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***THE ANONYMUS LONDINIENSIS PAPYRUS WITH AN ITALIAN  
TRANSLATION, A COMMENTARY, AND SOME CRITICAL CHAPTERS***

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***WITH AN ITALIAN TRANSLATION, A COMMENTARY, AND SOME CRITICAL CHAPTERS***

Il desiderio di conoscere ciò che hanno detto gli uomini migliori  
è comune a tutti coloro che sono per natura amanti del bello.

Galeno

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This dissertation results from a choice that I made some misty years ago, when, so to speak, I voluntarily took the *optio difficilior*. Now that the work is concluded and in front of my eyes I realise that I did well, not only because the goal has been successfully achieved, but specially because in the pursuit my life has been loaded with meaning. I have had to meet with myself and my expectations in different demanding and unsuspected facets, in many cases I have been also required to handle with that nuclear philosophical disposition which lies in accepting your own limitations, and as it seems, in becoming a learner. Apart from the supposed advantages that the obtaining of a PhD may bring about, the real point of the whole experience is how this period of research has affected me. What matters in all senses is how far and deep has gone my knowledge about the subject which primarily drew my attention, and in the measure of my own capacities, in which way my understanding of the discipline that I have been cultivating for the last years has evolved after this period of hard study. I guess that it is of importance as well how it all might have transformed me. If these general pedagogic criteria can be universally accepted, according to these basic parameters I should be then perfectly happy with the thesis that I am submitting; for I feel that I know a little more than when I began and I feel therefore better, or vice versa.

Growing in experience and in skills entails a good deal of personal effort (often all alone), and a considerable engagement which not always points to a clear result. Yet, whatever investigation, all the more if the kind hereby, is unconceivable out of a granting and promoting institution; almost impossible, indeed, without the support of colleagues, experts, and other points of view. So I should like to express my sincere gratitude to the Università degli Studi di Cagliari for having trusted me and my project from the very beginning. Regardless of being a small insular university in southern Europe, the University of Cagliari has furnished me with all kinds of facility so as I could carry out my investigation in the best possible way. It is in this manner that my work is known among the leading scholars who have dealt with the subject-matter of this thesis, and it also only in this way, with the badge « University of Cagliari » broached on my chest, that I have had the chance of presenting and sharing my project in places like Paris, London, Lisbon, or Athens. Likewise, I cannot be but really thankful to the University of Cagliari for having supplementary funded a learning stage at the CeDoPaL, Université de Liège, in Belgium. This period as a trainee yielded a fruitful exchange and supposed a considerable step further when I was in the midway of my research; hence, no doubt, I owe all my gratitude to Madame Marie - Hélène Marganne and to

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## *List of Abbreviations and Signs*

### *1. List of Signs Used in the Transcription of the Greek Writings in the Anonymus Londiniensis*

- ... illegible letters whose number can be guessed to some extent.  
αβγ traces of a letter, uncertain reading.  
† † letters or words which have not been deciphered satisfactorily.  
[ ] lack of some letters whose number cannot be inferred.  
[±4] lack of some letters whose number can be inferred.  
] [ lacuna in the beginning or at the end of a line.  
[αβγ] letters restored by the editor.  
[[αβγ]] letters or sentences eliminated in the papyrus by the scribe himself.  
{αβγ} letters the editor eliminates as a result of a mistake by the the scribe.  
<αβγ> letters omitted by the scribe according to the editor.  
(αβγ) resolution of a word which appears abbreviated in the papyrus.  
\αβγ/ marginal or interlinear addition by the scribe.  
| end (or beginning) of a line.  
|| end (or beginning) of a column.  
I, II, III etc. column number.  
⤵ *diple obelismene* (forked *paragraphos*).  
— *paragraphos* or letters underlined by an extant *paragraphos*.

### *2. List of Other Signs and Abbreviations Used Elsewhere in the Dissertation*

The abbreviations for the titles of Hippocratic and Galenic treatises are given according to:

G. Fichtner, *Corpus Hippocraticum. Bibliographie der hippokratischen und pseudohippokratischen Werke*, Berlin - Brandenburgischen Akademie der Wissenschaften, Berlin 2016. [http://cmg.bbaw.de/online-publikationen/Hippokrates-Bibliographie\\_2016-12.pdf](http://cmg.bbaw.de/online-publikationen/Hippokrates-Bibliographie_2016-12.pdf) (22. 2. 2017)

*Corpus Galenicum. Bibliographie der galenischen und pseudogalenischen Werke*, Berlin - Brandenburgischen Akademie der Wissenschaften, Berlin 2016. [http://cmg.bbaw.de/online-publikationen/Galen-Bibliographie\\_2016-12.pdf](http://cmg.bbaw.de/online-publikationen/Galen-Bibliographie_2016-12.pdf) (22. 2. 2017)

The abbreviations for Plato's dialogues and Aristotle's treatises have been respectively drawn from pages XXXIII and XIX (Epigraph I: « *Authors and Works* ») in H. G. Liddell, R. Scott, *A Greek - English Lexicon* (with a Revised Supplement), Clarendon Press, Oxford 1996.

