighbourhoods in York, Northern England. His findings were published in 1901 under the title “Poverty: A Study of Town Life”, which had a profound impact on both British and European societies. It graphically documented the vast and varied issues related to housing, health, nutrition, education, and employment, while notably highlighting the “provocative inequalities” among different occupational and socioeconomic classes. In the introduction to his book, Rowntree articulated the overarching goal of his research.

“My object in undertaking the investigation detailed in this volume was, if possible, to throw some light upon the conditions which govern the life of the wage earning classes in provincial towns, and especially upon the problems of poverty” (page v).²⁷

In his impressive 437-page multidisciplinary analysis, he describes the social and economic conditions of wage earners, the living standards, the methodology in measuring “primary” and “secondary” poverty and the relationship of poverty with health standards. Using death rates to measure physical wellbeing across

socioeconomic classes, he asserts that “the mortality amongst the very poor is more than twice as high as amongst the best paid sections of the working classes” (page 205).²⁷ He further presents estimates of death rates per annum per 1,000 population: 27.78 for the poorest, 20.71 for the middle classes, 13.49 for the highest classes and 18.5 on average for the whole York area (page 205).²⁷ He argues that “In considering these figures, it must be remembered that a high death rate implies a low standard of general health and much sickness and suffering which is not registered”.

Rowntree's thesis has been one of the most important and pioneering contributions to the multidimensional investigation of health problems in relation to poverty, destitution, housing, working conditions and overall living standards.

3.4 Other Surveys

Similar surveys were later conducted in Germany, France and other Northern and Central European countries, recording and analysing the social, educational and health needs of the population. The church, local government and the state took some sporadic measures to deal with the recorded health problems. They introduced legislation and public health measures to defend the rights to healthy working environments, education and health. Finally, these rights were incorporated into legislative acts. Gradually, social rights were transformed into special laws for the reform of the health system and education and the redistribution of income and opportunities.

4. Longevity in the 20th Century

During the 20th century, several historical studies, using long-time series, indicate the important contribution of health to economic growth. Fogel (1994)²⁸ argued that as much as 50% of economic growth gains in the U.K. over the period 1780 to 1980 can be attributed to improvements in health and nutrition. Other researchers, following a similar methodology by collecting data from various industrialised nations over a period of at least one century, concluded that health improvements contributed to economic growth by 30% to 40%. Empirical evidence reveals that economic progress largely contributes to life expectancy improvements. Thomas McKeown (1976)²⁹ argued that mortality declines during the 19th and 20th centuries could be attributed to the improvements in nutrition and living standards and much less to medical advancements. Thus, there is a twofold interaction between economic growth and health.

Professor Nikolaos Louros³⁰ had been actively

interested in longevity and, in 1971, had already authored a book on Longevity, “Macrozoia” in Greek,³⁰ (Figure 2) based on Christoph Wilhelm Hufeland's (1762 -1836) work “Makrobiotik oder Die Kunst das menschliche Leben zu verlängern, Stuttgart: A.F. Macklot, 1826”. Hufeland proposed, and Louros seemed to agree, that the main factor contributing to longevity is psychological and spiritual development. Utilising this, individuals can enhance their *anima vitae*. A commentary on this book was published by the Vice President of the Louros Foundation, Prof. Athanasios Diamandopoulos.³¹

4.1 Preston's curve^{32,33}

Samuel H. Preston further explored the relationship between life expectancy and economic development in his seminal 1975 article titled “The Changing Relation between Mortality and Level of Economic Development”. He investigated the link between life expectancy and real per capita income, utilising statistical data from the 1900s, 1930s, and 1960s. His findings revealed that individuals in wealthier countries tend to have longer life expectancies compared to those in poorer nations (Figure 3). His analysis of health gains in terms of life expectancy demonstrated that increases in income were associated with larger gains in the poorer countries. However, in wealthier countries, further income



Figure 2. Prof. Nikolaos Louros' book on Macrozoia.

Source: Louros N.K. (1971) *Macrozoia, pioneering attempts*, Athens, 1971, Rhodi Brothers publ. (in Greek)

increases had no significant impact on life expectancy, illustrating the diminishing returns of income on life expectancy. This relationship is depicted through a concave curve known as the “Preston curve” (Figure 3).

We use more updated data to confirm the concavity (diminishing returns to scale) of Preston Curves. Figure 4 portrays the relationship between life expectancy and Gross Domestic Product (GDP) per capita for the mid 2010s. Our sample includes 185 countries across the globe with various levels of socioeconomic development. Preston’s hypothesis is also supported by the findings of our study (Figures 4 and 5).

We further investigated the Preston curve using OECD data for the year 2022. Life expectancy varied in 2022 from 73.2 years in Russia to 84.4 in Japan (Health Gap of 11.2 years). Figure 5 portrays a second order relationship between Life Expectancy and Personal Income per Capita. Two countries are outliers from the general trend. Russia in the left-hand side of figure 5, with the lowest per capita income of 19,546 USD and a life expectancy of 73.2 years, and USA in the right-hand side of figure 5, with the highest income of 51,147 USD, which does not guarantee a high life expectancy i.e. 78.9 years. Life expectancy in the USA is much lower than the OECD and EU-27 averages. Hence economic growth does not necessarily guarantee longevity. Analysing the scatter diagram of figure

5, we distinguish three sets of countries: The first set covers countries with a disposable income of less than 28,000 USD, where economic growth has an important impact on longevity. The second group includes all high-income developed countries, with an income from 28,000 to 45,000 USD, where the Preston curve becomes flat. These countries have reached a high level of economic prosperity with well-developed health care systems and high living conditions. Economic growth has a limited impact on longevity. Finally, the third group includes the USA, where high income levels do not guarantee high life expectancy (Figure 5).

In an attempt to further investigate the Preston Curve hypothesis, the following double logarithmic econometric model is specified:

$$\text{Log (Life Expectancy)} = a + b \text{ Log (National Disposable Income)} + u$$

where:

a, is constant.

b presents income elasticity and indicates the impact of a proportional change of income on life expectancy.

u = the usual stochastic term.

Table 1 presents the results of the above model, utilising data from a comprehensive group of 190 countries. This dataset encompasses high, middle, and less developed countries worldwide, sourced from the World Bank for the year 2022.

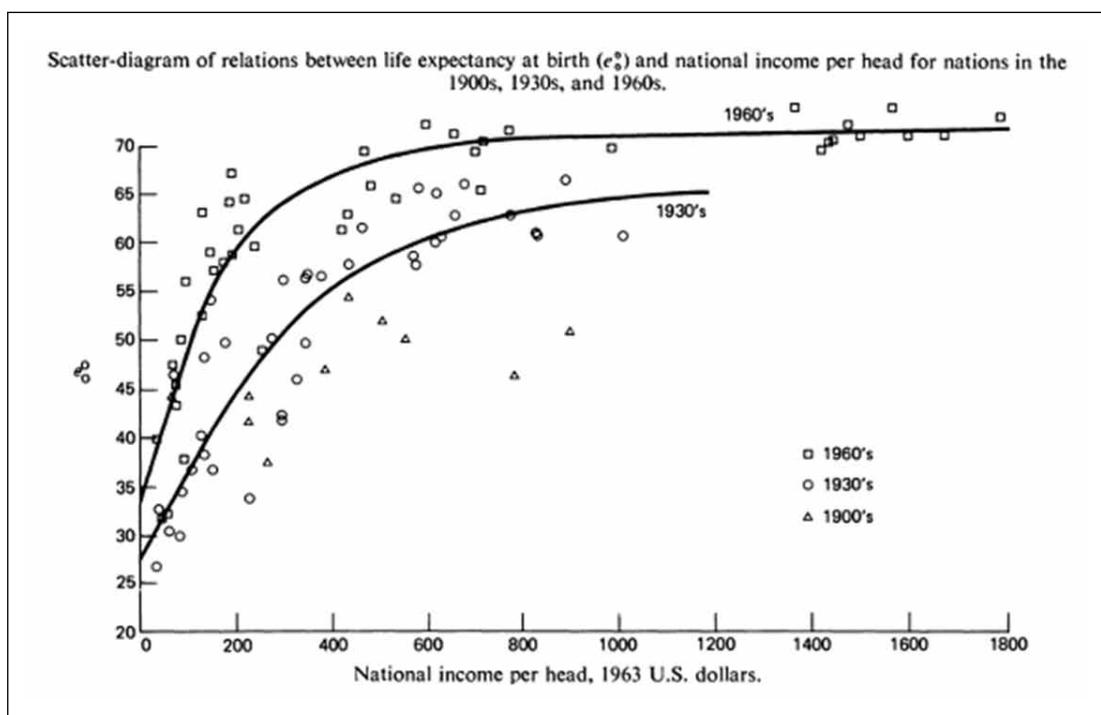


Figure 3. Preston Curve for 1990s 1930s and 1960s.

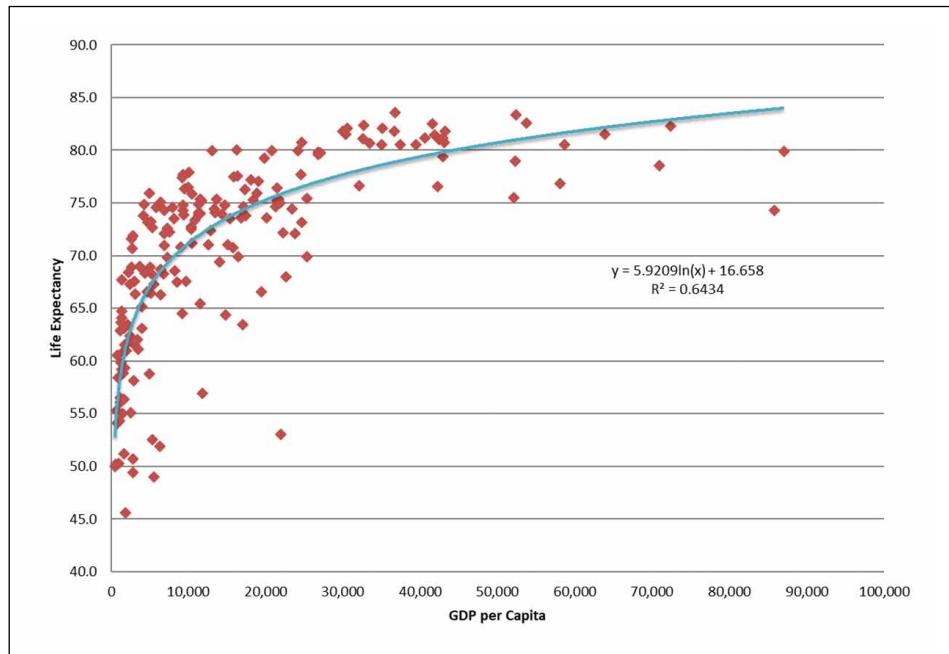


Figure 4. Relation between life expectancy and GDP per capita in 185 countries in the mid-2010s.

The value of the coefficient of determination R^2 shows that the specified model can explain around 70% of the evolution of life expectancy in OECD countries. The estimated parameters a and b are statistically

significant at a high statistical level ($p < 0.000$). The results indicate that a 10 percent increase in National Disposable Income would improve life expectancy by 0.08 percent. It should be noted that this estimate

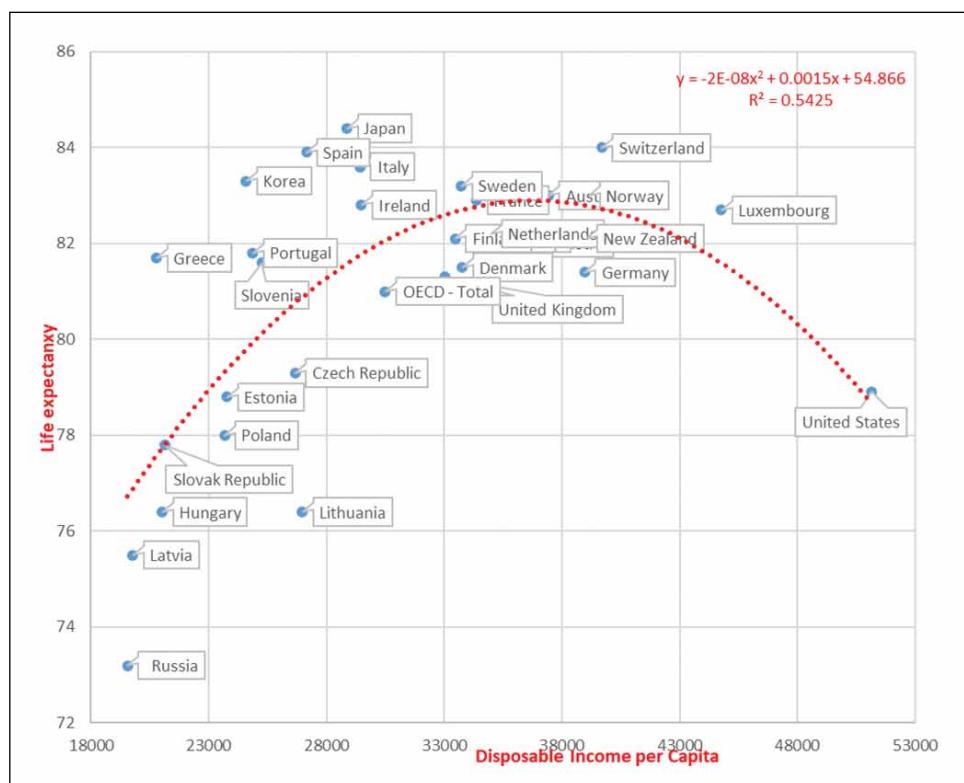


Figure 5. The Preston Curve in 2022.

Table 1. Regression Results for the impact of national disposable income on longevity in 190 Countries.

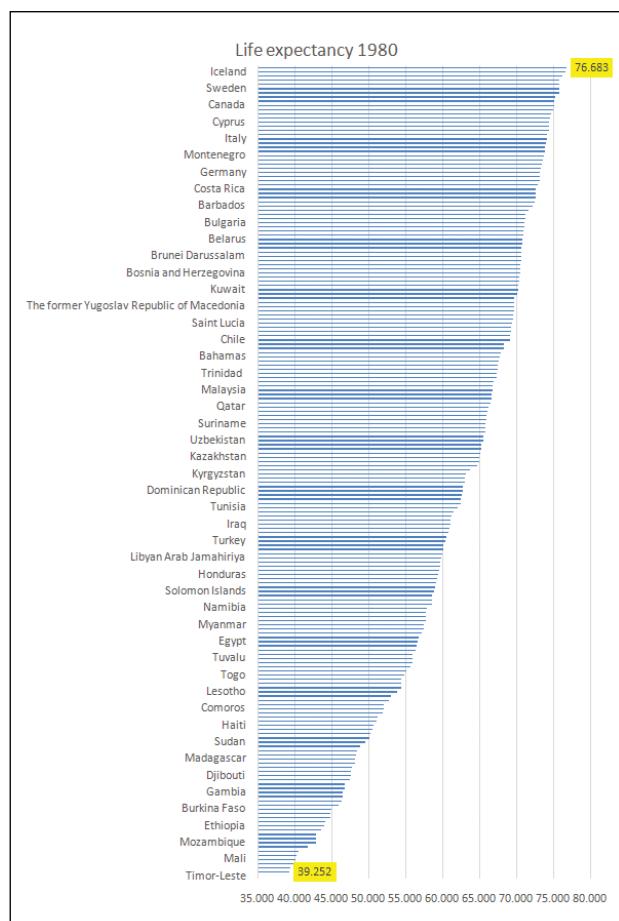
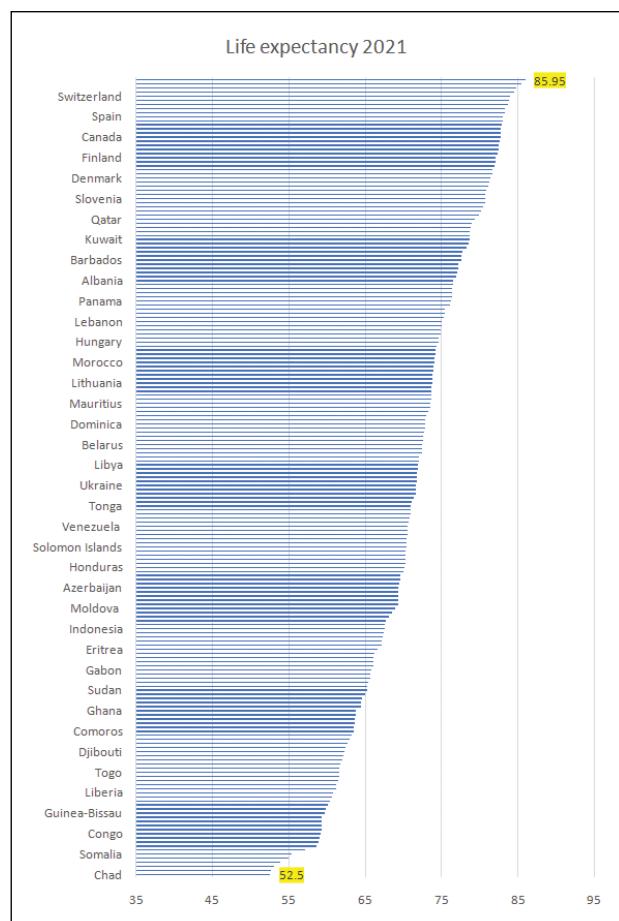
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	3.525	0.036	98.41	0.000
Log of Nat. Dis. Income	0.079	0.004	20.680	0.000
R-squared	0.695		Adjusted R-squared	0.693

refers to the overall sample of 190 countries. In less developed countries, income elasticity would assume higher values, indicating a greater impact of economy on longevity.

4.2 Life expectancy Inequalities in the 1900s to the 2020s

Since 1900, the global average life expectancy has more than doubled, reaching approximately 70 years. However, despite this significant increase, vast inequalities persist among nations. In 1980, life expectancy varied greatly across the globe, from a high of 76.68

years in Iceland to a low of 39.25 years in Timor, representing a health gap of 37.43 years (Figure 6). By 2021, the life expectancy in the wealthiest countries had increased further, with Switzerland at 85.5 years. Conversely, the lowest life expectancies were recorded in Chad at 52.5 years and in Central African countries at 54 years. Although the health gap had narrowed slightly, significant disparities persisted, with a gap of 32 years still evident (Figure 7). Further investigations into health inequalities have also examined quality of life,³⁴⁻³⁵ revealing substantial disparities in health among nations and socioeconomic groups, similar to those observed in life expectancy.³⁶

**Figure 6.** Life expectancy in 1980.**Figure 7.** Life expectancy in 2021.

4.3 Gender and Interregional Inequalities in Life expectancy 2021

Figure 8 highlights gender differences in life expectancy across the European Regions based on Eurostat data for 2021. The highest life expectancy for women was recorded in 6 regions of Spain: Comunidad de Madrid (88.2 years), Comunidad Foral de Navarra (87.6 years), Castilla y León (87.5 years), Cantabria (87.1 years), Galicia and País Vasco (both 87.0 years). In France the regions of Rhône-Alpes and in Italy the Provincia Autonoma di Trento, both reported 86.7 years.

The highest life expectancy at birth for men was recorded in Finland (Aland region 82.8 years) followed by two Spanish regions: Comunidad de Madrid (82.2 years) and Comunidad Foral de Navarra (81.9) and two Swedish regions, Stockholm (82.1 years) and Småland med öarna (81.9 years). Despite the public health aspirations of the European Commission to bridge regional disparities in health status across the EU-27, Member States' regional health inequalities remain unbridged (Figure 8).

5. UN Projections

The United Nations publication on the "World Population prospects 2022" presents the current UN global population estimates, as well as the population trends from 1950 to 2022 covering 235 countries across the globe.³⁷⁻³⁸ The latest population estimates are based on 1690 national censuses and 2,700 nationally representative sample surveys. Analysing these data sources, the UN estimated that the global popula-

tion reached 8 billion on 15 November 2022. Recent projections indicate that the population is expected to grow to 8.5 billion by 2030, 9.7 billion by 2050, and 10.4 billion by 2100. Population growth may be attributed to declining trends in mortality, improvements in sanitation, housing and living conditions as well as economic and social growth. All these factors have contributed to a substantial increase in global life expectancy, from 64.2 years in 1990 to 72.8 years in 2022. The COVID-19 pandemic had an important impact on life expectancy, reducing it to 71.0 years in 2021. Despite this reduction, further gains in longevity are expected for the next decades, reaching 77.1 years in 2050. Despite this increase, there are noticeable differences in life expectancy among countries, with a lag of 7.4 years in the least developed countries behind the global average.

6. Conclusions

An analysis of global average life expectancy estimates over the last 30 years indicates two crucial facts: 1) a noticeable increase in longevity and 2) substantial inequalities among countries and regions. In 1990, global life expectancy was 64.2 years and in 2019 it reached 72.6 years, marking a health gain of 8.4 years. According to United Nations population forecasts, global life expectancy is projected to reach 77.1 years by 2050, representing a health gain of 4.5 years from 2019 to 2050.

Despite global improvements in longevity, health inequalities among the richer and the poorer countries persist. Life expectancy in the least developed countries

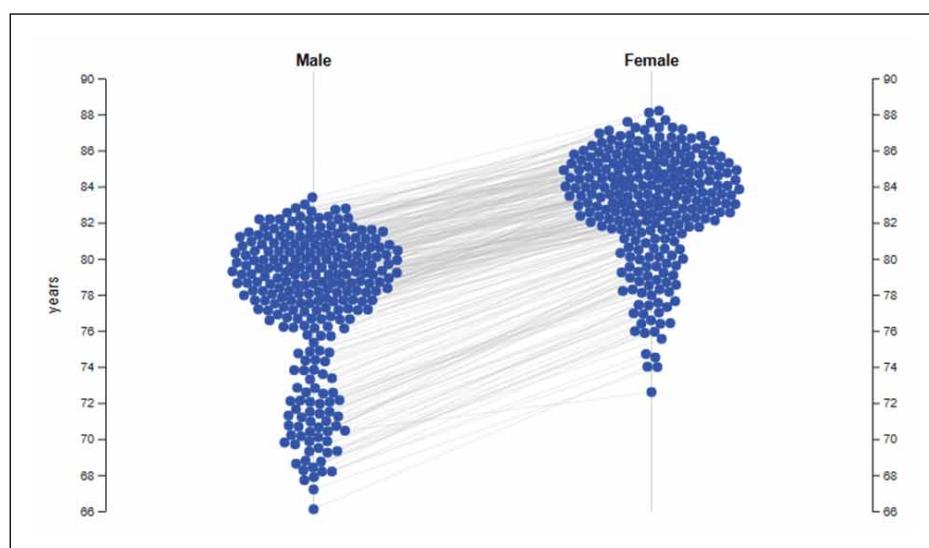


Figure 8. Gender difference in Life expectancy across the EU-27 Regions 2021.

Source Eurostat Regional Statistics 2021.

lags 7 years behind the global average.³⁹⁻⁴⁰ This lag is attributed to high infant, child and maternal mortality, violence, conflict, and the impact of epidemics such as HIV and Covid-19.^{41,42}

The UN and the WHO have developed several policies to combat health inequalities and to ensure a better lifestyle for the less privileged and lower socioeconomic classes.

Acknowledgements: I would like to express my sincere appreciation to Prof. A. Diamandopoulos for his thoughtful comments and continuous encouragement and inspiration to undertake research in the promising area of medical history in relation to health economics.

Funding: No sources of funding.

Conflict of Interest: No conflict of interest declared.

ΠΕΡΙΛΗΨΗ

Το προσδόκιμο επιβίωσης από την Προϊστορική εποχή μέχρι τον 21^ο αιώνα.

Γιάννης Υφαντόπουλος

Ο σκοπός του άρθρου αυτού είναι η διερεύνηση των παραγόντων που συμβάλλουν στην βελτίωση της μακροζωίας για την χρονική περίοδο από τους προϊστορικούς χρόνους έως τον 21ο αιώνα. Εξετάζοντας ιστορικές πηγές και δεδομένα, παρατηρούμε μια σημαντική βελτίωση στο προσδόκιμο ζωής από 20 χρόνια κατά την διάρκεια των προϊστορικών χρόνων στα 85 χρόνια το 2023. Οι κοινωνικοοικονομικοί και υγειονομικοί παράγοντες που έχουν συμβάλει στη βελτίωση αυτή αποδίδονται: στις συνθήκες διαβίωσης, υγιεινή διατροφή, στέγαση, εκπαίδευση, πρόληψη, ιατρική τεχνολογία, περιβάλλον και οικονομική ανάπτυξη. Αναλύοντας τις ιστορικές τάσεις μπορούμε να διακρίνουμε επτά ενδεικτικές περιόδους. Την προϊστορική εποχή, όπου οι πρωτόγονες συνθήκες υγιεινής και διαβίωσης, η περιορισμένη πρόσβαση σε βασικούς υγειονομικούς και οικονομικούς πόρους, τα υψηλά ποσοστά ατυχημάτων και μολυσματικών ασθενειών είχαν ως αποτέλεσμα το προσδόκιμο επιβίωσης να κυμαίνεται μεταξύ 20 και 30 ετών. Κατά την αρχαιότητα, πολλές ιστορικές πηγές από την Αίγυπτο, την Ελλάδα και τη Ρώμη εκτιμούν την μακροζωία να κυμαίνεται από 20 έως 35 χρόνια. Οι πόλεμοι, οι μολυσματικές ασθένειες, ο υποσιτισμός και τα υψηλά ποσοστά βρεφικής θνησιμότητας καταγράφονται ως οι κύριοι παράγοντες για τη σύντομη διάρκεια ζωής. Τον Μεσαίωνα (500-1500 μ.Χ.) οι μεγάλοι δολοφόνοι όπως οι Πανούκλες (Μαύρος Θάνατος) και άλλες μολυσματικές ασθένειες είχαν σημαντικό αντίκτυπο στη μείωση του πληθυσμού. Το προσδόκιμο ζωής κυμάνθηκε γύρω στα 30 με 40 χρόνια. Η Πρώιμη Σύγχρονη Περίοδος (1500-1800 μ.Χ.) χαρακτηρίζεται με την εγκαθιδρυση της αγροτικής επανάστασης, η οποία πάρα τη βελτίωση στη διατροφή και τις συνθήκες υγιεινής δεν επηρέασαν σημαντικά το προσδόκιμο ζωής που παραμένει στα 30 έως 40 χρόνια. Η Βιομηχανική Επανάσταση (18ος-19ος αιώνας) αύξησε το προσδόκιμο ζωής στα 40-50 χρόνια. Η πρόοδος του 20ου αιώνα στην ιατρική περιθαλψη, την υγιεινή, τις συνθήκες διαβίωσης, τη διατροφή, τις μεταρρυθμίσεις στα συστήματα υγείας, η καλύτερη πρόσβαση στις υπηρεσίες υγείας, και η συμβολή της ιατρική τεχνολογίας στην διάγνωση και θεραπεία, διπλασίασαν το προσδόκιμο ζωής ξεπερνώντας τα 70 χρόνια, κυρίως στις ανεπτυγμένες χώρες. Ο 21ος αιώνας χαρακτηρίζεται από συνεχή βελτίωση του προσδόκιμου ζωής που φθάνει τα 85 χρόνια, αλλά ταυτόχρονα καταγράφονται σημαντικές ανισότητες στην υγεία μεταξύ των κρατών, γεωγραφικών περιοχών και των κοινωνικοοικονομικών ομάδων. Το Χάσμα Επιβίωσης μεταξύ των εθνών έφτασε τα 33,5 χρόνια το 2022. Η μικρότερη τιμή στο προσδόκιμο επιβίωσης καταγράφηκε στο Τσαντ, τη Νιγηρία και την Κεντρική Αφρική (52,5 χρόνια) και η υψηλότερη στο Μονακό, το Χονγκ Κονγκ και την Ιαπωνία. (86 χρόνια)

Λέξεις Κλειδιά: Προσδόκιμο ζωής, ανισότητες υγείας, συνθήκες διαβίωσης, ιστορία της ιατρικής

REFERENCES

1. Shryock HS, Siegel JS. The Methods and Materials of Demography Washington. DC: US Bureau of the Census. 1973.
2. MacLennan W, Sellers W. Ageing through the ages. Journal of the Royal College of Physicians of Edinburgh. 1999;29(1):71-5.
3. Yfantopoulos JN. Demographic trends and socio-economic indicators in EU and Greece. About Greece. 1999:65-78.
4. Roser M, Ortiz-Ospina E, Ritchie H. Life expectancy. Our world in data. 2013.
5. Wrigley EA, Schofield RS. The population history of England 1541-1871: Cambridge University Press; 1989.
6. Life expectancy at birth, total (years) [Internet]. 2024. Available from: data.worldbank.org.
7. Kotre JN, Hall E. Seasons of life: The dramatic journey from birth to death: University of Michigan Press; 1997.

8. Galor O, Moav O. The neolithic origins of contemporary variations in life expectancy. Available at SSRN 1012650. 2007.

9. Diamandopoulos AA, Rakatsanis KG, Diamantopoulos NA. A neolithic case of Down syndrome. *J Hist Neurosci*. 1997;6(1):86-9.

10. Montagu J. Length of life in the ancient world: a controlled study. *Journal of the Royal Society of Medicine*. 1994;87(1):25-6.

11. Batrinos ML. The length of life and eugenia in classical Greece. *Hormones*. 2008;7(1):82-3.

12. Hornblower S, Spawforth A, Eidinow E. *The Oxford classical dictionary*: Oxford University Press; 2012.

13. Larousse P. *Papyrus Grand Larousse encyclopædia (in Greek)*. Athens: Librairie Larousse; 1963.

14. Liddell H, Scott R. *Great Lexicon of Greek Language*. Sideris J, editor. Athens.

15. Megapanou A. *Mythical and historical persons (in Greek)*. Athens: Benaki Museum; 2006.

16. Morris I. Economic growth in ancient Greece. *Journal of Institutional and Theoretical Economics (JITE)/Zeitschrift für die gesamte Staatswissenschaft*. 2004;160(4):709-42.

17. Lloyd GER, Chadwick J, Mann WN. *Hippocratic writings*: Penguin UK; 1983.

18. Ryan G. *Naked Statues, Fat Gladiators, and War Elephants: Frequently Asked Questions about the Ancient Greeks and Romans*: Prometheus Books; 2021.

19. Boatwright MT. *Imperial women of Rome: power, gender, context*: Oxford University Press; 2021.

20. Scheidel W. *Debating Roman Demography*: Brill; 2001.

21. Flower HI. *The Cambridge companion to the Roman republic*: Cambridge University Press; 2014.

22. Bitel LM. *Women in early medieval Europe, 400-1100*: Cambridge University Press; 2002.

23. Carrieri MP, Serraino D. Longevity of popes and artists between the 13th and the 19th century. *International Journal of Epidemiology*. 2005;34(6):1435-6.

24. Mayhew H. *London labour and the London poor: A cyclopædia of the condition and earnings of those that will work, those that cannot work, and those that will not*: Cosimo, Inc.; 2009.

25. Le Play F. *Mémoire sur la fabrication et le commerce des fers à acier dans le nord de l'Europe: et sur les questions soulevées depuis un siècle et demi par l'emploi de ces fers dans les aciéries françaises*: Carilian-Goeury; 1846.

26. Booth C. *Life and Labour of the People in London*: Macmillan and Company, limited; 1902.

27. Rowntree BS. *Poverty: A study of town life*: Macmillan; 1902.

28. Fogel RW. Economic growth, population theory, and physiology: the bearing of long-term processes on the making of economic policy. *National Bureau of Economic Research* Cambridge, Mass., USA; 1994.

29. McKeown T. The modern rise of population. *The Sociology and Politics of Health*: Routledge; 2005. p. 173-7.

30. Louros N. *Macrozoia, pioneering attempts*. Athens: Rhodi Brothers; 1971.

31. Diamandopoulos A. Three Octogenarians Discussed Half a Century Ago why They Should not be Considered as Old. Now a Person of the Same Age Comments on their Views. *Bulletin of the European Association of Professors Emeriti*. 2023; 4 (1) 15-17.

32. Preston SH. The changing relation between mortality and level of economic development. *Population studies*. 1975;29(2):231-48.

33. Preston SH. The changing relation between mortality and level of economic development. *International journal of epidemiology*. 2007;36(3):484-90.

34. Yfantopoulos J. Health related quality of life inequalities. *Frontiers in Public Health*. 2023;11:1214899.

35. Yfantopoulos J, Chantzaras A, Yfantopoulos P. The health gap and HRQoL inequalities in Greece before and during the economic crisis. *Frontiers in Public Health*. 2023;11:1138982.

36. Yfantopoulos J. The impact of under-investment on health in Southern and Central Eastern European Countries. *Expert Review of Pharmacoeconomics & Outcomes Research*. 2024;24(1):29-35.

37. World development indicators (WDI) [Internet]. 2020. Available from: <https://datatopics.worldbank.org/world-development-indicators/>.

38. Kaufmann D, Kraay A. Worldwide Governance Indicators 2023. Available from: www.govindicators.org.

39. Rutstein SO. Factors associated with trends in infant and child mortality in developing countries during the 1990s. *Bulletin of the World Health Organization*. 2000;78(10):1256-70.

40. Claeson M, Bos ER, Mawji T, Pathmanathan I. Reducing child mortality in India in the new millennium. *Bulletin of the World Health Organization*. 2000;78(10):1192-9.

41. UNDP. Sustainable development goals (goal 3: good health and well-being): United Nations Development Program 2015. Available from: <https://www.undp.org/content/undp/en/home/sustainable-development-goals/goal-3-good-health-and-well-being.html>.

42. WHO. Sustainable development goal 3: health: World Health Organization 2015. Available from: <https://www.who.int/topics/sustainable-development-goals/targets/en/>.

Corresponding author:

John Yfantopoulos, Emeritus Professor of Health Economics, Academic Co-Ordinator MBA National and Kapodistrian University of Athens
6 Themistokleous Street, 106 78 Athens, Greece
e-mail: yfantopoulos@gmail.com, tel: +30 6977219203

Surprises as a bait to work harder – Four cases in the Louros Archive

Christos P. Marinis¹

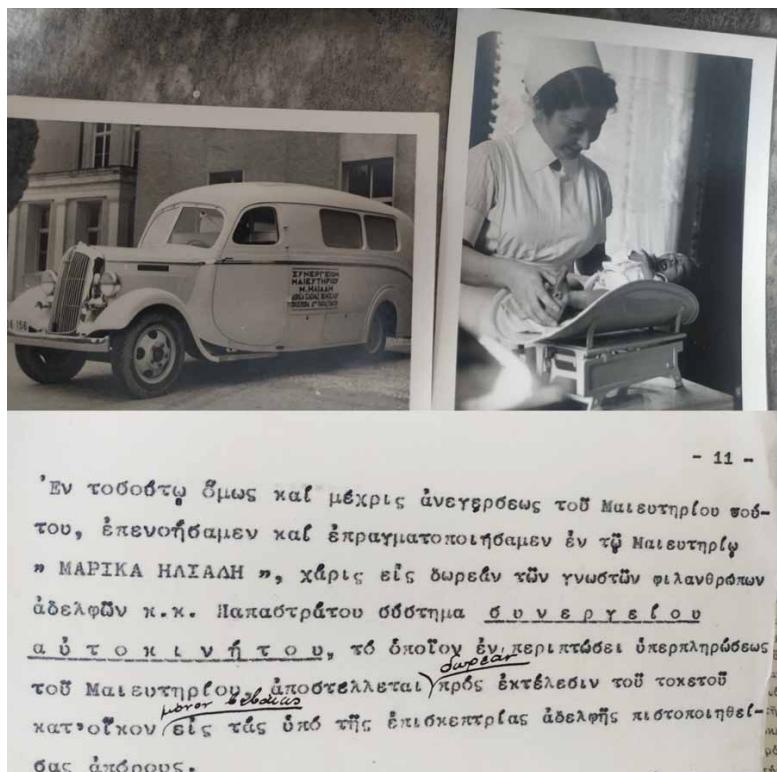


Figure 1. An idea of N. Louros that materialised in 1937: The "Marika Iliadi" clinic's specially equipped hospital vehicle staffed with specialised personnel that was dispatched at no cost, conducting home deliveries for impoverished women.

Abstract

This brief paper discusses the author's personal impressions from the process of recording, archiving, and categorising the N. Louros Archive during the summer of 2023, as well as the surprises that served as a motivation to continue this effort with increasing enthusiasm. Four cases of primary material with relevant photographs are indicative. Thus, the value of the Louros archive is emphasized for the history of medicine and other scientific fields, encouraging researchers to engage in a fruitful dialogue with related and unrelated sciences. Finally, a brief reference is made to the difficulties encountered during the project.

Key Words: Nikolaos K. Louros Foundation, hospital vehicle, correspondence, archivist's difficulties

¹Marinis Christos, Archivist in Louros Foundation for the History of Medicine, Philologist, MSC in Folkloristics,

Personal recollections

The Nikolaos Louros Archive was recently evaluated after a painstaking and time-consuming process of recording, archiving, and categorising the material, fulfilling a fundamental desire of Professor Nikolaos Louros, the owner of the archive. It constitutes a private, personal collection of a distinguished scholar, with all the implications that this has regarding its form and content¹, covering a nearly ninety-year period. I had the opportunity and pleasure to participate in this challenging task. As a philologist with a postgraduate degree in Folkloristics, I had previously been involved in collecting and processing primary material, especially related to Urban Folklore. Despite the mechanical and repetitive nature of such an effort, small treasures are often revealed, gradually transforming the nature of the work into a journey into the past, an opportunity for acquaintance and contact with people and situations that one could hardly experience directly in any other way.