*add.*: stands for « addition ».

*Anon. Lond.* : stands for « *Anonymus Londiniensis* » in two major senses, the writing on the verso and the two additional notes by the same hand on the recto of *P. Brit. Lond.* inv. 137 = MP<sup>3</sup> 2339, or else for the papyrus itself.

BC : stands for « before Christian era ».

c. : stands for « *circa*, approximately ».

CE : stands for « Christian era ».

Cfr. : stands for « confer ». By this the reader is invited either to check or to compare what is said with the text indicated next.

ch. : stands for « chapter(s) ».

CMG : stands for « Corpus Medicorum Graecorum ».

CML : stands for « Corpus Medicorum Latinorum ».

Col(s). : stands for « column(s) ».

Col. I, 1; col. I, 3 – 4; cols. I, 3 – II, 4: way to express particular passages (by means of columns and lines) in the *Anonymus Londiniensis*.

*Comment.*: stands for « Commentary » on the contents in the *Anon. Lond.* that comes after the translation into Italian.

*CPF* : stands for « *Corpus dei Papiri Filosofici Greci e Latini* ».

DK: stands for « H. Diels, W. Kranz, *Die Fragmente der Vorsokratiker*. ».

etc. : stands for « *et cetera* ».

e.g. : stands for « *exemplum gratia*, for example, by way of example ».

ff.: stands for « following, onwards ».

fr. , ffr. : stands for « fragment(s) ».

i.e. : stands for « *id est*, that is, that is to say ».

infra : stands for « below ».

K. : in a reference to a treatise by Galen stands for « K. G. Kühn », Galen's modern editor.

Li. : in a reference to a treatise of the Corpus Hippocraticum stands for « É. Littré », the first to undertake the modern edition of Hippocrates.

l., ll.: stands for « line(s) ».

n. : stands for « footnote; note ».

*OLD* : stands for « *Oxford Latin Dictionary* ».

P. : stands for « the way a letter or an expression is to be found in the papyrus (i.e. *Anonymus Londiniensis*) ».

*passim* : stands for « throughout, here and there ».

p., pp. : stands for « page(s) ».

*RE*: stands for « *Paulys Realencyclopädie der Classischen Altertumwissenschaft* ».

*scil.* : stands for « *scire licet* ».

*sp. vac.* : stands for « *spatium vacuum* ».

supra : stands for « see above; check above ».

s.v. : stands for « *sub voce* ».

T. : stands for « *testimonium(a)* » according to the catalogues in some particular works, for example, Edelstein - Edelstein (1945a); Bertier (1989); von Staden (1989); Squillace (2012) etc.

Trans. : stands for « translation ».

*VSF* : stands for « *Vetera Stoicorum Fragmenta* ».

§ : section or subsection in the dissertation.

( 1 ) : In quotations of works by ancient authors it indicates the section or subsection in a particular chapter.

‘abc’ : word, sentence, or short expression that should be taken literally.

“abc” : non literal meaning.

— abc — : apposition.

[abc] : in the translation into Italian of the *Anonymus Londiniensis* the square brackets indicate an addition by the translator in order to make the translation more comprehensible.

[...] : omission of some words or sentences in a passage reproduced literally for the sake of concision.

(abc) : apposition or supplementary information.

(...) : in the translation into Italian it stands for a gap in the text of which no translation can be given.

(«...»): translation borrowed from an extant translation.

« abc »: reported speech, literal quotation, or *definiens* in a definition.

## I. 1 Text on the Recto of the Anonymus Londiniensis with an Italian Translation

I.1 [λαμβά]νοντας ἐν τῷ τοῦ π[άθους ὄρωι][διάθεσι]ν πρὸς τ(ῶν) ἀρχαίων κ[ομιζο]μέ[ν]ην τ[ὴν] καὶ ἐπίτασιν καὶ ἄνεσιν ἀγα[δέχομ]ένην· μάλιστα γ(ᾶρ) συμφερόμε[5]θα καὶ α[ὑ]τοὶ τοῖς ἀρχαίοις. Καὶ τί μ(έν) (ἐστὶ) διά[θεσις κ]αὶ ποῖαν κομιζομ(εν) ἐν τῷ ὄρωι, [ἀπεδεί]ξαμ(εν)· δ i á θ ε σ ι ε δύναμει ἡδὴ πο[τε] εἴτε τ[ῆς] ζωτικῆς εἴτε τῆς σώμα[τικῆς] εἴτε τῆς ἐν τοῖς σώματι|10[ἐνούσης] ψυχικῆς κατὰ κίνησιν|[ῆ] εχέει]γ· κατὰ κίνησιν πάντα τὰ|[έν] ἡμῖν] κινήματα πάθη κατὰ|[κίνησ]ιν (ἐστίν), κατὰ εχέειν δὲ παράλυ[σις, λήθ]αργος, κάρος, τὰ τούτοις ἐγγύς.