I will not hide the fact that I knew little about Nikolaos Louros beyond the description of a lexicographical entry: "Distinguished Greek gynaecologist and academician". Yet, it did not take much time for me to get to know a person born 125 years ago, who passed away in 1986, the year I was born. Having the privilege of being among the first people in direct contact with the material of Louros' archive, I wish to share my perspective as someone unrelated to the medical field, thus acting as an external observer. At the same time, I adopt the perspective of a "mouse", as the Vice President of the Louros Foundation, Professor Athanasios Diamandopoulos, jokingly referred to me in a personal conversation. A mouse that, in a narrow room filled with cardboard boxes, came into contact with countless dusty and yellowed pages and documents, with the aim of helping them emerge from obscurity and be rescued. Certainly, where there are mice, there must necessarily be tempting "cheese" to attract them...

Through my contact with the material, the first thing that impressed me was N. Louros' habit of discarding almost nothing. This habit isn't very rare. As Giannakopoulos and Boudouri had commented "*The social activity and communication of individuals with other people and organizations create archival records such as: certificates (birth, education, marriage, death), passports, resumes, bills, receipts, payroll statements, tax clearances, contracts, wills, bank statements, letters, diaries, photos, family videotapes, invitations, etc. These documents record every expression of human social*

life, facilitate various relationships and activities, and document his rights. They capture the history of his life and immortalize his experiences, supporting the function of memory"². Receipts and ledgers documenting income and expenses, offers for the supply of medical equipment from the hospitals where N. Louros left his mark, documents related to legal disputes, newspaper clippings and magazines, tickets, advertising brochures, and tourist guides from his trips abroad, theatre programs, a multitude of photographs, letters from the cream of the political and cultural life of the 20th century, down to spontaneous, misspelt letters from ordinary people asking something from N. Louros or expressing their gratitude and admiration—these are just a few examples of the archival documents I came across. At this point, I would like to share a tiny fraction of what impressed me and motivated me to continue the sorting process with increasing enthusiasm, emphasising the value that the archive of the Nikolaos K. Louros Foundation holds for the history of medicine and other scientific fields, and encouraging any researcher to engage in a fruitful dialogue with relatives and non-relatives alike, across various disciplines.

Let's start with one of the initial elements of the archive that caught my interest and is clearly related to the History of Medicine, particularly the History of Public Health in modern Greece. It reflects the efforts of N.K. Louros for the organisation of Public Health in Greece, dating back to the interwar period. It involves photographic material and documents from 1937 (Fig. 1) concerning the mobile team of the obstetrics clinic "Marika Iliadi," a pioneering concept for the time. This initiative was implemented through the donation of the Papastratou Brothers' tobacco factories. In instances of overcrowding at the "Marika Iliadi" clinic, a specially equipped hospital vehicle staffed with specialized personnel was dispatched at no cost, conducting home deliveries for impoverished women. We can easily grasp the significance of such an effort in an era with an almost non-existent transportation network and a low standard of living for a significant portion of the Greek population.

Continuing, it would be impossible not to mention the extensive correspondence of Nikolaos Louros, who, due to his multifaceted personality, maintained with figures from the medical field and beyond, including science, politics and arts, as well as ordinary citizens. The latter, whether patients and relatives of patients expressing their gratitude with a few words of appreciation and usually a token gift, or admirers seeking his advice or opinion on their endeavours, usually

received a response from Nikolaos Louros and held a place in the archive. Often, due to his position and influence, he also received requests to intervene in the professional establishment of newcomers, even from high-ranking individuals.

Some of these cases, perhaps not the most notable but certainly indicative of the spirit of the writers, are presented in the following photograph (Fig. 2) of four letters and a telegram (Fig. 3) of four letters and a telegram (Fig. 3). The first one on the top left, dated November 4, 1965, is a thank-you letter from a hunting goods merchant, Marinos Kourinakis from Kavala, who, as he wrote, sends Professor N. Louros "a hare and three partridges" as a sign of gratitude for the care of his wife. Numerous such letters from ordinary people can be found in the archive, with references to the sending or receiving of goods as a sign of gratitude,

such as chestnuts, cigarettes, oil, meat, fish, nuts, etc. Of course, most of them include an always gracious thank-you response from N. Louros. In the same photograph, at the bottom right, dated December 9, 1959, we observe a thank-you letter of this kind from N.K. Louros to T. Papastratos, possibly a nephew of the tobacco industrialist Evangelos Papastratos, for the shipment of cigarettes. Next, on the top right, there is a letter dated September 20, 1976, from N. Louros to the then Deputy Minister of Transport and Communications, Athanasios Tsaldaris, where Louros, jokingly stating that he has become a "bribery agency," intervenes by requesting employment for a graduate in Economics and Political Sciences. Finally, in stark contrast to the previous letter, is the negative response dated March 13, 1965, from Louros to the

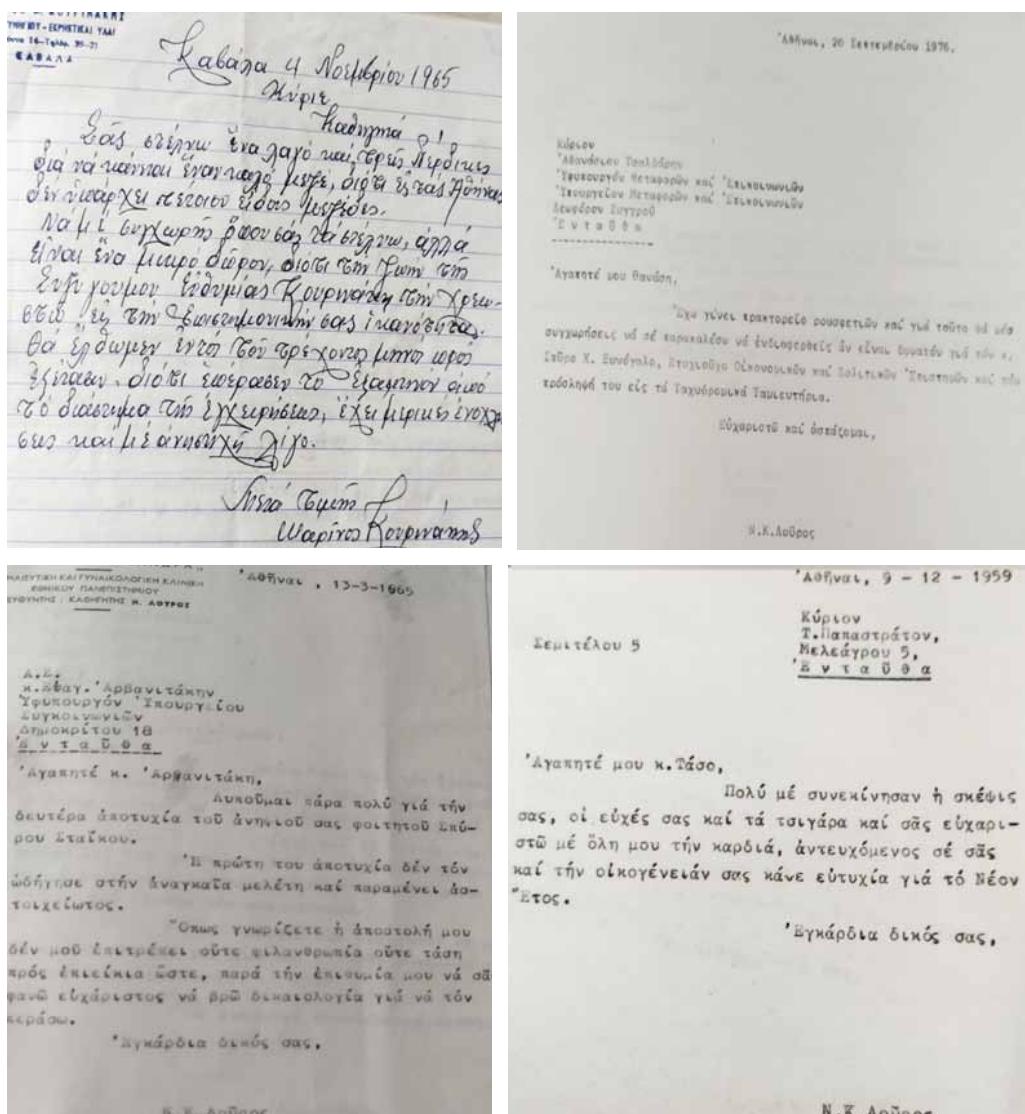


Figure 2. Letters exchanged between N.K. Louros and politicians and laymen concerning favoritism and gifts - offerings.

then Deputy Minister of Communications, Evangelos Arvanitakis, who apparently asked him to intervene so that his nephew Spyros Staikos could pass a course at the Medical School (bottom left). N. Louros' categorically negative response, besides indicating his strict and just character, is of particular interest as it refers to a relative of a deputy minister. Lastly, the thank-you telegram dated January 5, 1970, which is quoted (Fig. 3), is sent by two parents of Medical School students in Thessaloniki, expressing their thanks to N. Louros for the assistance he provided through his signature for the amnesty of their children, who were imprisoned as political detainees. Particularly, this telegram - but also other documents in the archive not discussed here - tangibly demonstrates Louros' strong anti-dictatorial sentiments during the Dictatorship of the Colonels.

The above letters and the telegram are indicative of the customs and practices of Greek society as well as the political developments of the respective periods, whether they concern reciprocity for a kind act towards a fellow citizen or favouritism and its role in contemporary Greek society. Undoubtedly, these, as well as numerous others, can serve as valuable sources of information for researchers in Sociology, Folklore, Political Science, and other disciplines.

Continuing within the correspondence of N.K. Louros, which, as mentioned, covers a substantial part of the archive, his significant interest in the arts, particularly in theatre and cinema, is also documented. A noteworthy segment of the correspondence involves his communication with personalities from the acting profession, such as Alexis Minotis, Katina Paxinou, Anna Kalouta, Dimitris Myrat, Jenny Karezi, Kostas Kazakos, etc., to whom he addresses his critiques of theatrical plays or movies in which they starred. Three letters are provided below (Fig. 4).

In the first letter dated March 29, 1972, N.K. Louros compliments actress Jenny Karezi and her husband, actor Kostas Kazakos, for their performances in the film "Erotic Agreement". He expresses his congratulations while also providing his critique of the screenplay, direction, and cinematography of the movie. The second letter, dated October 31, 1966, is addressed to actress Anna Kalouta, congratulating her on her performance in a contemporary revue and offering his critique on the rest of the theatrical cast and singer Sofia Vembo. In the third letter, dated November 6, 1971, N.K. Louros addresses actress Aliki Vougiouklaki, expressing his congratulations on her performance in the theatrical play "Queen Amalia" by G. Roussos. However, he also voices his objections to historical inaccuracies related

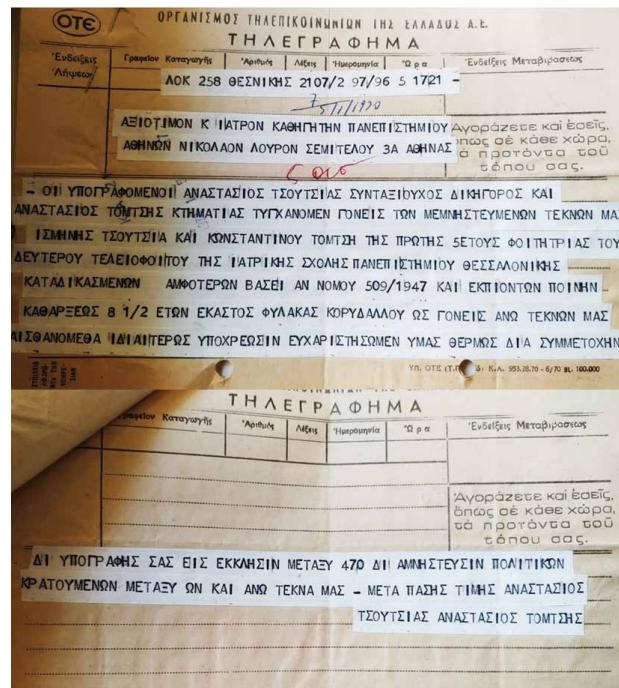


Figure 3. A telegram of gratitude to N. Louros by the parents of two imprisoned, for political reasons, medical students. Due to his interference they were released from prison.

to the issue of the childlessness of Otto and Amalia. He even refers her to his book, "Retrospectives", a copy of which he sends according to the letter. It is characteristic that this issue of the childlessness of Otto and Amalia particularly preoccupied Nikolaos Louros and his father, Konstantinos. Documents related to this issue occupy a prominent position in the archive, such as unpublished documents and manuscripts, excerpts from the newspaper 'Ta Nea' (20/3/1954) with an article referring to N. Louros under the title 'No doctor could discover Amalia's sensual secret' concerning Nikolaos Louros, and others.

The aforementioned examples represent a small sample of N.K. Louros' engagement with artistic subjects, and the corresponding portion of the correspondence could serve as a valuable tool for researchers exploring topics related to the History of Theatre and Cinema, Urban folklore, and more.

In light of this mention of Louros' correspondence with figures from the art world, I will conclude with a somewhat unexpected letter from the prominent painter Nikos Hatzikyriakos-Gikas to Nikolaos Louros, in response to a previous letter or inquiry from Louros, which unfortunately has not been found. Nevertheless, we can easily grasp the subject matter of the letter from the painter's response. In this letter (Fig. 5), Nikos Hatzikyriakos-Gikas states that "...wall painters should

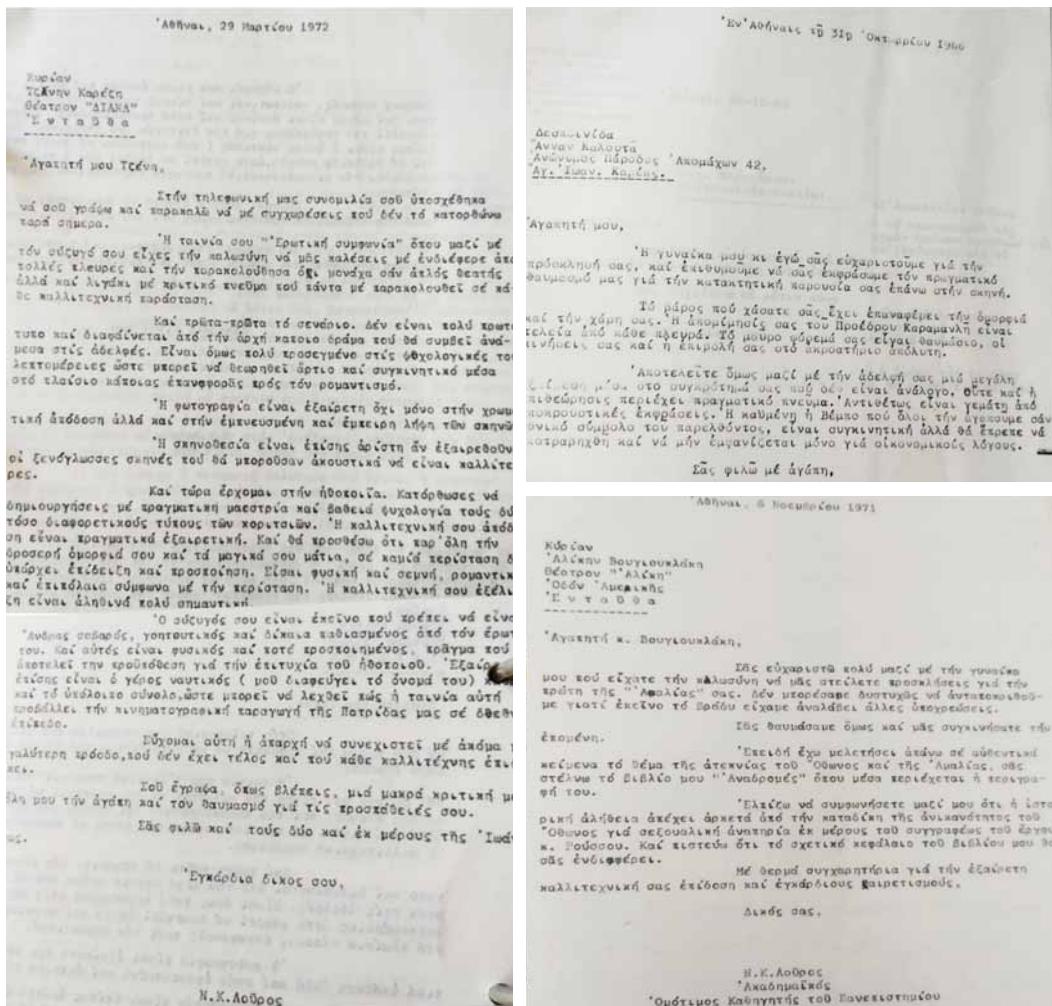


Figure 4. Four pages from the correspondence of N. Louros with theatrical actresses.

not use Ajax for cleaning the stucco lustro* - painted walls, but simply Marseille soap and rinse with plenty of water because Ajax contains caustic substances". It is evident that N. Louros sought advice from the painter regarding some wall painting works, and Nikos Hatzikyriakos-Gikas willingly provided his guidance.

The above examples, as mentioned earlier, constitute only a small part of the volume and significance of Louros' archive. However, they vividly demonstrate how what may initially seem like a mechanical task, such as recording and archiving, can transform into an interesting journey into the past and become a motivation for increasingly intensive work. The small or large surprises that the archival material offered became the "bait" to encourage more enthusiastic and zealous archival work. It was the "cheese" that the

* Stucco lustro is a technique applied by oil painters on walls. It is a form of marble imitation (sometimes called stucco lucido) where a thin layer of lime or gypsum plaster was applied over a scored support of lime, with pigments scattered on surface of the wet plaster.

"mouse" needed to want to visit the Louros Foundation more frequently and search through dusty boxes.

Now that the content of the archive is more widely known, this "bait" will undoubtedly attract many more individuals to creatively utilize it in a wide variety of research endeavours.