15[[Τούτ(ων) δ]ὲ κειμέν(ων) δεῖ γινώσκειν ὡς τῶν παθῶν τὰ|

[μὲν ψυ]χικά, τὰ δὲ σωματικά, σω[ματικ]ὰ λαμβάνοντες τὰ περὶ τῆν|

[ζωτικ]ὴν δύναμιν λαμβανόμενα,|[π(ρὸς) δὲ] τὰς ἄλλας δυνάμεις ἀντιδιατελ[20]όμενοι, τὴν ζωτικὴν δύναμιν|[τῆ] ψυχῆ. Ψυχὴ δὲ λέγεται τριχῶν·|[ῆ] τε] τῷ ὄλωι σώματι παρεπαρ[μένη] καὶ τὸ μόριον τὸ λογικτὸν|[κ]αὶ ἔτι ἡ ἐντρέχεια καὶ τῆς μ(έν) ἐντρε[25]χίας ἐπὶ τοῦ παρόντος οὐ χρήζομ(εν),|[τ]ῶν δὲ ἄλλων δύο σημαυνομένων,|[κα]ὶ μᾶλλον τοῦ λογικτοῦ· περὶ γ(ᾶρ) τοῦ|[τ]ου τὰ προ[σηγ]ούμενα πάθη συνί<τ>α|

[ται κα]ὶ <τὰ> κατ' ἐπακολούθημα. Πάθη δὲ (ἐστὶ)|30[ταῦτ]α προηγούμενα κατὰ κίνησιν|[δ]ειδιαιμονία, λύπη, φόβος, φιλαργυρία·|

ταῦτα γ(ᾶρ) ἐν κινήσει. Κάρος δὲ καὶ λήθαργος ἐν εχέει. Σωματικά δὲ|[π]υρετός, — προηγούμενον μ(έν) πάθος (ἐστὶ)|35[τ]οῦ σώματος, κατ' ἐπακολούθημα{ } δὲ|[τ]ῆς ψυχῆς — , μανία ὁμοίως· καὶ ταῦτα ἐν κινήσει τὰ πάθη. Ἐν εχέει|[ε]ι|δὲ παράλυσις, κάρος, τὰ παραπλή[σι]α.]] Οὕτω { } μ(έν) δὲ χρητέον τῷ ὄρωι [τ]ῷ|40[τοιού]τω[ι]· τῶν δὲ παθῶν [τὰ μ(έν) ψυ]χικά, τὰ δὲ σωματικά· χρὴ δὲ [εἰδέναι]|[ὅτι] τὰ μ[ὲν] σωματικά πάθη ἀ|[±7]να καὶ περὶ τὴν ζω[τικὴν]|[±7]αται, ὡς ὁμοίως δ[ε]||

includendo nella definizione di affezione una disposizione come la intendono gli antichi, disposizione che comprende tensione e rilassamento. Infatti siamo assolutamente d'accordo anche con gli antichi, sia su cosa sia una disposizione, sia su che tipo di disposizione intendiamo nella definizione, come abbiamo già esposto: « [Affezione è] una disposizione di una qualsiasi proprietà vuoi d'un essere vivente vuoi del corpo vuoi dell'anima insita nei corpi a seconda del movimento o della quiete ». Secondo il movimento, tutti i movimenti in noi sono affezioni per via del movimento; tra quelle secondo la quiete [lo sono] paralisi, letargia, torpore e quelle altre [affezioni] vicine a queste. Stando così le cose, bisogna sapere che, fra le affezioni, ce ne sono alcune dell'anima e altre del corpo, ritenendo le corporee quelle che hanno a che fare con ciò che è proprio dell'essere vivo, e, in quanto diametralmente opposte alle altre proprietà, la proprietà dell'essere vivo per l'anima. L'anima si intende in tre modi: quello che si trova disseminata per tutto il corpo, la parte razionale, ed anche l'istinto; non c'è bisogno che ci occupiamo dell'esistenza dell'istinto, ma degli altri due suddetti significati, soprattutto di quello della parte razionale. E proprio per quanto riguarda questa che occorrono tanto le affezioni prime quanto quelle secondarie. Le affezioni prime secondo il movimento sono: la superstizione, il dolore, la paura e l'avarizia, perché si danno per via del movimento. Il sopore e il letargo si devono invece alla quiete.