In conclusion, I would like to briefly address the challenges that occupied us during the process of recording and classifying the material, which were not few. The enormous amount of documents in a relatively limited time and space, the often poor condition of the material requiring delicate handling to prevent damage, the difficult-to-read handwriting of N. Louros and others, the stacking and mixing of heterogeneous material in a way that made recording and classification incredibly challenging, and the sweltering conditions during the summer of 2023 in an unbearably hot space, all made the work not easy. Moreover, there were many dilemmas regarding classification. For example, many times a letter was found outside the correspondence

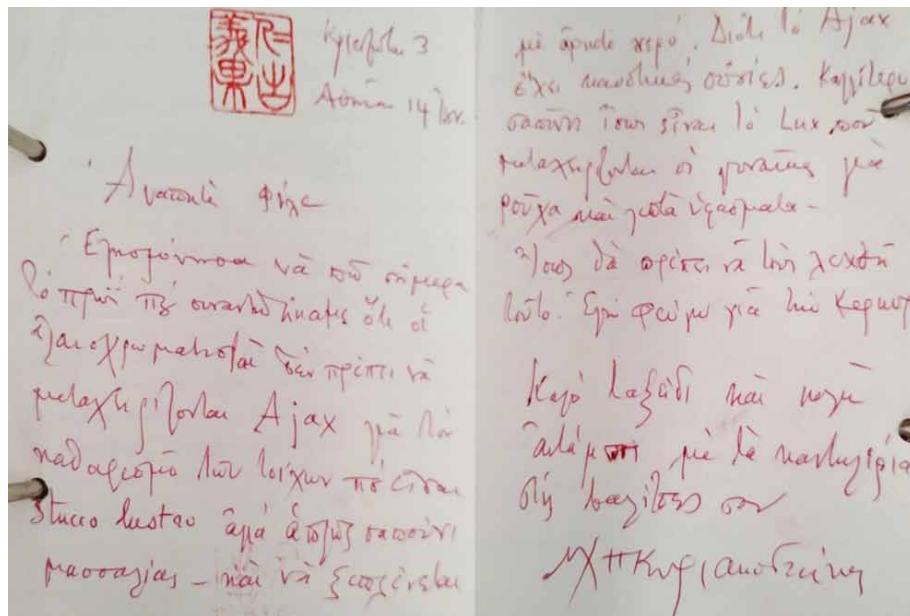


Figure 5. Hand-written message by the renown painter Hatzikyriacos- Gikas to N. Louros advising him on technical matters.

file, attached to a newspaper clipping along with a conference program. Should it be entered impersonally as another entry in the correspondence boxes and be detached from its context, or should it remain with related documents and be included based on the content in a specific thematic section? What if there is no section corresponding to its content, or worse, if it could fit into more than one thematic section?

Many of these difficulties were overcome, and some were not. Clearly, there were and still are reflections, mistakes, and omissions, and there are certainly areas for improvement in the recording and classification, especially in the correspondence section, which has a large volume and greater dispersion that needs clarifi-

cation. However, the result gives a taste of the content and variety of the archive even to those unsuspecting, as well as projecting the dedication and good-natured disposition with which we worked throughout the process. The excellent collaboration and enthusiasm we demonstrated with the Board of Directors of the Foundation and especially with Vice President Professor Athanasios Diamandopoulos, who, with his youthful enthusiasm, proved to be a valuable guide during a challenging period in his life, has undeniably yielded dual fruits. Firstly, after many years, Nikolaos Louros' desire for the preservation of his archive was fulfilled, and secondly, another valuable tool was provided to the scientific community.

ΠΕΡΙΛΗΨΗ

Οι εκπλήξεις ως «δόλωμα» για εντατικότερη εργασία - Τέσσερις περιπτώσεις από το Αρχείο Λούρου

Χρήστος Π. Μαρίνης

Αυτή η σύντομη εργασία αναφέρεται στις προσωπικές εντυπώσεις του γράφοντος από τη διαδικασία καταγραφής, αρχειοθέτησης και ταξινόμησης του Αρχείου Ν. Λούρου, το καλοκαίρι του 2023, καθώς και στις εκπλήξεις που λειτούργησαν ως κίνητρο για να συνεχιστεί με όλο και μεγαλύτερο ζήλο αυτή η προσπάθεια. Αναφέρονται ενδεικτικά τέσσερις περιπτώσεις πρωτογενούς υλικού με σχετικές φωτογραφίες. Υπογραμμίζεται έτσι η αξία που παρουσιάζει το αρχείο του Ιδρύματος Ν. Κ. Λούρου τόσο για την Ιστορία της Ιατρικής όσο και για άλλα επιστημονικά πεδία, ωθώντας τον εκάστοτε ερευνητή σε έναν γόνιμο διάλογο με συγγενείς και μη, επιστήμες. Τέλος, γίνεται σύντομη αναφορά στις δυσκολίες που αντιμετωπίστηκαν κατά τη διάρκεια του έργου.

Λέξεις Κλειδιά: Ιδρυμα Ν. Λούρου, νοσοκομειακό όχημα, αλληλογραφία, τέχνες

REFERENCES

1. G. Giannakopoulos, V. Boudouri, *Introduction to Archiving*, Association of Greek Academic Libraries, Athens 2015, p.34, *passim*, <http://hdl.handle.net/11419/6323>
2. G. Giannakopoulos, V. Boudouri, *ibid*, p. 8.

Corresponding author:

Christos P. Marinis
2 Ischomahou str, 15773, Athens, Greece
e-mail: xristosmarinis@gmail.com

My Distant Acquaintance with Philosopher-Physician Nikolaos Louros and my Intimate Engagement with His Archives

Agamemnon Tselikas¹



Bronze bust of Nikolaos Louros by Giannis Pappas sculptor, 1963 (Alexandras Maternity Clinic).

Abstract

Five letters exchanged between Nikolaos Louros, the medical doctor, academician, philosopher, and renowned man of letters during the 1963-1966 years, are presented in this article. The topic of all these letters was the Louros' decision to use in his voluminous book "Obstetrics and Gynaecology" the vernacular Greek language instead of the formal "Katharevousa" an artificial language imposed on the newly formed Greek State by the middle of the 19th century by the then archaephile literati. Their aim was initially applauded as a means to "purify" the language suffering of the many local dialects and the "barbarism" of the mass of uneducated Greeks. However, as time passed, it became an obstacle to expression and free thinking. The establishment, particularly the medical one, insisted upon its use in the University and the texts written by the faculty members. Thus, it required a lot of courage by Nikolaos Louros to use for the first time the vernacular in a scientific medical book.

The opportunity to present these epistles was given by my friend Professor Athanasios Diamandopoulos, who classified Louros' huge Archive wherein, between a lot of other letters, those five ones were traced. These include two between the academician novelist Elias Venezis (1963), two more with the philosopher Evangelos Papanoutsos (1963) and one with the intellectual author Kostis Bastias (1966). The spirit of all of five letters underlines the overwhelming acceptance by the recipients of Louros' ideas about the language. They accept the real contribution of the vernacular to a better understanding by medical students the substance of Louros' book which would be otherwise obscured by the bounds of "katharevousa". The article concludes with the memories of the author's acquaintance with Louros while the former was in his green days in paleography and Louros already was a respectable member of the echelons in the academic and social life.

Key words: Agamemnon Tselikas, Nikolaos Louros, Elias Venezis, Evangelos Papanoutsos, Kostis Bastias

¹Philologist – Palaeographer, “ARETHAS” Institute - Mediterranean Institute of Research on Palaeography, Bibliology & History of Texts.

AIM

In this article, I aim to showcase the contributions of Nikolaos Louros towards the recognition of vernacular Greek in medical literature, replacing the arcane “katharevousa”, a form of Greek language established in the 19th century by the archaeophile literati as a reaction to the impoverished local dialects in the modern Greek Kingdom.

INTRODUCTION

This article is inspired by my longstanding acquaintance and friendship with Prof. Athanasios Diamandopoulos, through my work as a palaeographer working with the much-misunderstood post-Byzantine manuscripts known as iatrosophia. In seeking to trace the scientific roots and origins of these texts, I dedicated many years to studying ancient and modern Greek as well as medieval medical texts. This research journey, challenging as it has been, yielded numerous and impressive findings. As someone who is neither a medical doctor nor a historian of medicine, I have found it fascinating to explore medical texts ranging from the Middle Ages to the Enlightenment. This exploration has been particularly intriguing in terms of how these texts were transmitted and circulated, and how medical knowledge was transferred and exchanged across the various geographical boundaries of the Mediterranean, especially in Greece during Turkish and Venetian rule.

At the invitation of my friend, Professor Diamandopoulos, whose persuasive skills are well noted, I found myself unable to resist his appealing proposal to contribute, to the best of my ability, in showcasing the Archive of philosopher-physician Nikolaos Louros.

I must repeat that I am neither a medical doctor nor a historian of medicine; instead, I am a paramedical historian with expertise in palaeography and textology across the ages. By a fortunate coincidence, I had a theoretical, albeit distant, acquaintance with the name and personality of the eminent physician-philosopher whose institution we honour today. I choose not to use the commonly accepted term ‘iatrophilosophos’ because, in Byzantine and post-Byzantine manuscripts, it describes someone endowed with medical wisdom—that is, scientific knowledge—rather than someone who possesses knowledge in both fields. Nevertheless, history does present exceptions, such as Georgios Koressios from Chios Island, a 17th-century figure who was indeed a physician, a philosopher, and a theologian.

I first encountered the name of Academician Louros in 1968 during my freshman year at the Philosophy School of the University of Athens, within the Hel-

lenic Society for Humanistic Studies, founded by the late Konstantinos Vourneris, a professor of classical literature at the same university. Professor Vourneris introduced us to Humanismus, elucidating the term’s relevance across all aspects of social life. He emphasised the intrinsic humanitarian value of ancient classical texts and discussed their profound impact on the evolution of the European spirit. The aims of the Society, as outlined in its various publications, were:

“To contribute to the study of the paramount values of the humanistic ideal as expressed particularly in the classical Greek works of literature and art. And, to foster the humanistic tradition of the Greek people. So, its programme aims at educating a wider public on one hand, and pursuing scientific research on the other”. As I engaged closely with the Society’s activities, the conferences it organised and through my role as an assistant in its office, I became familiar with its publications. Among these was an article by Louros titled “Medicine and Humanistic Education”, first published in Athens in 1961 and later included in a second edition of the Society’s publications in 1967. It was this work, in particular, that epitomised the integration of Humanism and science as expressions of a fully developed human personality.

Simultaneously, during my scientific research, I encountered another of his articles in the “Epetiris” Yearbook of the Research Centre of Greek Philosophy at the Academy of Athens. This was titled “The ‘Introduction’ and the ‘Twelve Sophisms’ from Francis Bacon’s *Advancement of Learning*”, where these twelve sophisms, along with their explanations, were translated into Greek.

It is evident what resonated with Louros in this text, aligning closely with his own philosophical and epistemological views, despite Bacon’s often reactionary and contradictory nature. *“Its purpose”*, Louros remarked, *“is to highlight the need for cognitive progress and its importance. For this reason, he does not limit himself to describing what is known, but also to highlight the great gaps in knowledge, in the hope that others will fill them in. I’m sure both of these articles are in the rich library that surrounds us here as in mine”*.

After the restoration of democracy in Greece in 1974, when the National Bank of Greece Cultural Foundation was reorganised, Academician of Nikolaos K. Louros served on its inaugural board of administration from 1974 to 1983. He worked alongside other distinguished intellectuals who shared a firm commitment to democratic and liberal principles. Their collective goal was to promote humanitarian education in the new era of Greek society and to forge connections with corresponding European culture and science. Noteworthy among these individuals were

Ioannis Kakridis, Linos Politis, Pantelis Prevelakis, Aristovoulos Manesis, Evag. Papanoutsos, and Konst. Tsatsos, names you are undoubtedly familiar with.

This is how Louros's decision is interpreted: He adhered to common sense and the obvious need to connect with the studying youth using the vernacular—the language they spoke—rather than the detached and pretentious language imposed by scientific conservatism. Simultaneously, he aimed to promote his work and address the challenges of education and scientific research in post-war Greece. He achieved this by authoring his significant book on Gynaecology and Obstetrics in the contemporary Greek vernacular. In this process, Louros also engaged with many representatives of writers and intellectuals from the "Generation of the Thirties", deliberating on the language issue. He boldly chose to use the modern vernacular of his time to articulate his medical ideas and disseminate his teachings.

As a collaborator of Professor Linos Politis in paleography, I formally assumed the directorship of the Centre for History and Paleography in 1980, a facility he had established within the Cultural Foundation aimed at advancing the study of paleography and making Greece's manuscript collections accessible to the academic community. I recall Louros's visits to the Foundation; he was always serious, thoughtful, and eager to inquire about our project.

This introduction serves to share my personal perspective on one aspect of the personality of the philosopher and physician whose archives and library surround us, serving as a wellspring of inspiration for ongoing scientific research. More importantly, they exemplify the proper dissemination of science, aiming to touch the soul and emotions of individuals, encouraging spiritual advancement not only within Greece but, I would argue, globally, as, like other members of this Foundation, Louros was not confined by local boundaries. Thus, in this environment, akin to days long past, Louros meets with representatives of the intellectual generation of the 1930s and becomes an active participant of it.

Entering the archive of Nikolaos Louros required not just my involvement but also that of other dedicated younger specialists. When Professor Diamandopoulos opened the doors to the rooms where the Archive is stored on metal shelves, I felt daunted, as if I were about to swim in an ocean of unknown and stormy waters. The sight of the archival materials meticulously arranged on metal shelves and in cardboard boxes—organised in great detail by Professor Diamandopoulos and Mr. Marinis—was overwhelming. An archive, through its letters, accounts, various notes, and copies or original writings, unfolds the multifaceted personality of its crea-

tor. Thus here, I felt a profound connection with the spirit of the great philosopher and disciple of Hippocrates, whose vast scientific and social contributions were evident. Navigating this archive is a long and challenging journey, demanding not only specialised knowledge but also the collective support and assistance of all of you.

RESULTS

From the outset, my research was focused on archival materials relating to prominent figures in the literary and educational fields. Due to pressing personal commitments, my time was limited, and over the last two weeks, I managed to review only two files of correspondence from the 1960s. Here, I highlight a selection of these documents: two letters (Fig. 1,2) exchanged with the renowned and gentle writer Ilias Venezis (Fig. 3), two more (Fig. 4,5) with the progressive and subversive, educator Evangelos Papanoutsos (Fig. 6), and one (Fig. 7) with the writer, journalist and theatre administrator Kostis Bastias (Fig 8). Reading these brief correspondences, one can quickly grasp Louros's intention to solidify the use of the vernacular as the scientific language of modern Hellenism, leveraging the influence of reputable writers, educators, and journalists.

1. Louros to Venezis (Fig. 1)

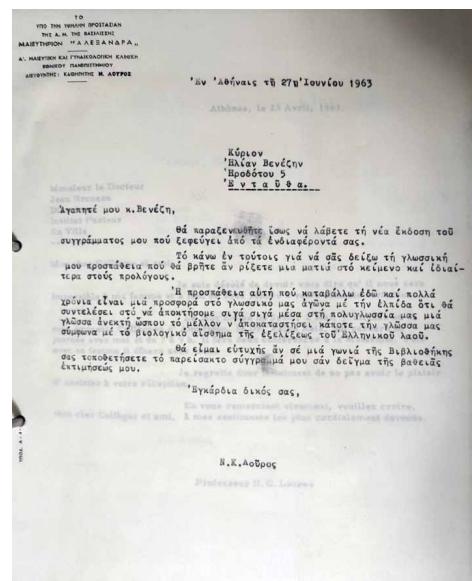


Figure 1. Louros to Venezis, June 27, 1963.

27 June 1963

You may be surprised to receive the new version of my writing that is beyond your interests. (Gynaecology and Obstetrics)

I do it anyway to show you my linguistic effort, which you will find if you take a look at the text and especially the prefaces.

The effort I have been making for many years is a contribution to our language struggle in the hope that it will contribute to slowly acquiring within our multilingualism a language tolerable until the future restores our language in accordance with our biological feeling of the evolution of the Greek people.

I shall be glad if you will place my unnormal enclosed book in a corner of your library as a token of my deep appreciation.

Sincerely yours
N.K. Louros.

2. Venezis to Louros (Fig. 2)

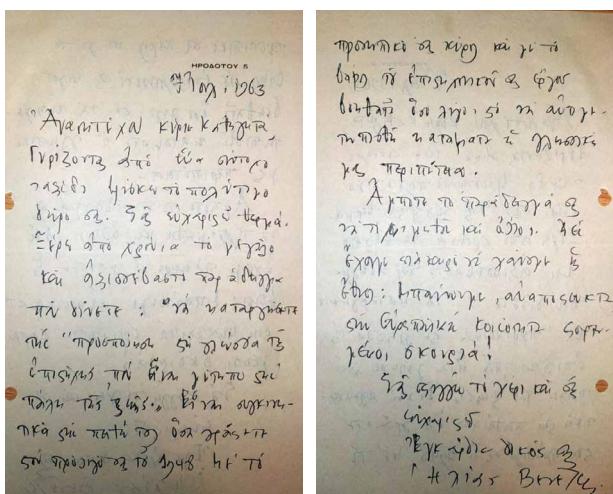


Figure 2. Venezis to Louros, July 7 1963.

7 July 1963

Dear Professor,

Returning from a short trip I found your precious gift. Thank you very much. I have known for years the great and venerable example you set: "to remove the pretence in the language of science which is a front in the struggle of life." What you write in the preface of 1948 is moving in its persuasion.

With your personal prestige and the weight of your scientific work, you help as few as possible to confront our linguistic adventure head on. Then your example may be imitated by others. We have no more time to waste as a nation. We inevitably enter the European community loaded with rust. I shake your hand and thank you.

Sincerely yours
N. K. Journe



Figure 3. Elias Venezis: March 4, 1904 – 3 August, 1973.

3. Louros to Papanoutsos (Fig. 4)

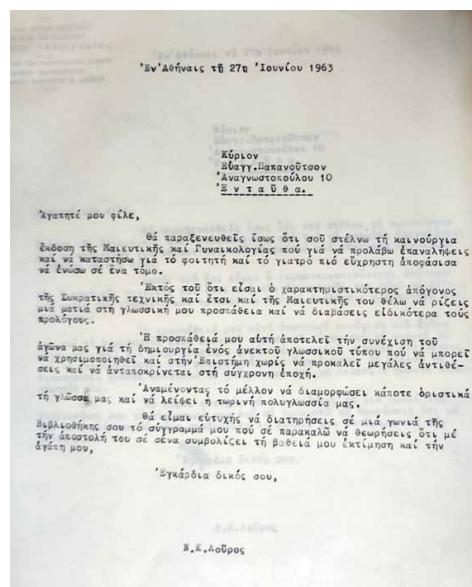


Figure 4. Louros to Papanoutsos, June 27, 1963.

June 27, 1963

*You will perhaps be surprised that I am sending you the new edition of *Obstetrics and Gynaecology* which, in order to prevent repetitions and to make it easier for the student and the doctor, I have decided to unite in one volume.*

Apart from the fact that you are the most characteristic descendant of the Socratic technique and thus of his Midwifery, I want you to take a look at my linguistic effort and read the prefaces in particular.