Le affezioni corporee sono la febbre — essa è anzitutto un'affezione del corpo e secondariamente dell'anima — e lo stesso vale per la follia. Queste sono allora [le affezioni] secondo il movimento: la paralisi, il sopore e le prossime a queste sono secondo la quiete. Per la definizione di questo assunto conviene quindi fare così; tra le affezioni ci sono quelle dell'anima e delle del corpo. Bisogna sapere che le affezioni corporee (...) e in ciò che riguarda la proprietà dell'essere vivo (...) e allo stesso modo che

Π.1 [...] περι. [...]. τοῖς σώμασιν, ὥστε[[άντ]ιδιασ[τέλλ]εσθαι ταῦτα τήν τε|  
[ζω]τικῆ[ν δύ(ναμιν) και] τήν ἐν τοῖ< > σώμασιν[τῆι] ψυχῆ[ι. Ψυ]χικὸν δ'(εἶναι) πάθος τὸ|  
5το[ι]οῦτο· διάθεσις ψυχῆς κατὰ κίνη[\_\_\_ει[ν] ἢ ἐχέειν· και γ(άρ) ἢ ψυχῆ δύναμις (έστιν).|Λέ[γ]εται  
δὲ ψυχ[ῆ] τριχῶς· ἢ τε ὅλη|

κα[ῖ] τὸ μέρος[ε τὸ λογικτικὸν] και αὐτὴ ἡέντρεχία, [ἦν παραλείπομ(εν)] νῦν. "Όταν γ(άρ)|  
10λέ[γ]ωμ(εν) συ[νί]τασθαι [π]ερὶ τήν ψυχὴν|πά[θ]η, περι τ[ῆ]ν ὅλην λέ[γ]ομ(εν) και περι|\_\_\_ τὸ  
μέρος αὐτῆς τὸ λογικ[τι]κόν. Τ(ῶν) τε|ψυχ[ι]κῶν παθῶν ἃ μ(έν) (έστι) κ(ατὰ) φύσιν, ἃ δὲ|  
παρὰ φύσιν, παρὰ φύσιν μ(έν) διαθετικὸν|15ψυχῆς κατὰ [κ]ίνησιν ἢ ἐχέειν παρὰ|φύσιν, κατὰ φύσιν  
δὲ διαθετικὸν ψυχῆς κατὰ κίνησιν ἢ ἐχέειν κ(ατὰ) φ< >ειν.|Αὕτη [μ](έν) ἢ τε[χ]νολογία [τ(ῶν)]  
ἀρχαίων (έστιν),|οἷς και ἡμεῖς ἐπόμεθα· κ(ατα)[λεί]πουσιν γ(άρ)|20και με[τ]ριοπαθείας περι τ[ὸ]ν  
σοφὸν και φ(ασι)|τὰς μ[ε]τριοπαθείας νεῦ[ρ]α (εἶναι) τῶν πρά[ξ]εων, [ο]ἱ δὲ νεώτεροι, τ[οῦ]τ'(έστιν)  
οἱ Στωικοί,|κατὰ φύσιν[ε]ν πάθος οὐδὲν κ[(ατα)λεί]πουσιν|ψυχῆς. [Π]άν[τ]ωε γ(άρ) φ(ασιν)  
ἐμφ[αίν]εσθαι τὸ|25 παρὰ φύ[σιν] ἐκ τῆς πάθο[υ]ς φωνῆς ἦ|και τὸ π[ά]θος ἀ[π]έδοσαν· τ[ὸ] π[ά]θος  
(έστιν)|ὄρμη πλ[ε]ογάζουσα, τῆς ὀρμῆς αὐτοῖς|ἐξακου[ο]μένης οὐχὶ ἀντι τῆς ὑπερ[τά]σεω[ε], ἀλ(λά)  
ἀντι τοῦ ἀπειθὲς (εἶναι) τῶι αἰ|30 \_\_\_ροῦντι [λ]όγωι· ἀλ(λά) τα[ῦ]τα> τ[οῖ]ς μ(έν) μελήσει,|ἡμῖν δὲ  
[λ]εκτέον κ(ατὰ) φύσιν πάθη περι|τὴν ψυχ[ῆ]ν μνήμην, διαλογικμόν,|τὰ ὅμοι[α]. Παρ[ὰ] φύσιν δὲ  
ἀμνημοσύ[νην], ἀλο[γι]στίαν, τὰ ξοικότ[α]. Τ(ῶν) τε|35 παθῶν τ(ῶν) περι τήν ψυχὴν [δ]ύο (έστι)  
τὰ|γενικώτατα κ(ατὰ) τῶν ἀρχ[αί]ου· ἡδο|νή τε γ(άρ) [κ]αι ὀχλησις, τὰ δ[ε] μετα[ξὺ] κ(ατ'  
ἐπιμ[ε]τιν γί(νεται) τ(ῶν) εἰρ[η]μένων.|Κατὰ δὲ τοὺς Στω[ι]κοὺς τέ[ε]αρά (έστι) τὰ|40γενικώτατα  
[τῆ]ς ψυχῆς [πά]θη· ἡδο|νή γ(άρ) και ἐπιθυ[μί]α, φόβος [τε] και λύπη.|Και ἡδονὴ μ(έν) κ[α]ι  
ἐπιθυμ[ί]α κ(αθ') ὡς ἀν[ἀ]γαθοῦ φαντα[σί]αν γί(νονται), ὧν [ἢ μ(έν) ἡδ]ονή[.]. (εἶναι) ὡς ἀν  
ἀγαθοῦ|45 [±3] οἶον τε ἡδ[ι] [±3] χάρι[.].|[± 3] κ(αθ') ὡς [[ una riga completamente persa ] ] ||