This effort of mine is a continuation of our struggle for the creation of a tolerable language type that can also be used in science without causing

ing great contradictions and that responds to the contemporary era.

Expecting the future to once and for all shape our language and to miss our current multilingualism.

I will be happy for you to keep in a corner of your library my book, which please consider that by sending it to you, it symbolizes my deep appreciation and my love.

Sincerely yours,
N.K. Louros

4. Louros to Papanoutsos (Fig. 5)

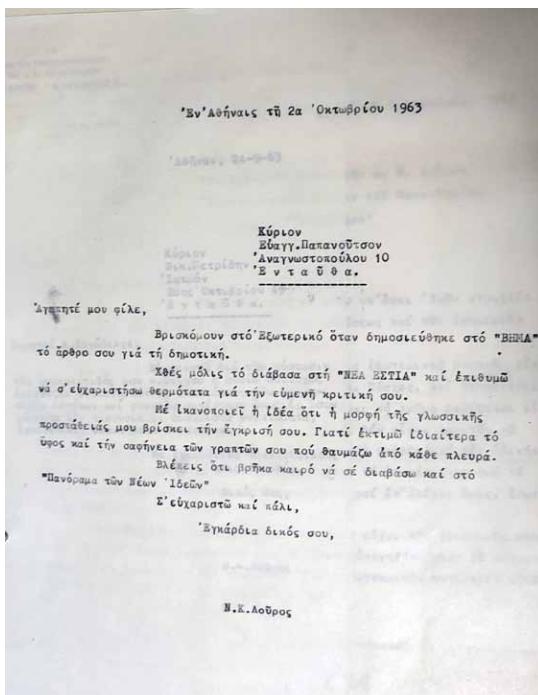


Figure 5. Louros to Papanoutsos, October 2, 1963.

2 October 1963

My dear friend,

I was abroad when your article about vernacular Greek was published in VIMA.

I just read it yesterday in "Nea Hestia" and I want to thank you very much for your kind review.

I am satisfied with the idea that the form of my linguistic effort meets with your approval. Because I especially appreciate the style and clarity of your writings which I admire from every angle.

You see that I also found time to read you in the Panorama of Ideas. Thank you again,

Cordially yours
N.K. Louros



Figure 6. Evangelos Papanoutsos: July 27, 1900 – May 2, 1982.

5. Louros to Kostis Bastias (Fig. 7)

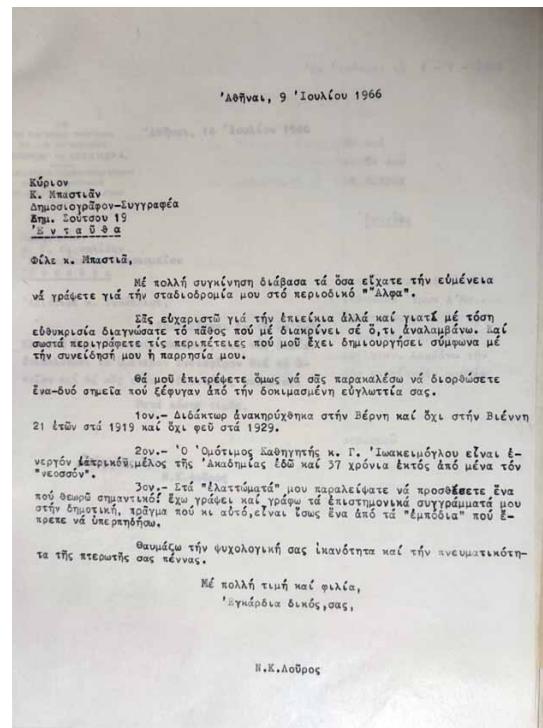


Figure 7. Louros to Kostis Bastias, July 9, 1966.

July 9, 1966

Dear Mr. Bastia,

It was with great emotion that I read what you were kind enough to write about my career in Alfa magazine.

I thank you for your leniency but also because you have diagnosed with such frankness the passion that distinguishes me in what I undertake. And you rightly describe the adventures which my impudence has created for me according to my conscience.

But you will allow me to beg you to correct one or



Figure 8. Kostis Bastias: 5 February 1901-25 December 1972.

two points which have escaped your tried eloquence.

1. I was declared a Doctor in Bern and then in Vienna aged 21 in 1919 and not in 1929.

2. The emeritus professor Mr. G. Ioakeimoglou has been an active medical member of the Academy for 37 years except for me the newborn.

3. To my defects you omitted to add one, which I consider important. I have written and am writing my scientific papers in vernacular Greek, which is probably one of the obstacles I had to overcome.

I admire your psychic ability and the wit of your pen.

With much respect and friendship,

Cordially your's

N.K. Louros

Discussion

In this interview, published in June 1966 in the Greek magazine "Alfa", the eminent and experienced

journalist and writer Kostis Bastias offers a unique portrayal of Louros's scientific career. Rather than presenting a chronological biography, Bastias provides an experiential narrative. He recounts the life of a physician who was not seduced by the allure of the stage or artistic acclaim, but was driven by a profound and intrinsic desire to contribute to the well-being of his fellow humans through medical science. Bastias paints Louros's career as a challenging journey. Once Louros committed to his path, he quickly realised that his quest was not going to be easy but would be fraught with both internal and external barriers. Kostis Bastias describes Louros's career as an "obstacle-ridden road", a path on which Louros ultimately triumphed through sheer will, a pragmatic approach, and a robust social presence across multiple levels, all underscored by a deeply humanitarian spirit.

Conclusions

This brief overview offers just a glimpse of what we might uncover from a thorough examination of Louros' archive, which deserves to be studied in depth. Such a study would not only illuminate his diverse and dynamic life—encompassing political, social, and scientific facets on an international scale—but also serve as an exemplar for younger medical scientists. Today's medical professionals often grapple with the impersonal nature of automation, technocracy, and unrestrained utilitarianism, losing sight of their humanity and that of those around them, whom they have an obligation to serve. Louros' life and work underscore the importance of humanism in medicine: the recognition and respect of human existence as a complete spiritual and emotional entity. It is crucial that this legacy inform and inspire current and future generations in the medical field.

ΠΕΡΙΛΗΨΗ

Η απόμακρη γνωριμία μου με τον φιλόσοφο γιατρό Νικόλαο Λούρο και η κοντινή με το αρχείο του.

Αγαμέμνων Τσελίκας

Στο άρθρο αυτό παρουσιάζονται πέντε επιστολές που αντάλλαξε ο ακαδημαϊκός γιατρός και φιλόσοφος Νικόλαος Λούρος με ανθρώπους των γραμμάτων κατά τα έτη 1963 και 1966 με αφορμή την έκδοση του συγγράμματός του «Μαιευτική και Γυναικολογία» (Αθήνα 1963) και μία συνέντευξη στο περιοδικό «'Αλφα» (Ιούνιος 1966). Ο Λούρος είχε συνειδητοποιήσει και αποδεχτεί πλήρως ότι η Δημοτική μπορούσε θαυμάσια να αποδώσει επιστημονικές έννοιες και τόλμησε ως πρωτοπόρος να εκδώσει το σύγγραμά του στην απλή Δημοτική διαπνεόμενος από το πνεύμα του επιστημονικού ανθρωπισμού, δηλαδή του να παράσχει τη δυνα-

τότητα σε όσο δυνατόν ευρύτερο κοινό να προσεγγίσει και να κατανοήσει εύκολα την επιστημονική γνώση. Η δυνατότητα για την παρουσίαση των επιστολών αυτών μου δόθηκε από τον καθηγητή και φίλο Αθανάσιο Διαμαντόπουλο, ο οποίος είχε ταξινομήσει και καταγράψει το πλουσιότατο αρχείου του ανθρωπιστή και ακαδημαϊκού Νικολάου Λούρου, που απόκειται στο ομώνυμο ίδρυμα. Στους φακέλους της αλληλογραφίας εντοπίστηκαν οι πέντε επιστολές που εδώ παρουσιάζονται. Πρόκειται για δύο επιστολές μεταξύ του Λούρου και του λογοτέχνη Ηλία Βενέζη (1963), δύο με τον φιλόσοφο Ευάγγελο Παπανούτσο (1963), και μία προς τον δημοσιογράφο και λογοτέχνη Κωστή Μπαστιά (1966). Οι επιστολές αυτές αποτελούν ένα ελάχιστο δείγμα της αποδοχής των γλωσσικών ιδεών του Νικολάου Λούρου από την πλευρά σημαντικών πνευματικών εκπροσώπων της εποχής του ως προς τη χρήση της Δημοτικής στα επιστημονικά συγγράμματα.

Ως προς την απόμακρη γνωριμία μου με τη δράση και παρουσία του Νικολάου Λούρου στα πνευματικά πράγματα της χώρας μας γίνεται αναφορά στη συμμετοχή του στην «Ελληνική Ανθρωπιστική Εταιρεία», που είχε ιδρύσει ο καθηγητής της Κλασικής φιλολογίας στο Πανεπιστήμιο Αθηνών Κωνσταντίνος Βούρνερης, της οποίας ως φοιτητής παρακολούθησα τη δράση και τις διαλέξεις της (1968-1969), όπως και αργότερα ως προϊστάμενος του Ιστορικού και Παλαιογραφικού Αρχείου του Μορφωτικού Ιδρύματος της Εθνικής Τραπέζης από το 1980, του οποίου ο Νικόλαος Λούρος υπήρξε μέλος του πρώτου Διοικητικού Συμβουλίου του.

Λέξεις Κλειδιά: Αγαμένων Τσελίκας, Νικόλαος Λούρος, Ηλίας Βενέζης, Ευάγγελος Παπανούτσος, Κωστής Μπαστιάς

Corresponding author:

Agamemnon Tselikas

e-mail: agatselikas@gmail.com

Professor Nikolaos Louros, a concerned scientist in twentieth-century Athens

Katerina Gardikas

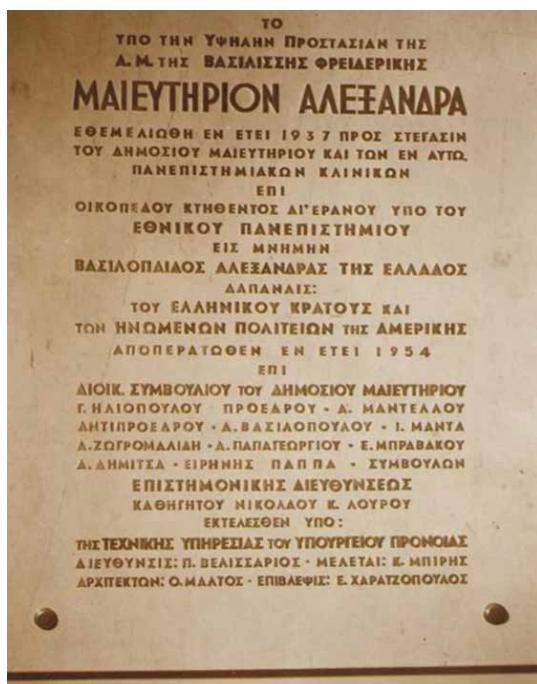


Figure 1. Alexandra Maternity Hospital, Commemorative plaque, 1954. It is written on it that the Hospital was named after the late Greek Princess / Grand Duchess of Russia Alexandra, who died at the age 21 after a premature delivery. Also, that will function under the aegis of Queen Frederica and the Directorship of Professor Nikolaos Louros.

Abstract

The personal papers of Nikolaos Louros present an invaluable source of information on Louros's place in the medical, social, cultural and political history of twentieth-century Greece. A royalist, liberal and keen observer of scientific and social developments, he participated actively in the shaping of the country's post-war progress in medical education, institutions and ideas.

Key Words: *Archival material, biography, medicine, politics*

Introduction¹

The seminar celebrates the legacy of Nikolaos Louros by presenting the descriptive catalogue of the

Louros private papers that was compiled thanks to the exemplary work of Christos Marinis and, above all, the care and expertise of Professor Diamandopoulos.

¹Historian, Department. of History and Archaeology National and Kapodistrian University of Athens, orcid.org/0000-0002-7791-2986

The archival documents reflect a long and rich life in public service, intellectual and scientific investigation and social commitment. I was deeply honoured to have been asked to take a brief look at the Louros papers; so, I have chosen to reflect on Louros as a concerned scientist of his age and to suggest a small selection of lines of research, namely his commitment to medical history, to democratic values, environmental protection, and his approach to the fields of eugenics and social medicine.

Medical history

I shall initially outline the life trajectory of Nikolaos Louros against the events that marked the broader historical context of the twentieth century. In fact, Nikolaos Louros died at the age of 88 in 1986, in other words, his life spanned the best part of the twentieth century.

He was the son of Konstantinos Louros, who had been a university professor and royal obstetrician, had been trained in the German medical tradition and was active in politics with a career in the royalist camp. Nikolaos was twenty-years old at the end of the First World War, received his doctorate from the university of Bern a year later and followed in his father's footsteps. His early academic career began in interwar Germany, where he matured as a medical researcher, but in 1929 he returned to Greece, a country split into two political camps. He continued his career in gynaecology in Greece and later became professor of Obstetrics and Gynaecology. For the hardships, persecution and arrest that he experienced during the country's German occupation he had none other to thank but the other professor of Gynaecology, quisling prime minister and Nazi ideologue, Konstantinos Logothetopoulos².

When Greece was again free in late 1944, Louros was 46 years old. As we shall see, his engagement with social and political issues, both theoretical and applied, began in earnest immediately thereafter. With the brief seven-year interval of the military dictatorship approximately at the time of his retirement, the rest of his long life unfolded in the context of Greece's restored political and social environment that was backed by its steady economic progress. In 1974, at the age of 76, he served as minister for education in the first Karamanlis cabinet that restored democracy after the fall of the dictatorship³.

Nikolaos Louros, who dedicated his estate to the study of medical history, was himself a keen medical historian. Many of his publications are full of refer-

ences to the history of his field, both ancient and modern. For instance, in one of his papers he singled out a contribution to modern medicine thanks to two Greek physicians, namely the eighteenth-century Greek doctors Emmanouil Timonis from the Ottoman-held island of Chios and Iakovos Pylarinou from Venetian-held Cephalonia, both trained in Padua. In 1714 the two doctors saw their findings on the effect of inoculation against smallpox as practiced by traditional medics in the Ottoman Empire, appear in the *Transactions of the London Royal Society*. Effectively, the two doctors had bridged the cultural divide between eastern folk medicine and western scientific medicine. Just three years later, Lady Montagu, the wife of the British ambassador to Constantinople, had her son inoculated for smallpox by the "old woman" expert in local popular medicine; then, on Lady Montagu's return to London, she introduced the practice to the British aristocracy, the scientific and political establishment and ensured her own international fame⁴.

This instance of European medical and cultural history drew the attention of the medical historian in Nikolaos Louros, who wished to challenge the received wisdom of his time. Furthermore, late in life, Louros went on to found the Greek Society for the History of Medicine and became its first President.

Political values

As noted, Louros was born into the court social environment and remained loyal to the palace. He was a member of the royal household as physician to the royal family and, understandably, his worldview was largely affected by that environment. His personal papers include a photograph of his official pass to the royal palace that was issued in April 1954 as proof of identity (Figure 2).

Aside from the palace's political meddling and violation of the constitution, there were issues in which it played a constructive role that can often be seen to align with Louros's medical priorities and social sensibilities.

For one, the Greek court embraced, if not a tradition, at least a distinct partiality for literary demoticism, as explained by Agamemnon Tsikas. The royal family were also patrons of charitable institutions, most notably hospitals. Furthermore, in the 1950s and 1960s the royal family, specifically queen Frederika, was a staunch supporter of scientific research and was instrumental in promoting the US-backed projects to establish the country's principal scientific research



Figure 2. Nikolaos Louros's official court pass, April 1954. Louros personal papers.

institutions, i.e. the National (Royal, at the time) Hellenic Research Foundation and the National Centre for Scientific Research “Democritos”⁵. Thanks to his role as royal obstetrician, Louros was therefore perfectly placed to draw on royal support for his plan to set up a modern Maternity Hospital, a national priority for well over a century (Figure 3). Besides, from early on in his career Louros, had focused his research on major causes of women’s mortality, most notably cervical cancer. He now translated his scientific knowledge and access to power and patronage into social and administrative action.

Thus, in 1954 the Alexandra Maternity Hospital was completed with US funding and the court's support and patronage thanks to Louros — at long last, after more than sixty years of frustrated efforts — and named after a Greek princess and Russian grand duchess, who had died in childbirth in 1891. A plaque celebrated this achievement and honoured the major contributing parties⁶ (Figure 1).

As becomes clear from the documents in the archive, Louros's pro-democracy liberalism and his participation in the group of liberals for the restoration of democracy in 1973, after six years of military dictatorship, was to some degree motivated by his desire to see a liberal regime of constitutional monarchy restored in Greece. A Declaration of the Coordinating Committee for the Restoration of Democratic Legitimacy ahead of the sham referendum of 1973, dated 29 June 1979, of which Louros was a member along with other academics as well as former diplomats and state functionaries, reflects his serious engagement with the major political causes of his time⁷.

Environmental protection

Nikolaos Louros was equally sensitive to the emerging environmental hazards associated with the industrialisation of Greece in the early 1970s. The threat to the town and countryside around Pylos in southwestern Peloponnese, an area that the Karamanlis government allocated to shipping interests with plans to have a shipyard and other industrial plants built in 1975, produced an international outcry, given the historical, archaeological and wider cultural significance of the location. Louros supported the protest, which eventually proved effective, and Pylos was saved⁸. In fact, the incident coincides with the rise of an incipient environmentalist movement in Greece in the early and mid-1970s.

Eugenics

In the aftermath of the Second World War and in the early Cold War years, most western societies experienced anxieties about their future, particularly regarding the future of postwar Europe. Demography and health were at the centre of these anxieties. A new field of population studies emerged that gave a fresh impetus to eugenics and imbued it with a demographic and a renewed public health perspective. Influenced by British and US eugenicists, a Hellenic Eugenics Society was created in 1953 with Nikolaos Louros serving as its second president and most influential member (Figure 4).

Recently, Alexandra Barmpouti, a Greek medical historian, was given access to the Louros papers, and produced a fine book titled *Post-War Eugenics, Reproductive Choices and Population Policies in Greece*,



Figure 3. Queen Frederika's visit to Alexandra Maternity Hospital, 1954. Louros personal papers.

1950s–1980s, which explores the history of the Greek eugenics movement and Louros's role in it. The Hellenic Eugenics Society is at the centre of her story. Among other issues, she highlights how Louros drove the debates on eugenics, overpopulation, birth control and reproduction management out of an exclusively medical discourse and brought it to a broader audience in articles in the press and in public lectures, how he challenged entrenched, conservative attitudes to reproduction and, furthermore, how he made his own hospital, the Alexandra Maternity Hospital, the focal point of reference on these matters⁹.