[per quanto riguarda] i corpi [si distinguono queste: quelle che sortiscono un effetto] sulla  
proprietà dell'essere vivo e quelle che sortiscono un effetto sull'anima nei corpi. Riguardo ciò che  
agisce sull'anima [bisogna sapere] che la disposizione dell'anima si può dare secondo il movimento  
e secondo la quiete, e pure che l'anima è una potenza. L'anima si intende in tre forme: in un senso  
generale, la parte razionale e lo stesso istinto, il quale lasciamo ormai da parte. Ogniqualvolta  
facciamo riferimento alle affezioni dell'anima, per quanto riguarda quelle di cui pensiamo che  
hanno effetto sulla sua totalità, si distinguono pure quelle che agiscono sulla parte razionale di essa.

Tra le affezioni dell'anima ci sono quelle secondo natura e quelle contro natura.  
[Un'affezione] contro natura è quella disposizione dell'anima che risulta da un movimento ovvero  
da una quiete contronaturale; [un'affezione] secondo natura invece è quella disposizione dell'anima  
che si dà quando il movimento o la quiete hanno luogo secondo natura. Questa è la classificazione  
degli antichi di cui anche noi siamo seguaci.

Essi infatti lasciano sussistere le affezioni (passioni) medie nel saggio e affermano che le  
affezioni (passioni) medie costituiscono il "nerbo" delle azioni. I moderni invece, cioè gli Stoici,  
non concepiscono altre affezioni dell'anima che le naturali. Per cui affermano che ogni [affezione  
dell'anima] che appare come contronaturale si deve alla definizione che essi diedero della *passione*  
a partire da quello che viene chiamato come 'affezione'. « La passione è un impulso eccessivo », e  
l'impulso è capito da loro non già come una tensione eccessiva, ma piuttosto come qualche cosa che  
non rientra nella ragione che sceglie.

Ma è il compito loro occuparsi di talune cose, a noi spetta dire che sono affezioni secondo  
natura dell'anima la memoria, la ragionevolezza e simili; [e che le] contronaturali sono l'amnesia, l'  
irrazionalità e cose del genere. Secondo gli antichi l'anima presenta due grandi tipi di affezioni,  
piacere e dolore; le affezioni intermedie si formano come risultato della sovrapposizione [di  
quelle considerate prima]. D'accordo con gli Stoici l'anima ha quattro grandi tipi di affezioni:  
piacere e desiderio, paura e dolore. [Gli Stoici spiegano] piacere e desiderio come prodotti da una

rappresentazione di un bene, tra cui il piacere (...) essere piacevole (...) piacere (...) godim (...) come (...)

III.1 τὰγαθόν· ἢ τε λύπη καὶ φόβος κ(αθ') ὡς ἄν|κακοῦ φαντασίαν γί(νονται), ὧν ὁ μ(έν) φόβος <κ(αθ')> ὡς|ἄν κακοῦ προσδοκίαν γί(νεται)· φοβούμεθα|γὰρ προσδοκῶντες τὸ κακόν. Ἡ δὲ λύ|5πη κ(αθ') ὡς ἄν κακοῦ παρουσίαν· λυπού|μεθα γ(άρ) ἐπὶ τοῖς παροῦσι κακοῖς. Καὶ ταῦ|—τα μ(έν) οὕτως. Πάθος δὲ λεκτέον (εἶναι) σωμα|τικὸν {(εἶναι) σωματικὸν} διάθεσιν σώματος|κατὰ κίνησιν ἢ ἐχέσιν. Τῶν δὲ σωματι|10κῶν παθῶν ἃ μ(έν) (ἐστὶ) τεταγμένα, ἃ δὲ ἄτακτα.|Καὶ ἄτακτα μ(έν) (ἐστὶ) πάθη τὰ ἄλλοτε ἄλλως λυόμενα,|\_\_\_οἷον ποτὲ μ(έν) κ[(ατ) ὀ]λίγον, ποτὲ δὲ ἀθρόως. Τῶν|δὲ τεταγμέν[ων] παθῶν ἃ μ(έν) ἰδίως λέγεται|πάθη, ἃ δὲ νοσήματα. Καὶ ἰδίως πάθη|15\_\_\_ἐστὶ τεταγμένα τὰ κατ' ὀλίγον λυόμενα.|Τῶν δὲ νοσημάτων μ(έν) (ἐστὶν) ἰδίως νοσήματα,|ἃ δὲ ἀρρωστήματα. Καὶ νοσήματα μ(έν) (ἐστὶ)|τὰ ἐμμόνουσ τὰς κ(ατα)σκευὰς ἔχοντα|περὶ τὰ σώματα ὑποληπτούσ τε χρόνου|20\_\_\_φερόμενα τῆς λύσεως κατ' ἐλάχιστο(ν).|Καὶ γὰρ νοσήματα εἴρηται ἀπὸ τοῦ {ἀπὸ τοῦ}|έννεοσσευκέναι περὶ τὰ σώματα, ἢ καὶ|διοίσει τὸ τεταγμένον πάθος τοῦ νοσήματος(ς),|καθὸ τὸ μ(έν) πάθος κατ' ὀλίγον τὴν λύσιν|25λαμβάνει, τὸ δὲ νόσημα κατ' ἐλάχιστον.|Τὸ μ(έν) γ(άρ) ὀλίγον ἐκ πολλῶν ἐλαχίστων|ευνέστηκεν, τὸ δὲ ἐλάχιστον μέρος|οὐκ ἔχει, ὥστε νόσημά (ἐστὶν) εἰρημένον.|Ἀρρώστημα δὲ τὸ σὺν τῷ κ(ατα)σκευῆν ἔχειν|30περὶ τὰ σώματα ἔτι καὶ παρηγήσθαι τὴν|ῤῥῶσιν τ(ῶν) σωματ(ῶν)· ἀπὸ τούτου γ(άρ) καὶ εἴρηται|\_\_\_ἀρρώστημα. Διαφέρει δὲ νόσημα|νόσου καὶ ἀρρώστημα ἀρρωστίας· νόσημα μ(έν) γ(άρ) (ἐστὶν) ἔμμοнос κατασκευῆ περὶ μέρος|35τι τοῦ σώματος χρόνουσ ὑπολήπτουσ|\_\_\_τῆς λύσεως ἔχουσα, νόσοσ δὲ ἔμμοнос|κατασκευῆ περὶ ὅλον τὸ σῶμα τῆς λύσεω(ς)|\_\_\_ὑπολήπτουσ ἔχουσα χρόνουσ. Λέγεται|τε νόσοσ διχῶσ, κοινῶσ τε καὶ ἰδίωσ·|40κοινῶσ μ(έν) πᾶν παρὰ φύσιν πάθος,|καθ' ὃ σημαίνόμενον καὶ ὁ πυρετὸσ λέ|γοιτ' ἄν νόσοσ· ἰδίωσ δὲ ἔμμοнос κ(ατα)|σκευῆ περὶ τὰ σώματα τῆς λύσ[εω]σ ὑπο|ληπτούσ ἔχουσα χρόνου[σ]. Ἄρ|45[ρ]ω[σ]τ[ί]α τε ὡσ ὁμοίωσ· λέγ[εται] γ(άρ)]]

il bene. [D'altra parte, gli stoici considerano] il dolore e la paura come derivanti da una rappresentazione di un male. Tra queste la paura sorge perché ci si aspetta che possa verificarsi un qualsiasi male. Il dolore si forma per la presenza di un male, infatti ci lamentiamo per i mali presenti. E così stanno le cose [per quanto riguarda le affezioni dell'anima].

Si deve parlare ora della cosiddetta affezione corporea, di una tale affezione corporea bisogna dire che consiste in una disposizione del corpo secondo il movimento o la quiete. Tra le affezioni corporee ci sono, ancora, le ordinate e le disordinate. Disordinate sono quelle affezioni che guariscono ora in un modo ora in un altro, per esempio, talora poco a poco, talora d'un tratto. Tra quelle ordinate, ancora, vi sono le affezioni propriamente dette e quelle patologiche. Se le affezioni ordinate *stricto sensu* vengono considerate in questo modo è perché guariscono poco a poco. Tra le malattie, addirittura, vi sono i morbi e le infermità.

[Le affezioni] patologiche sono quelle che contengono i principi patogeni che in [contatto] con i corpi comportano, in precisi momenti, una diminuzione della salute. Quindi, d'ora in avanti, ogniqualvolta si parlerà della ragione per cui i corpi si ammalano, si dirà che ciò accade per via di quella affezione che è stata qualificata come patologica, anche perché basta poco tempo per ristabilirsi dalla affezione ma ne basta ancora meno per liberarsi dall'agente patogeno. [Comunque], per il fatto che il "poco" viene costituito da un gran numero di "meno", e questi non hanno parti ancora più piccole, si è detto [abbastanza sull'affezione] patologica.

Un languore è quello [che capita] quando i corpi si trovano a contatto col principio patogeno, o per dirla così, quando [quel principio] intacca il vigore dei corpi; ed è appunto per questo che bisogna indagare sul languore. L'agente patogeno è diverso della malattia come il languore lo è rispetto alla infermità. Il principio patogeno è « quello che a volte si installa in qualche parte del corpo fin quando [il corpo] riesce a ristabilirsi », mentre la malattia è « quello che

a volte si appropria del corpo nella sua completezza sin quando il recupero ha luogo ». ‘Malattia’ ha due accezioni, una comune e una specifica. [Nella sua accezione] comune [per ‘malattia’] si intende ogni affezione contronaturale, ciò che si intende quando si dice [per esempio] che la febbre è una malattia. [In un] senso specifico, invece, [‘malattia’] si dice della costituzione persistente nei corpi con tempi di remissione opinabili. Altrettanto [capita con il termine] ‘debolezza’ poiché [esso] si dice anche