One of the primary concerns of Nikolaos Louros in the postwar years was the demographic development of Greece. He observed that, while the rest of the world was threatened by overpopulation, the national figures in Greece indicated a demographic decline which was contrary to the global trend. Louros singled out abortion as the primary cause of this trend. He therefore campaigned to educate families on adopting contraceptive methods to plan the size of their families and favoured legalising the use of contraceptive pills. He conducted his campaign despite the legal prohibition against all forms of women's contraceptive methods and the ideology and social forces underpinning these prohibitions. Also, for Louros, the high rate of neonatal mortality in Greece was a contributing factor to the

negative population trends; reversing this required public health care measures.

The broader global issue of overpopulation, however, called for an international campaign for birth control but also generated a sense of alarm for the future of Europe and its place in the world. This sense of alarm was couched in the unmistakably racist and colonial terms that ran through much of the language of population studies at the time. They also left Louros ambivalent on the issue of birth control, when addressing the issue of global overpopulation. In one of his papers delivered in 1962, Louros warned:

Irrespective of whether the limitation of births is feasible from a scientific and social perspective or advisable, if they are successful, the measures currently implemented primarily by the Anglosaxon countries and their intensive promotion will lead to the restriction and suicide of the white race, if the coloured races that multiply so profusely do not follow the same measures. Given that their implementation among the underdeveloped populations meets with unsurmountable social and religious difficulties, it should be considered certain that, without a global commitment to apply birth control, the coloured races are destined to flood the globe and sidetrack the white race, if the latter goes ahead with birth control¹⁰.

Π Ι Κ Α Σ				
'Ιερυτικῶν μελῶν τοῦ ιδρυτικοῦ Σωματείου ὑπό τὴν ἐπωνυμίαν				
ΒΑΣΙΚΗ ΣΤΑ ΙΡΙΑ ΕΥΤΟΝΙΚΗ				
1. Αλιβεζάτος Γεράσιμος	Καθηγητής Ιαν/ου	Αθήνας	Αχαρνῶν 168α	
2. Αντωνόκοπος Δημήτριος	"	"	Α. Αλεξανδρεας 4	
3. Βαλαώρας Βασιλείος	"	"	Ασκληπειού 14	
4. Διανόπαλος Σύμγελος	"	"	Βερυντέρου 47	
5. Δοξιδής Επιφέλαν	Ιατρός	"	Ωμήρου 50	
6. Ηγουμενόποιος Πεύργιος	"	"	Γραβιές 9	
7. Καμιλόπετρος Ιωάννης	"	"	Α. Μεταξά 17	
8. Καναβαριάτος Ηλία	οικονομός	Γλυφάδα	Μέριδης I	
9. Κατσαρής Κων/νος	Ιατρός	Αθήνας	Εύδηλα 6	
10. Κατακουζηνός Σύμγελος	Καθηγητής Ιαν/ου	"	Βινδέρου 7	
11. Κωνσταντινίδης Κων/νος	"	"	Ετούρνέρα 57	
12. Καλιλάσης Σενούρων	Ιατρός	"	Κίτης II	
13. Καντέλλος Ασενάριος	"	"	Φακίλινος Κέρηρος 9	
14. Καυτούδης Κων/νος	Καθηγητής Ιαν/ου	"	Πεντέρου 5	
15. Καύσιδης Κωνσταντίνης	Ιατρός	"	Κένουν 3	
16. Παναγιώτου Παναγιώτης	Καθηγητής Ιαν/ου	"	Α. Αμαλίας 44	
17. Παπαδάκης Αντώνιος	Ιατρός	"	Μαυροκορδάτου II	
18. Πουρνάρας Ανέρεας	Δημοσιογράφος	"	Πανεπιστημίου 46	
19. Πουρναρόπουλος Γεώργιος	Ιατρός	"	Πατησίων 79	
20. Καλιγάδηρου Πασιθέα	"	"	Βύρικεδου II	
21. Σαρδήλους Κων/νος	"	"	Πατησίουν 74	
22. Σπηλιώτου Παναγιώτα	"	"	Σατωρίδηνδου 22	
23. Ετεφάνου Αποκήτηρος	"	Καλλιθέα	Εργ. Φορνέζη ΙΙΙ	
24. Τραυλής Διονύσιος	Καθηγητής Ιαν/ου	Αθήνας	Ωμήρου 21	
25. Τσαμπόδης Νικόλαος	"	"	Σαΐμη II	
26. Θυλακτόπουλος Πεύργιος	Καθηγητής Κολλεγίου Υγεικού Υγεικό			

Figure 4. Greek Eugenics Society, List of founding members, December 1953. Louros personal papers.

National health system

In 1945, Louros published a proposal for a national health service scheme for Greece that would address the country's specific health care gridlock: namely its fragmented system of medical care, a major source and product of social injustice, and deal with the commercialisation of medical services; indeed, it would drastically overhaul the entire antiquated system. In his words:

It is time to realize that, however great our gratitude up to now towards private charitable enterprise, Medical Relief must cease to be a question of voluntary philanthropy or of privately financed individual enterprise and must come to be regarded as a right of the citizen and an obligation for the State.

Thus, Public Health and medical relief will be the exclusive function of the State, financed by the Health Fund¹¹.

Louros laid out a system that would be funded by taxation, would be compulsory for all citizens and

would be served by a full-time medical staff. It was designed to replace the prewar fragmented landscape of public and private healthcare and lift Greek society out of its postwar state of poverty and devastation. It was, in fact, clearly inspired by the contemporary ideas on social medicine and health as a basic human right that underpinned the foundation of the WHO, and were included in its charter, and of the National Health Service in Britain a few years later. For sure, in his thinking, Louros was undeniably informed by the ideas of his era and possessed an acute sense of social priorities.

What debates and tensions did Louros's bold approach to social medicine generate in Greece? Did it affect the endless, protracted developments toward the Greek National Health System that eventually came about almost forty years later? Louros never lost interest in the national health system. The title of his last publication shortly before his death in 1986, is titled *To εγώ καὶ το ΕΣΥ*: which could be paraphrased as *The self and the thou*, or, not to miss the Greek pun: *The self and the NHS*.

Conclusion

To conclude: Nikolaos Louros was no socialist; quite the contrary, but it seems to me that he would have subscribed to Rudolf Virchow's form of social awareness and to his famous utterance, that

Medicine is a social science and politics is nothing else but medicine on a large scale. Medicine as a social science, as the science of human beings, has the obligation to point out problems and to attempt their theoretical solution; the politician, the practical anthropologist, must find the means for their actual solution¹².

In light of the above, given that he shared Virchow's liberalism, it would be interesting to explore, on the basis of his own writings and the archival material now at hand, whether this was indeed how Nikolaos Louros saw his own role in politics.

Acknowledgements: I wish to thank Professors Athanasios Diamandopoulos, Stefanos Geroulanos and the Nikolaos Louros Foundation for the History of Medicine and Professor George Christodoulou and the European Association of Professors Emeriti for the honour to speak at the seminar.

ΠΕΡΙΛΗΨΗ

Ο Καθηγητής Νικόλαος Λούρος, ένας προβληματιζόμενος επιστήμονας στην Αθήνα του 20ου αιώνα

Κατερίνα Γαρδίκα

Το αρχείο του Νικόλαου Λούρου αποτελεί ανεκτίμητη πηγή πληροφοριών για τη θέση του Λούρου στην ιατρική, κοινωνική, πνευματική και πολιτική ιστορία της Ελλάδας του εικοστού αιώνα. Βασιλικός, φιλελεύθερος και οξυδερκής παρατηρητής των επιστημονικών και κοινωνικών εξελίξεων, συμμετείχε ενεργά στη διαμόρφωση της μεταπολεμικής προόδου της χώρας στην ιατρική εκπαίδευση, τους θεσμούς και τις επιστημονικές ιδέες.

Λέξεις Κλειδιά: Αρχειακό υλικό, βιογραφία, ιατρική, πολιτική

REFERENCES

1. This paper was presented on 26 November 2023 at the seminar organised in Athens by the Nikolaos Louros Foundation for the History of Medicine and the European Association of Professors Emeriti.
2. A biography of Konstantinos Louros appeared the year following his death; see Louros K. Περασμένα χρόνια (Past years). Athens;1958. Nikolaos Louros' own autobiographical account in Χτες: Αναμνήσεις, εντυπώσεις και στοχασμοί σε επτά πράξεις. Athens (GR): Ελληνική Παιδεία; 1980. (Yesterday: Memories, impressions, thoughts in seven acts. Athens (GR): Greek Education; 1980).
3. Louros N. Personal papers, box Δ2.
4. Hekimoglu A. Atomic era: nuclear power, reactors and uranium in 20th century Greece, [Ατομική εποχή: πυρηνική ενέργεια, αντιδραστήρες και ουράνιο στην Ελλάδα του 20ού αιώνα]. Athens (GR): Παπαδόπουλος; 2023.
5. Maternity hospital "Alexandra": history [Μαιευτήριο "Αλεξάνδρα": ιστορία], [Internet]. [cited 25 Nov 2023]. Available from: <https://hosp-alexandra.gr/to-nosokomeio/> istoria/. (The plaque has sadly been removed).
6. Louros N. Personal papers, box ΙΓ1.
7. Louros N. Personal papers, box Δ2.
8. Nikolaos Louros personal papers, box Δ2.
9. Barmpouti A. Post-war eugenics, reproductive choices, and population policies in Greece, 1950s–1980s. Cham (CH): Cham: Springer International Publishing; 2019.
10. Louros N. Personal papers, box ΙΓ2 (Translation from the Greek original by the author).
11. Louros N. Personal papers, box ΙΔ1.
12. Virchow R. Rudolf Virchow on pathology education [Internet]. 20 Jan 2005 [cited 25 Nov 2023]. Available from: <http://www.pathguy.com/virchow.html>

Corresponding author:

Katerina Gardikas,
Historian
46 Armatolou & Kleftou
11471 Athens, Greece
email: kgardika@gmail.com

Multum in parvo*

Eight examples from the Louros Archive**

Athanasiros Diamandopoulos¹



Figure 1. Nikolaos Louros (the Multus), the Academician, the Court Physician, the President. Oil painting. Dimitris Mytaras painter, 1975. National Galery, Athens.



Figure 2. The little (parvum) Nikolaos, the “Nikaki”, two years old, in the arms of his father Konstantinos. Black and white photograph, 1900, in N. Louros' Book “Pera smena Chronia” (Past Years), p. 196, in Greek, Athens, 1958

Abstract

This paper begins with a brief overview of the late Professor Nikolaos Louros' life, his residence, the eponymous Foundation for the History of Medicine, and his Archive. The main focus is the presentation of eight short entries from the Archive, which initially appear to concern medical matters. However, further research reveals their significance in shedding light on major political, social, and cultural events in Greece. The content of these eight notes includes: One and two - Louros' instructions concerning the fate of his Archive after his death. Three - the peculiar circumstances surrounding the delivery of Queen Geraldine of Albania's first son. Four - Louros' appointment as director of the Evangelismos Hospital's Department of Gynaecology. Five - a case of hymenorrhaphy. Six - events coinciding with the delivery of the Argentine Ambassador's wife, Seven and eight - The tracing of Louros' tomb.

Key Words: Constantinos Kavafis, Constantinos Logothetopoulos, Queen Geraldine of Albania, hymenorrhaphy, Alexandra Maternity Hospital

* Literally, 'Much in a little'. This phrase encapsulates our method of attempting to uncover an extensive narrative from a small fragment in the Archive. Figures 1 and 2 illustrate this concept: Nikolaos Louros is depicted in his advanced age (the multus), and as a two-year-old infant (the parvum), in whose genes the emergence of a genius was destined.

** This article is an expanded version of a lecture about the Louros Archive delivered at the Foundation's premises in a joint Meeting of the Louros Foundation and the European Association of Professors Emeriti on 26 November 2023.

¹Hon. Professor, Medical School Athens, M.D., Ph.D., BSc Nephrologist/Archaeologist, Louros Foundation for the History of Medicine, Athens, Greece



Figure 3. The burdensome inheritance: Views of the Foundation's premises before (above) and after (below) its restoration.

Introduction

1. Nikolaos Louros (1898 – 1986), his life and his bequest

Nikolaos Louros was one of the most creative cultural persons in medicine in Greece during the 20th century. He was the son of Konstantinos Louros (1864-1957) a prominent figure in the medical, social and academic life of the country. His father's name was synonymous with medical reform in Greece, although, as he himself wrote, the challenging conditions of his era prevented him from achieving all he had wished. He was also the uncle of the renowned singer Maria Callas. Nikolaos Louros was born in Athens and died there at the age of 88. He was childless and married twice, with his second marriage to Ioanna Lourou – Mitsotaki.

Like his father, he served as a personal doctor and adviser to the Greek Royal Family, having assisted in the birth of four kings, two queens, and a dozen of princess and princesses of Greece, Romania, Italy and Spain. He was a multifaceted figure, excelling as a medical doctor, academic teacher, art enthusiast, social persona, and historian of medicine. In 1966, he became a regular member of the Athens Academy and in 1976, its President.¹ In his will, he established the Louros Foundation for the History of Medicine, bequeathing to it his grand residence with all its contents, along with two additional flats. Among its contents was his extensive archive. The residence, located at 5, Semitelou Street, Ampelokepoi, Athens, comprises the top floor of a listed five-floor build-

ing. It was designed by the progressive architect Nikos Valsamakis (1926 -) in the early 1950s and contributed to the renewal of modern Athens's architectural image.²

2. The inheritance.

Thus we, as the second Board of Directors*, inherited both the Foundation and the Archive. It was indeed a burdensome inheritance. Figure 3 depicts the view of the flat when it was taken over by the Board and its eventual transformation, not achieved by parthenogenesis! A noteworthy aspect of the refurbishment is that it was just a tiny silk sample, salvaged from the original upholstery, which served as a guide, leading us to the discovery of many metres of similar material in an Athens workshop, just before it closed down, more than eighty years after the residence's original decoration. This material was then used for the new upholstery.

When we took over that derelict flat, we also encountered a "mountain" of 43 large cardboard boxes filled with papers, photographs, and notebooks, all in disarray. We did not know how to manage this obstacle, which covered the entire floor of the second bedroom. Therefore, we moved it "temporarily" to the sitting room and began the restoration work in the bedrooms. Subsequently, this "mountain" was transferred to the

*The Board Members were: President, Constantinos Trompoukis, Vice President and Curator, Athanasios Diamandopoulos, General Secretary, Stephanos Geroulanos, Treasurer, George Antonakopoulos, Member, The Dean of the Athens Medical School.

University of Crete, where our President, Constantinos Trompoukis, was serving as an assistant professor and was given access to some storage space. Later, when he was promoted to Associate Professor and moved to Ioannina, the 43 crates returned to Athens. Still, there was no appropriate place for them, so the old servants' apartment in the loft was used as a makeshift storage area.

Because the latter was derelict, after eight years, it was decided to refurbish it. Hence, the crates were moved once again, this time into the dining room downstairs. At that point, I thought, "enough is enough," and undertook the task of roughly sorting and classifying their contents, while also seeking a proper resting place for them.

It was at that point that a treasure trove emerged. Tens of thousands of handwritten, typed, and printed pages, photographs, and ephemera, all half-classified or loose, were discovered. These had been managed by the late Mrs. Foteini Kotsi, the legendary faithful secretary to Louros for decades. She was his trusted confidante in every aspect of his activities, his alter ego, storing all his papers and materials in her little enclave in the basement of Louros' flat.

What was stored? The late Louros kept, like a magpie, literally everything. His collection ranged from all his mother's affectionate and instructive letters to him, dating back to 1916 (Fig. 4) until her death, to his correspondence with royalty and eminent politicians, giants of science and the arts, as well as patients and colleagues from Greece, Germany, the UK, the USA,

and France. He even saved bus tickets and restaurant menus. The collection included volumes of scientific articles, manuscripts for extensive books yet to be published, and lectures delivered at every type of gathering. There were also films of pioneering surgical operations for that era, receipts for his smallest expenses, telephone bills, and telegrams on various social events.

Reading through all this, nearly a century of life comes back to life. The correct court etiquette sits alongside a "thank you" note to a peasant who sent him a turkey as a Christmas gift. His numerous law drafts from his tenure as Minister of Education sit next to recommendation letters for his servants. Overall, we catalogued 300 pages of titles from his stored documents, with some titles corresponding to hundreds of pages. Surprisingly, not a single letter was found between him and his first wife, Lilika Christomanou—descendant of the old aristocratic Benizeloi family—or his second wife, the beloved Ioanna Mitsotaki, daughter of a wealthy wine merchant from Constantinople and London and eventual donor to our Foundation. However, there were some naughty erotic notes from an extramarital affair with the mysterious lady L.F.

Louros did not adhere to Frederick Forsyth's dictum: "*Commit nothing to paper, and certainly not to a computer or a cell phone. Keep it in your head. It's the only private place we have left*". By writing down everything, he gave us the opportunity for benevolent gossip. Personal archives reflect not only what a

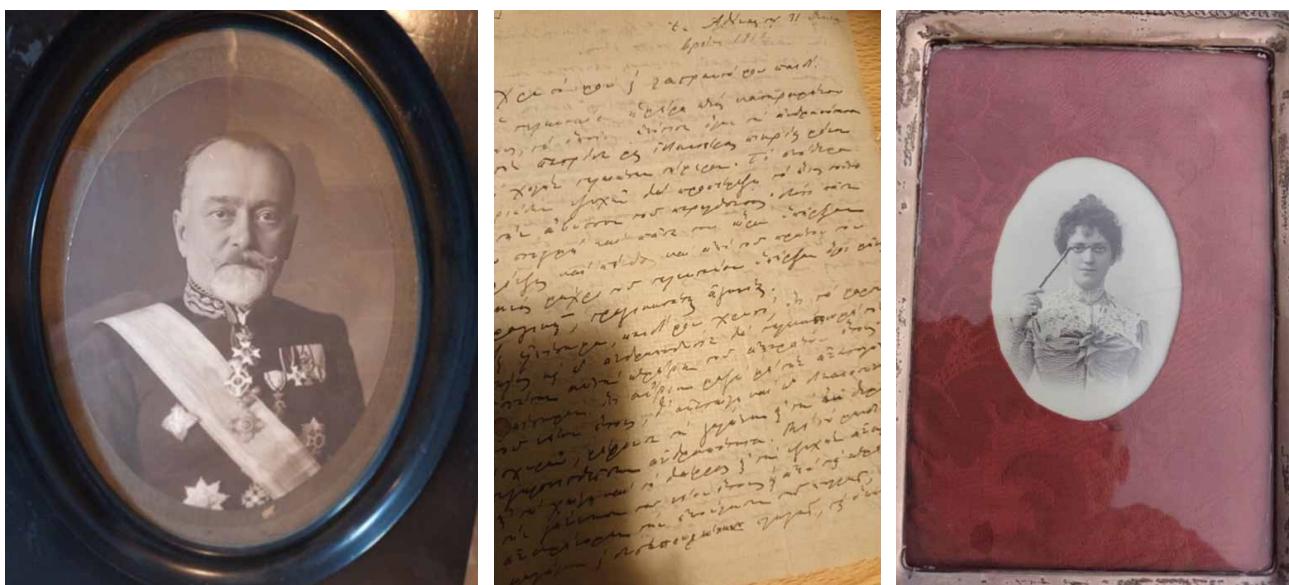


Figure 4. On the left, a photograph of Konstantinos Louros, the father. On the right, Euphrosyne, the mother. In the middle, a hand-written letter by his mother to "Nikaki" in 1916. All three are displayed in the Foundation.

person does or thinks but who they are and how they envision and experience their lives. In summary, we unearthed a gold mine of information from the archive classified in Table 1.