IV.1 κοινῶς τε καὶ ἰδιῶς κοινῶς μ(έν) πάλιν|πάν παρα φύσιν [π]άθος, καθ’ ὃ σημαίνόμενον ὁ πυρε[τ]α[ίνω]ν ἀρρωτεῖν κληθήσεται· ἰδίῳ[ς δ]ὲ κ(ατα)σκευὴ περι τὰ σώματα,|5ῆτις τῆς λύσεως ὑποληπτὸς ἐχει|χρόνους εὖν τῶι παρηρῆσθαι τὴν ῥῶ|\_\_\_ειν τ(ῶν) εἰρη[άτ]ων. Εἰρη[άτ]ων δὲ τὸ πάθος|συμβέβηκεν [ἀπὸ] παρακολουθοῦντος|ἢ ἀπὸ τρόπου· ἀπὸ μ(έν) γ(άρ) παρακολουθοῦντος|10πάθος εἰρη[άτ]ων τὸν π[υρε]τὸν ἀπὸ τοῦ|πυρῶδες (εἶναι) τὸ ἐπόμενον, κατὰ λύσιν, —|τὸ ἐπόμενον —, παραλύειν, ἀπὸ γ(άρ) τοῦ λε|λύσθαι τὸν τόνον. Ἀπὸ τρόπου δὲ τὴν|ὀνομασίαν [ἔ]σχευ φρενῆτις· τὸ γ(άρ) π[ά]15θος περι τὰς [φ]ρένας συνίσταται, οὐχί|τὸ διάφραγμα[α], ἀλλὰ τὸ λογιστικὸν μέρος| — τῆς ψυ[χῆ]ς|.

Αἰ[τιο]λογικός·  
Νόσοι·

20Περὶ τοῦ προκειμένου δεῖ προλαβεῖν|ῶς κοινότερον τοῖς ὀνόμασι π(ρο)χρῶ|μεθ(α) νόσους ἢ πάθη λέγοντες· τὰς|γὰρ τούτων διαφορὰς γινώσκου(έν) τε|καὶ ὑπεμνήσαμ(εν) ἐν τοῖς προγεγραμμέ|25\_νοῖς. Στάσις δὲ περὶ τοῦ ἐκκειμένου·οἱ μ(έν) γ(άρ) εἶπον γί(νε)σθ(αι) νόσους παρὰ τὰ περιεσώ|ματα τὰ γινόμενα ἀπὸ τῆς τροφῆς,|οἱ δὲ παρὰ τὰ στοιχεῖα. Καὶ οἱ μ(έν) ἀρ|χὴν καὶ ὕλην ὑποθέμενοι τὰ περιεσώ|30ματα τ(ῶν) νόσων λόγους κομίζουσι τοῖ|\_\_\_ούτους. Εὐρυφῶν γ(άρ) τοῖ ὁ Κνίδιος οἶεται τὰς|νόσους ἀποτελεῖσθαι τρόπῳ τοιούτῳ·« Ὅταν ἡ κοιλία, φ(ησί), τὴν ληφθεῖσαν|τροφήν μὴ ἐκπονήσῃ, ἀπογεννᾶται|35περιεσώματα, ἃ δὴ ἀνενεχθέντα|ῶς τοῦς κ(ατὰ) τὴν κεφαλὴν τόπους|ἀποτελεῖ τὰς[ε νόσ]ους· ὅταν μ(έν)τοὶ γε|λεπτή καὶ καθαρ[ά] ὑπ(άρχη) ἢ κοιλία, δεόντως|γίνεται ἡ πέσις· [ὅ]ταν δὲ μὴ ἦ τοιαύτη,|40\_—συμ[βα]ίνει [τ]ὰ προκείμενα γί(νε)σθ(αι) ». Ἡρόδικος|δὲ ὁ Κνίδιος λ[έ]γων περὶ τῆς τ(ῶν) νόσων αἰ(τίας)|καὶ αὐτὸς κατ[ὰ] μ(έν) [τις] ὑναγορεύει ||

[in un senso] generale e [in un senso] stretto. ‘Debolezza’ è ancora [in un senso] generale ogni affezione contronaturale, ovvero ciò che si intende quando si dice che il febbricitante si sente debole. D’altra parte, [in un senso] stretto ‘debolezza’ è una costituzione persistente nei corpi con tempi di remissione opinabili con perdita della forza dei corpi.

L’affezione si può poi considerare dal punto di vista di ciò che le segue o a partire dal luogo [sul quale l’affezione ha effetto]. Dal punto di vista di quello che segue alle affezioni si [può] dire, per esempio, che la febbre si dà in conseguenza del cibo; o si [può] dire che dalla debolezza segue l’immobilità, essendo la ragione per cui il tono [fisico] viene debilitato. D’altro canto [l’affezione si considera] dal punto di vista del luogo, e la *frenite* trae la sua denominazione dal luogo: l’affezione si concentra nell’ipocondrio — e non nel diaframma a dire il vero — ma [in quanto si vede influenzata] la parte razionale dell’anima.