But unearthing anything requires extensive digging. For hours, for days, for months. Not alone, however. Like a *deus ex machina*, a collaborator appeared in the form of Mr Christos Marinis, a philologist. Initially employed by the Foundation on an hourly wage, he and I gradually became so enthralled by the Archive's contents that we worked together as a team, driven by enthusiasm and stamina. As George Eliot said, "*It is hard to believe long together that anything is 'worthwhile,' unless there is some eye to kindle in common with our own, some brief word uttered now and then to imply that what is infinitely precious to us is precious alike to another mind*".³ Thus, like Robinson Crusoe and his man Friday, we toiled for endless periods on the deserted Archive Island, striving not for our own survival, but for the preservation of the invaluable information hidden within the Archive.

Two of the eight documents discussed in this article emerged almost at the end of our task, revealing the late Louros' aspirations for the fate of his Archive. The first is a letter to Mrs Kotsi, his devoted secretary, written in 1967. In it, he implores her to collect all his papers and other documents stored in her office, his study at Alexandra Hospital, and his private house, foreseeing that they will be of assistance to future re-

Table 1.

a. His Ancestry
b. His father and mother
c. His early years as a student in Germany and Switzerland
d. His career in Greece
d1. His life as a professor
d2. His life as a clinician
d3. His life as a man of the society
d4. His life as a dreamer
d5. His life as a man of letters and arts
d6. His life as doctor to the Royal Family
d7. His personal life
d8. His Legacy (House, Archive)

searchers. The letter was written in a very sentimental and personal tone.

The other document is a letter to the President of the Athens Academy, instructing him to collect all the contents of the Archive immediately after his death, store them in the Academy, and, after twenty years, appoint a researcher to classify, study, and publish the materials (Fig. 5). Mrs Kotsi tried to fulfil her duty, but the Academy ignored his wish altogether. Thus, Mr Marinis (who vividly describes his feelings about his work with the Archive in another article in this issue of *Deltos*) and the author of this article undertook this

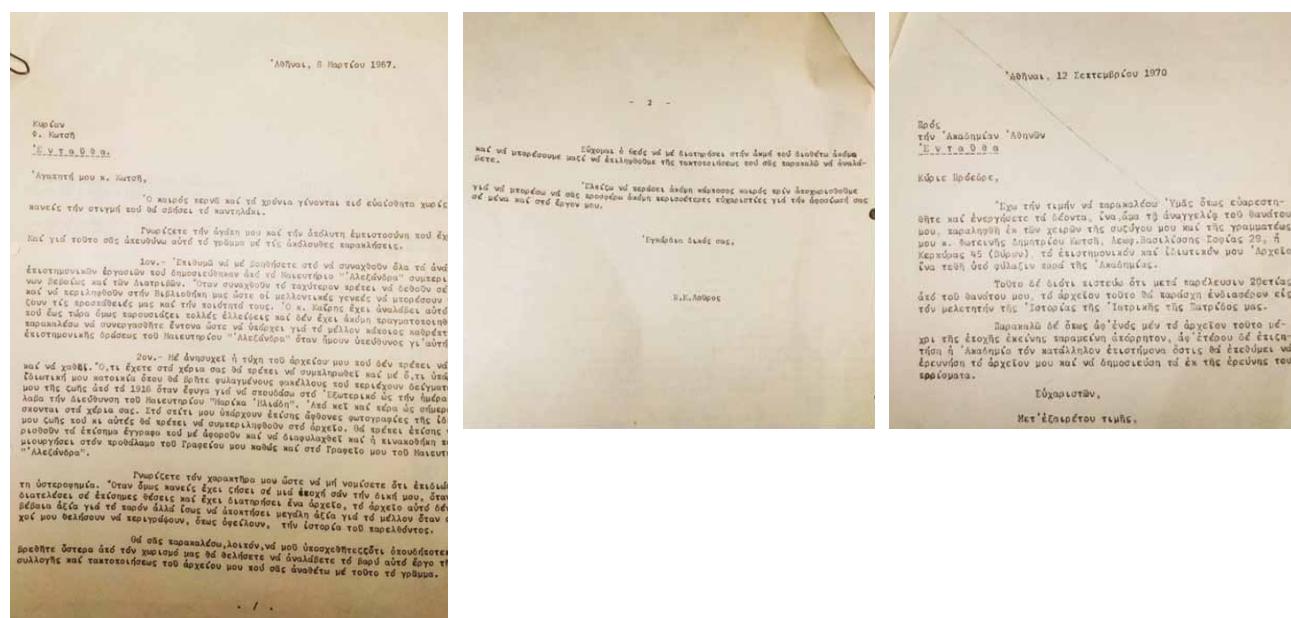


Figure 5. The two pages on the left are from Louros' letter to his secretary, Mrs. Kotsi, and the one on the right to the then President of the Athens Academy. In both, he expresses his wishes about the fate of his Archive.

obligation. When the high and mighty fail, humbler workers take over.

The first letter to Mrs Kotsi revives the almost lost figure of the devoted secretary who adored her boss and dedicated all her energy to resolving not only secretarial matters but anything that might disturb him. Interestingly, Nikolaos, in his will, ordered a life-long allowance to be paid to her. The second letter, addressed to the President of the Academy -and the total indifference shown to it -, highlights the arcane system by which even the most acclaimed organisations operate, allowing time to pass them by.

In the following part of the article, a few more examples will be presented to illustrate how documents from the Archive shed light on broader issues. In Box A1, containing medical essays, drafts for articles, and books, under serial number 23, there was the typographic proof of an article with the intriguing title "Chasing the Queen of Albania".⁴ In this article, Louros vividly recalls an urgent call from the then Greek Prime Minister Ioannis Metaxas, urging him to rush to Tirana and assist in the delivery of Queen Geraldine's first son. He hurried to the frontiers on an old-fashioned train—no airplane was available—but en route, he was informed that just two days earlier, Italy had invaded Albania. King Zog, after broadcasting a patriotic address to his people,

Unfaithfulness (English)

*At the marriage of Thetis and Peleus
Apollo stood up during the sumptuous wedding
feast and blessed the bridal pair
for the son who would come from their union.
"Sickness will never visit him," he said,
"and his life will be a long one."*

When later their brave son Achilles was killed in his prime at the Trojan War and Thetis (his mother) in her grief, recalling that wedding scene, asked what the wise Apollo was up to,

*where was this poet who holds forth
so eloquently at banquets, where was this prophet
when they killed her son in his prime.
And the elders answered that Apollo himself had
gone down to Troy
and together with the Trojans had killed her
son.⁵*

Eighty-three years later, Louros' report was verified. In April 2023, the Albanian General Directorate of Archives published a document signed by Gjon Lusha, stating that on 8 April 1939, King Zog crossed

had escaped with the Queen and his entourage to Greece. Louros took another train, and the two trains ended up chasing each other, eventually meeting at midnight in Larissa, Central Greece. Under all this heavy stress, the Queen had prematurely delivered the baby on a carpet on the floor of the Tirana Royal Palace, without any doctor or midwife in attendance. Louros expressed his and the Greek government's sympathy but could not help noticing that another wagon of the royal train was filled with crates of gold, the royal family's security for their lives in exile.

This little-known story aroused my curiosity, so I conducted a search on the web. I discovered that the beautiful Geraldine (Fig. 6), a scion of a very old noble Hungarian family, married King Zog in Tirana on 27th April 1938. Lavish celebrations followed, with Count Ciano, Mussolini's Foreign Minister and son-in-law, serving as the couple's best man (Fig. 7). He wished them and their descendants every happiness. Less than a year later, on 7th April 1939, Mussolini invaded Albania, ousting the couple and the two-day-old Prince Leka into exile (Fig. 8). As Ciano wrote in his memoirs, they waited for the baby to be born before they attacked. The whole story echoes Konstantinos Cavafy's poem "Unfaithfulness."

Απιστία [1904]

*Σαν πάντευναν την Θέτιδα με τον Πηλέα
σηκώθηκε ο Απόλλων στο λαμπρό τραπέζι
τον γάμου, και μακάρισε τους νεονύμφους
για τον βλαστό που θα 'βγαινε απ' την ένωσί των.
Είπε· Ποτέ αυτόν αρρώστια δεν θ' αγγιξει
και θα 'χει μακρινή ζωή.*

Και όταν αργότερα ο γενναίος γιός τους Αχιλέας σκοτώθηκε στο άνθος της ηλικίας του στον Τρωικό Πόλεμο, η Θέτις ολοφυρομένη ανακάλεσε τη γαμήλια σκηνή:

*Και μες στον οδυρμό της τα παλιά θυμήθη·
και ρώτησε τί έκαμνε ο σοφός Απόλλων,
πού γύριζεν ο ποιητής που στα τραπέζια
έξοχα ομιλεί, πού γύριζε ο προφήτης
όταν τον νιό της σκότωναν στα πρώτα νιάτα.
Κι οι γέροι την απήντησαν πως ο Απόλλων
αυτός ο ίδιος εκατέβηκε στην Τροία,
και με τους Τρώας σκότωσε τον Αχιλλέα*

the border with Greece, and during an inspection, the following were found: 250,000 napoleons of King Zog's gold; 60,000 of Abdurrahman Mati; 40,000 of the General and 40,000 of Minister Musa Juka (Fig. 9).



Figure 6. Queen Geraldine of Albania (nee Apponyi).



Figure 7. Photograph of the royal wedding between Geraldine and King Zog on 27 April 1938 in Tirana. Count Ciano (on the left) served as a witness, while the couple drove away in a luxurious car gifted by Hitler.



Figure 8. Front page of the News Chronicle on 8 April 1939, announcing Italy's invasion of Albania.

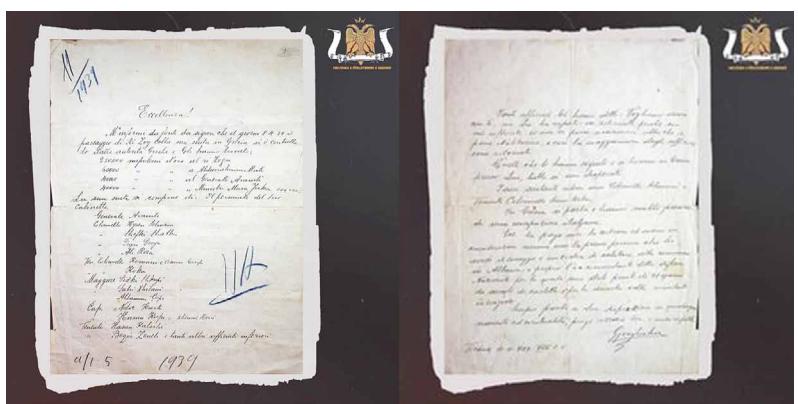


Figure 9. The document of the General Directorate of Archives in Albania, published in April 2023, reporting the sums taken from the National Bank by the departing King Zog.

Another very interesting small piece written by Louros begins with an urgent call he received on 17th November 1936 while he was at the golf course. He was summoned to deliver the baby of the Argentine Ambassador's wife. He hurried and successfully completed the delivery just in time to join the huge crowds gathered to witness the solemn procession (Fig. 10) of the coffins containing the mortal remains of King Constantine, Queen Sophia, and Queen Mother Olga, which were being transferred from the Russian Orthodox Church crypt in Florence to the Tatoi Royal

Cemetery. The entire Royal Family, the Government, Orthodox prelates, generals, ambassadors, and others, all in full ceremonial attire, participated in the procession. As an ardent royalist, Louros could not miss the event. However, in a prophetic mood, he wrote shortly afterward: *"This was not just the funeral of the royals. It was the funeral of this kind of pomp. Gilded swords, plumes with feathers, morning suits—all these will disappear."* His foresight echoed another poem by Konstantinos Cavafys, on the coronation of Cleopatra's children in Egypt:



Figure 10. Scenes from the pompous return of the remains of King Constantine, Queen Sophia and Queen-Mother Olga from Florence to Athens, on 17/11/1936.

The Alexandrian Kings

*The Alexandrians were gathered
to see Cleopatra's children,
Caesarion, and his little brothers,
Alexander and Ptolemy, whom for the first
time they lead out to the Gymnasium,
there to proclaim kings,
in front of the grand assembly of the soldiers.
[...]*

*Caesarion stood more to the front,
dressed in rose-colored silk,
on his breast a bouquet of hyacinths,
his belt a double row of sapphires and amethysts,
his shoes fastened with white
ribbons embroidered with rose pearls.
Him they named more than the younger ones,
him they named King of Kings.*

*The Alexandrians of course understood
that those were theatrical words.
[...]*

*and the Alexandrians rushed to the ceremony,
and got enthusiastic, and cheered
in greek, and egyptian, and some in hebrew,
enchanted by the beautiful spectacle --
although they full well knew what all these were worth,
what hollow words these kingships were⁶.*

In a typographic proof of a naughty little article in the Archive titled “Caesarean section and Hymenorrhaphy”, Louros relates an incident involving a mother and daughter who visited his private office seeking verification of the daughter’s virginity. Louros refused, as he discovered that the daughter was three months pregnant, much to the shock of both mother and daughter. Despite much crying, they declined an abortion to preserve the vaginal membrane, deemed vital for a respectable marriage. They left, but the daughter returned six months later, still pregnant. She

Οι Αλεξανδρινοί Βασιλείς (1912)

*Μαζεύθηκαν οι Αλεξανδρινοί
να δουν της Κλεοπάτρας τα παιδιά,
τον Καισαρίωνα, και τα μικρά του αδέρφια,
Αλέξανδρο και Πτολεμαίο, που πρώτη
φορά τα βγάζων έξω στο Γυμνάσιο,
εκεί να τα κηρύξουν βασιλείς,
μες στη λαμπρή παράταξη των στρατιωτών.
[...]*

*Ο Καισαρίων στέκονταν πιο εμπροστά,
ντυμένος σε μετάξι τριανταφυλλί,
στο στήθος του ανθοδέσμη από νακίνθους,
η ζώνη του διπλή σειρά σαπφείρων κι αμέθυστων,
δεμένα τα ποδήματά του μ' άσπρες
κορδέλες κεντημένες με ροδόχροα μαργαριτάρια.
Αυτόν τον είπαν πιότερο από τους μικρούς,
αυτόν τον είπαν Βασιλέα των Βασιλέων.*

*Οι Αλεξανδρινοί ένιωθαν βέβαια
που ήσαν λόγια αυτά και θεατρικά.
[...]*

*κι οι Αλεξανδρινοί έτρεχαν πια στην εορτή,
κι ενθουσιάζονταν, κι επενφημούσαν
ελληνικά, κι αιγυπτιακά, και ποιοι εβραϊκά,
γοητευμένοι με τ' ωραίο θέαμα -
μόλι που βέβαια ήξενωραν τι άξιζαν αυτά,
τι κούφια λόγια ήσανε αυτές οι βασιλείες.*

demanded a caesarean section, suggesting that the inevitable scar could be easily explained to any future husband as the result of an appendectomy⁷. The article was eventually published in the same book detailing Queen Geraldine’s misfortunes. Although an intact hymen is not generally considered a prerequisite for marriage nowadays, the practice is surprisingly still practiced on a smaller scale in Greece and thrives in some Muslim countries and in Albania. There, men who work abroad and are disillusioned by the perceived promiscuity of local women return home to marry an

innocent virgin. Gynaecologists in these regions often accommodate this demand.

An apparently unimportant postcard dated 19 August 1928, addressed to Nikolaos Louros and written in very poor handwriting, was about to be classified into the “ephemera” section when a passage caught our attention (Fig. 11). It read, “[...] I was pleased by the assignment of Evangelismos’ affair to your father. I’ll write him tomorrow.” What was this “assignment” that the senior friend, Spyros Dasios (1870-1943), deemed significant enough to intervene on behalf of the Louros son to Louros father, while ignoring the general elections held in Greece on the same day that brought Eleutherios Venizelos, the archenemy of the Louros family, to office? Suddenly, a letter, retrieved with some difficulty a few months ago and stored in the Eleutherios Venizelos Archive, came to mind.

This was a four-page handwritten letter dated 31st October 1928 from Konstantinos Louros, Nikolaos’ father, to Eleutherios Venizelos, requesting that Nikolaos be appointed Head of the Gynaecological Department at “Evangelismos” Hospital (Fig. 12). Through this letter, the labyrinth of political manipulations surrounding senior medical appointments is revealed. Although Nikolaos was eventually appointed director of the department, he did not accept the position for complicated reasons. He was succeeded by Konstantinos Logothetopoulos, an excellent gynaecologist. This marked the beginning of an endless rivalry between the two, further exacerbated by their political differences. Louros was a humanist conservative, while Logothetopoulos was an ultra-right supporter, bordering on fascism.⁸ At one point, Logothetopoulos was appointed Prime Minister by the German occupational authorities in a short-lived cabinet. Conversely, Louros was arrested and imprisoned at Averof Prison, reportedly due to Logothetopoulos’ interference. However,



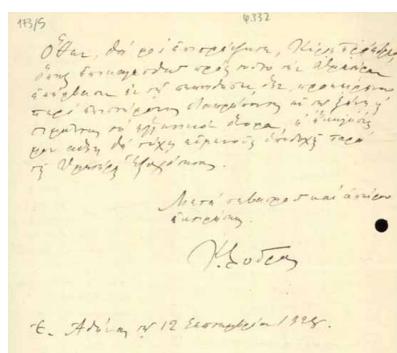
Figure 11. Postcard sent to N. Louros from Wien on 19 August 1928 writing, between other items, “I was pleased by the assignment of Evangelismos’ affair to your father. I’ll write to him tomorrow”. Although the signature is difficult to decipher, the name is probably that of Spyros Dasios, a well-known lawyer, journalist and politician, friend of the Louros family.

after Greece’s liberation, when Logothetopoulos went on trial as a Quisling, Louros stood as a witness in his defence!⁹ Despite this, their rivalry continued, especially over positions of power at the Marika Iliadi and Alexandra Hospitals. Logothetopoulos, in an attempt to justify himself, published the book “Idou i Alethia”¹⁰ (This is the Truth), presenting his side of the events (Fig. 13). By then, however, Louros had triumphed in every endeavour he had undertaken.

Lastly, the presentation of two short letters exchanged between Nikolaos and his cousin John Simopoulos (1923-2015) in London, along with the latter’s response concerning Nikolaos’ burial site, signifies both the literal and metaphorical end of this article and Louros’ life. Nikolaos was seeking permission from John, a very eccentric philosopher and professor at Oxford University, St. Magdalen’s College (Fig. 14), to be buried in the Simopoulos family tomb at the



Figure 12. Four hand-written pages of the letter by Konstantinos Louros, Nikolaos’ father, to El. Venizelos asking for Nikolaos to be appointed Head of the Gynecological Department at the “Evangelismos” Hospital, 31/10/28.



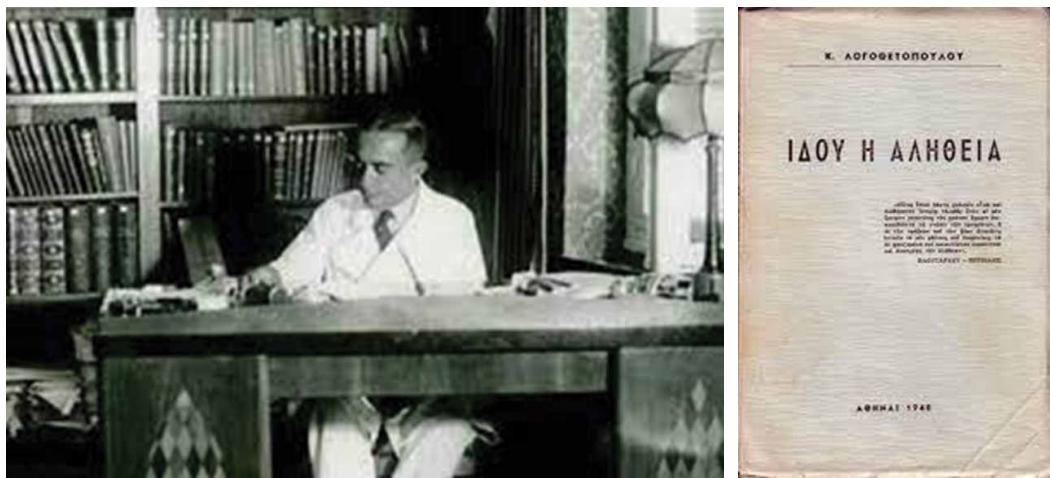


Figure 13. On the left, Konstantinos Logothetopoulos sitting at his desk. On the right, the cover of his book "Idou i Alethia" (This is the Truth).

First Cemetery in Athens, located in the section where many illustrious figures of the Greek state rest in peace (Fig. 15, left). Nikolaos Louros based his request on the fact that his mother, Euphrosyne, was a member of the Simopoulos family, and that his parents' remains were already interred there. He forwarded John a pre-filled application form to be signed and sent to the cemetery authorities, requesting that John also send a copy of the completed application back to Louros for safekeeping, to facilitate the formalities after his death. John responded vaguely and with some delay, stating that he had no objections, especially since he did not intend to occupy the tomb in the future.

This was a natural decision, as by then, that branch of the Simopoulos family had been Anglicised. John's

father, Charalambos, an Ambassador of Greece at the Court of St. James (Fig. 16), had married an English lady, and his funeral was conducted at St. Sophia's Greek Orthodox Cathedral, London, where he was also buried. John had become a permanent fixture at Magdalen College and was buried in London as well.¹¹ However, no copy of the completed form was found in Louros' Archive. These two short letters inspired the Board of Directors to locate the tomb where the founder's remains lay and to hold a religious service there. Then, a mysterious story unfolded. The Cemetery office informed me that Nikolaos Louros, his wife Ioanna, his father Konstantinos, and his mother Euphrosyne were buried in another, humble, tomb in



Figure 14. John Simopoulos (1923-2015), [credit: photo: Professor Roger Ainsworth] who has died aged 91, was a founding Fellow, Tutor in Philosophy and long-serving Dean of Degrees of St Catherine's College, Oxford; he was also the sort of old-school don whose manifold eccentricities live long in his students' memory. He never married....



Figure 15. On the right, the Simopoulos Family Tomb, number A/1/360, bought in 1887, stands between the neoclassical tomb-monuments of illustrious Greeks. On the right, Euphrosyne's and Constantinos' names are inscribed on the tomb's base.



Figure 16. Minister G. Simopoulos at White House, Washington, D.C., 12-12-24. Library of Congress. LCCN2016849850.

the most remote area of the cemetery. Since no fees for the site had been paid for decades, internal correspondence had begun regarding the removal of the bones to allocate the site for future use.

I was perplexed because the names of Konstantinos and Euphrosyne Louros were clearly inscribed on the marble base of the Simopoulos tomb (Fig. 15, right). After several exchanges of messages with Ms Ioanna Xera of the Cemetery's Finance Department and Ms Georgia Antonopoulou, archaeologist and Head of the Cultural

Heritage Department of the Athens Municipality,¹² the mystery was solved. Nikolaos Louros, perhaps in an act of defiance or following a family dispute, had removed his parents' bones from the Simopoulos tomb and buried them in the Louros tomb. He himself was buried there in 1986, along with his wife Ioanna later that same year (Fig. 17, left). The tomb was in a very neglected condition, with its plaque broken. The Board unanimously accepted my suggestion to renovate it, and on 31 March, the renovation was completed (Fig. 17, right).

Discussion

But was all this worth doing? What is the value of an archive? Records preserved in archives—unlike books and other forms of multiplied and recycled data in today's world—have one extremely important aspect: their uniqueness and irreplaceability. The vast majority of archive content consists of primary sources. Unlike secondary sources, which are typically published in some form, these primary sources are unique, existing only in a single or very few copies. The oldest known collection primarily comprising written literary works (poetry, stories, travelogues, etc.) is the Library of Ashurbanipal, King of the Neo-Assyrian Empire (688–631 BC), assembled at Nineveh (in present-day Iraq) by Ashurbanipal. However, the use of archives for research is a relatively recent development, beginning with the



Figure 17. Louros' humble tomb, number A/12/802, bought in 1950. On the left, before its renovation and on the right after. Euphrosyne's, and Konstantinos' names are inscribed (again!) on the top of the plaque, followed by Nikolaos' and his wife Ioanna's names. The latter two died in the same year, 1986.

French Archives' Law of 1794. Since then, a broad organisation of archives, both public and private, has developed worldwide. Their goal is not just to collect and store materials and information but also to make them accessible. Archives are crucial for exercising the right to access information, the right to know, and the freedom of expression in a free society. Open access to archives is one of the pillars of the Universal Declaration on Archives,¹³ which explains the role of archivists as skilled professionals who care for and provide access to archives. To close the gate to such a unique source of information, often stored in a single archive, is to close access to it altogether. That would be a cultural crime. The Board of the Louros Foundation is committed to preventing such an outcome. Therefore, we are earnestly seeking serious sponsorship to digitise the Archive in the near future and make it accessible to the public.

Conclusions

The eight documents from the Louros Archive presented here serve as excellent examples of how private letters, part of personal history, can enrich Mainstream History. Each time we discovered an important document that captivated us, we resisted the temptation to be swayed by its rarity and charm. Instead, we diligently connected it with other similar

documents and contextualised it within the broader social, scientific, and political climate of its time, thereby creating a holistic picture of the period.

We hope the examples presented illustrate our method, which in scientific terms is a fractal—i.e., a never-ending pattern. Fractals are infinitely complex patterns that are self-similar across different scales, created by repeating a simple process over and over in an ongoing feedback loop. Driven by recursion, fractals are images of dynamic systems—the pictures of Chaos.¹⁴ The Louros Archive, when first encountered, resembled Chaos, and the repetitive, simple process that created it was Louros' tendency not to throw anything away. Our similar tendency to relate minor notes in the Archive with significant events in the country mirrored this approach. For instance, we used a small rug as a guide for renovating Louros' grand residence, while two short letters led to the renovation of his final resting place. In a more minimalistic way, we can claim that our method resembles a Babushka, the Russian nesting doll, but opened in reverse—from the smallest document to the larger picture.

Acknowledgements: Sincere thanks are due to Ms Xera and Ms Antonopoulou for their valuable assistance in tracing Louros' tomb, to Professor Katerina Gardikas for identifying and photographing the tomb and to Mr Vasilis Markakis, the restorer of Antiquities and Works of Art, for his smooth and punctual cooperation in restoring it.

ΠΕΡΙΛΗΨΗ

Πολύ εν σμικρώ

Αθανάσιος Διαμαντόπουλος

Μια βραχεία περίληψη περί της ζωής του Νικολάου Λούρου, της κατοικίας του, του ομώνυμου Ιδρύματος της Ιστορίας της Ιατρικής και του Αρχείου του προτάσσονται του κυρίως περιεχομένου. Αυτό αφορά στη παρουσίαση οκτώ συντόμων εγγράφων στο Αρχείο του που μετά επιπολής ανασκόπηση αναφέρονται σε ιατρικά θέματα. Κατόπιν περαιτέρω έρευνας, αναδεικνύεται ο ρόλος τους σε μεγαλύτερα πολιτικά, κοινωνικά και πολιτιστικά γεγονότα στην Ελλάδα. Το περιεχόμενο αυτών των οκτώ εγγράφων σχετίζεται με τη τύχη του Αρχείου μετά τον θάνατο του Λούρου, με τις παράξενες συνθήκες του τοκετού της Βασίλισσας Γεραλδίνης της Αλβανίας, με τον διορισμό του Λούρου ως διευθυντού της Γυναικολογικής Κλινικής του Ευαγγελισμού, με μια ιστορία παρθενορραφής, με γεγονότα σύγχρονα με τον τοκετό το 1936 της συζύγου του Πρεσβευτού της Αργεντινής και τελικά με τον τάφο (τους τάφους) του Λούρου.

Λέξεις Κλειδιά: Κωνσταντίνος Καβάφης, Κωνσταντίνος Λογοθετόπουλος, Βασίλισσα Γεραλδίνη της Αλβανίας, παρθενορραφή, Μαιευτήριο Αλεξάνδρα.

REFERENCES

1. Marketos S, Louros N. History of medicine of the 20th century. The Greek Pioneers. Athens (GR): Zeta; 2001.
2. Philipidis D. Modern architecture in Greece. Athens (GR): Melissa; 2011.
3. Eliot G. George Eliot's Life, Complete: Top Novelist Focus. p.441; 2016.
4. The Archive's BOX A1, Envelope "Medical anecdotes", no 23, Chasing the Queen of Albania 1978. Published in: Louros N. K, Alivizatos K.N. Two doctors remember. Athens (GR): Philipotis; 1979.
5. Savidis G, editor. Kavafis C poem: Unfatefulness. Keely E, Sherrard P, translators. Princeton (NJ): Princeton University Press; 1975
6. Savidis G, editor. Kavafis C poem: Alexandrian kings. Keely E, Sherrard P, translators. Princeton (NJ): Princeton University Press; 1975
7. N.Louros – K. Alivizatos. Caesarean section and virginity. The Archive's BOX A1, Envelope "Medical Anecdotes" p.p. 64/71- 65/72;1978. Published in: N. K. Louros - K.N. Alivizatos. Two doctors remember; ibid
8. Iavazzo C, Gkegkes I.D, Gkegke XE.D, Karamanou M, Androutsos G. Constantinos Logothopoulos (1878–1961): the controversial life of an eminent gynaecologist. Arch Gynecol Obstet [Internet]. 2015 Aug;292(2):383-6. Available from: <https://pubmed.ncbi.nlm.nih.gov/25697923/> doi:10.1007/s00404-015-3652-y. Epub 2015 Feb 20.
9. Nikolaos Louros' own autobiographical account in Xτες; Αναμνήσεις, εντυπώσεις και στοχασμοί σε επτά πράξεις. Athens (GR): Ελληνική Παιδεία; 1980. (Yesterday: Memories, impressions, thoughts in seven acts. Athens (GR): Greek Education; 1980)
10. Logothopoulos C. This is the truth. 1st ed. Athens (GR): Greek Vanguard; 1948. 2nd ed. Athens (GR): Greek Vanguard; 2020.
11. Obituary, John Simopoulos, Oxford don. The telegraph [Internet]. 2015 March 27. Available from: <https://www.telegraph.co.uk/news/obituaries/11499576/John-Simopoulos-Oxford-don-obituary.html>
12. 17 copies of these messages between January–March 2024, are deposited now at the Archive in the same envelope with the Nikolaos Louros and John Simopoulos correspondence.
13. International Council of Archives (ICA). Universal declaration on archives: archives record decisions, actions and memories. Proceedings of the General Assembly of ICA; 2010 September; Oslo (NO). Paris (FR): General Conference of UNESCO; 2011 Nov 10.
14. What are Fractals? Fractal Foundation, Fractals are SMART: Science, Math and Art! [Internet] 2018 Feb 19. Available from: <https://fractalfoundation.org/resources/what-are-fractals/>

Corresponding author:

Athanasiros Diamandopoulos
18, St. Andew str., Romanou, Patras, Greece, 26500
e-mail: 1453295@gmail.com

Book Review

Luigi Taborelli (2022), Stamped Medicine Flasks nei 'Virginia R. Grace Papers' e i progressi della ricerca, Roma: Edizioni Quasar, [2022]

Laurence Totelin¹

Abstract

Luigi Taborelli is the world expert on microcontainers produced in the Hellenistic period and stamped with the word 'lukion', referring to a medicinal preparation. In the book reviewed, Taborelli examines the archives of the famous American archaeologist Virginia Grace on the matter of these microcontainers. Examining archival material allows scholars to identify exemplars of these microcontainers which remain unexamined. As more examples of these microcontainers come to light, scholars will be able to better understand the trade in medicinal substances in the Hellenistic world.

Key Words: *pharmacological containers; Virginia Grace; archives; lukion; Hellenistic world*

Introduction

Since his first publication on the topic, Luigi Taborelli has contributed immensely to the study of ancient Greek stamped medicinal vessels (Luigi Taborelli and Silvia Maria Marengo (1998), *Il medicamento lukion e suoi contenitori, Archeologia Classica* 50, 213–272). In particular, he is the world expert on microcontainers stamped with the word 'lukion', referring to a medicinal preparation used, among other things, for the treatment of eye diseases. Some of these *lukion* vessels are additionally stamped with a personal name (perhaps that of a physician or pharmacologist, who prepared or administered the preparation) and/or a symbol, such as a rose flower, a tripod, or a lyre. These microcontainers, which were produced in the Hellenistic period, have been found in various locations in the Mediterranean, but mostly in Sicily, with major finds in Morgantina and Acragas.

In the present short volume, Taborelli examines the archives of the famous American archaeologist Virginia Grace (1901–1994) on the matter. Grace's first documented interest in stamped medicinal vessels dates to 1946, when she exchanged letters with Lucas Benachi on the matter. A few years later, in her

own words, she was 'fascinated' by the discovery of numerous *lukion* containers at Morgantina, and corresponded on the topic with the excavator of the site, Erik Sjöqvist, from 1958 onwards. Other well-known archaeologists featured in the volume are Kenam Erim, Lucy Talcott, and Homer Armstrong Thompson.

The volume is divided into 4 chapters. The first briefly describes the main source relating to stamped medicinal flasks in the Virginia Grace papers: Box 103, Folder 790. There are nineteen documents in total in the folder, dating from 1946 to 1982, plus six documents that are not dated. The second chapter is an edition of this archival material, including photos and facsimiles, when relevant. Each document is described, edited, and accompanied by a commentary in Italian. Chapter three deals with complementary material, that is, material that is relevant to the study of pharmaceutical containers in other parts of the Virginia Grace papers. The final chapter situates what we learn about medicinal containers from the Grace archive in a broader context. Taborelli here summarises his findings about the containers, their typology, the people who produced them, and the geographical areas where they worked. The volume has a useful index.

¹Cardiff University

Reading the archival material, despite Taborelli's insightful annotations, can occasionally prove to be challenging; however, there are benefits to be gained. I was particularly interested to see how Grace encouraged Sjöqvist to publish his findings, which he eventually did in 1960 ('Morgantina: Hellenistic Medicine Bottles, *American Journal of Archaeology* 64, 78–83). Sjöqvist's initial view was that he 'was quite sure nobody would care for it [sc. his discovery of medicinal micro-containers]' (letter to Grace, May 21, 1958,

edited on p. 39 of the present volume).

Taborelli's archival studies show that there are some examples of medicinal microcontainers that remain unexamined, some in private collections. In fact, it may be the case that many medicinal vessels have been so far ignored because of their unassuming size. As more examples come to light, historians of medicine will gain a better understanding of the trade in medicinal substances in the Hellenistic Mediterranean.

ΠΕΡΙΛΗΨΗ

Luigi Taborelli (2022), Ενσφράγιστες ιατρικές φιάλες από τις «Σημειώσεις της Virginia R. Grace» και η πρόοδος της έρευνας

Laurence Totelin

Ο Luigi Taborelli είναι ο κορυφαίος ειδικός παγκοσμίως στα μικροδοχεία που παράγονταν κατά την ελληνιστική περίοδο και έφεραν σήμανση με τη λέξη «λύκιον», η οποία αναφέρεται σε ένα φαρμακευτικό σκεύασμα. Στο βιβλίο που σχολιάζεται, ο Ταμπορέλι εξετάζει τα αρχεία της διάσημης Αμερικανίδας αρχαιολόγου Virginia Grace σχετικά με το θέμα αυτών των μικροδοχείων. Η εξέταση του αρχειακού υλικού επιτρέπει στους μελετητές να εντοπίσουν παραδείγματα αυτών των μικροδοχείων που δεν έχουν ακόμα εξετασθεί. Καθώς θα έρχονται στο φως περισσότερα παραδείγματα, οι μελετητές θα είναι σε θέση να κατανοήσουν καλύτερα το εμπόριο φαρμακευτικών ουσιών στον ελληνιστικό κόσμο.

Λέξεις Κλειδιά: Φαρμακολογικά μικροδοχεία; Αρχεία της Virginia Grace; λύκιον; Ελληνιστικός κόσμος

REFERENCES

1. Taborelli L, Marengo M, S. Archeologia classica: il medicamento lukion e suoi contenitori. Rome (IT): L'Erma di Bretschneider Publisher; 1998. p. 213–272.
2. Sjöqvist E. American journal of archeology: Morgantina:

hellenistic medicine bottles. Chicago (IL): The University of Chicago Press;1960. p. 78–83.

Corresponding author:

Laurence Totelin
e-mail: totelinlm@cardiff.ac.uk