[Investigazione] eziologica. *Malattie*

Per quanto riguarda le denominazioni di ‘malattia’ o di ‘affezione’ si è spiegato che bisogna assumerle e che le usiamo [nella loro accezione] più comune. Negli scritti precedenti abbiamo anche menzionato e fatto distinzione tra le loro differenze. C’è dissenso [di opinioni] su quello che

si crede [essere la causa delle malattie]. Da un lato [ci sono] coloro che sostennero che le malattie si producono per via dei residui che vengono generati dal cibo; dall'altro [ci sono] quelli che [affermarono che le malattie si producono] per causa degli elementi costitutivi [del corpo]. Ora, quelli che supposero che l'origine e il principio materiale delle malattie fossero i residui si attengono a queste ragioni.

Eurifonte di Cnido credeva che le malattie si producessero in questo modo. « Quando il ventre — afferma — non elabora il cibo che si è assunto genera appunto perciò dei residui che col risalire verso certe parti della testa finiscono per causare delle malattie. Per cui quando il ventre si trova pulito e leggero la digestione si svolge come è dovuto, ma quando questo non [è il caso, allora] accadono le cose che si sono dette ».

Ciò che dice Erodico di Cnido sulla causa delle malattie in qualche modo si addice

V.1 τῷ Εὐρυφῶντι, κ(ατὰ) δέ τι διαφέρει· καθ' ὃ μ(έν) γ(άρ) καὶ αὐτὸς τὰ περιεσώματα αἴτια λέγει τῆς νόσου (εἶναι), συμφέρεται, καθ' ὃ δέ φ(ησι) μὴ διὰ <τὸ> τὴν κοιλίαν καθαρὰν (εἶναι) ἢ λεπτήν), διαλλάσσει, χρώμενος αἰ(τίαι) τοιαύτη· ὅταν γ(άρ) ἀκίνη<τή>σαντες οἱ ἄνθρωποι προσενέγκωνται τροφήν, συμβαίνει ταύτην μὴ διοικεῖσθαι, ἀλλ(ὰ) ἀργὴν καὶ ἀκατέργαστον παρακειμένην εἰς περιεσώματα ἀναλύεσθαι. Ἐκ μ(έν)τοι γε τῶν περιεσωμάτων ἀποτελεῖσθαι διαφέρει ὑγρότητας, μίαν μ(έν) ὀξεῖαν, τὴν δὲ ἑτέραν πικράν, καὶ παρὰ τὴν ἑκατέρας ἐπικράτειαν διάφορα γ(ίνεσθαι) τὰ πάθη. Λέγει δὲ ὡς παρ(ὰ) τὴν τούτων ἐπίτασιν ἢ ἀνεῖσιν διάφορα ἀπογεννᾶσθαι τὰ πάθη, οἷόν τι λέγω, ἐὰν ἀνεῖμένη μᾶλλον ἢ ἡ ὀξεῖα καὶ μὴ ἄκρατος, ἀναλόγως δὲ καὶ ἡ πικρὰ μὴ ἄγαν ἢ πικρά, ἀλλ(ὰ) ἔλασσον ὥς ἐπιτεταμέναι ὄσιν, διάφορα γενήσ(εσθαι) καὶ τὰ πάθη κατὰ τὰς τῶν ὑγροτήτων κράσεις. Καὶ παρὰ τοὺς τρόπους δὲ διάφορα ἔσται τὰ πάθη· ἐὰν μ(έν) λόγου εἴνεκα ἐπὶ κεφαλὴν οἰσθῆ ἢ πικρὰ ὑγρότης, ταὐτὸ γενήσεται πάθος. Ἐὰν δὲ νῦν μ(έν) ἡ πικρὰ εἰς τὴν κεφαλὴν ἐνεχθῆ, νῦν δὲ ἡ ὀξεῖα, γενήσεται διαλλάσσοντα τὰ πάθη. Ἀλλ(ὰ) γ(άρ) καὶ παρ' αὐτοὺς {γ(άρ)} τοὺς τρόπους γενήσεται διαλλάσσοντα τὰ πάθη, ὅταν διάφοροι ὄσιν, ἐφ' οὓς ἡ ἐπιφορά· παρὰ γ(άρ) τὸ ἐπὶ κεφαλὴν ἢ ἐπὶ ἡπαρὶ ἢ ἐπὶ πλῆνα φέρεσθαι τὰς ὑγρότητας διαφέροντα ἀποτελεσθήσεται τὰ πάθη. — Καὶ ἐν τούτοις ἡ τοῦ Ἡροδίκου δόξα. Ἰπποκράτης δὲ φ(ησιν) αἰ(τίας) (εἶναι) τῆς νόσου τὰς φύσεις, καθὼς διείληφεν περὶ αὐτοῦ Ἀριστοτέλης. Ὁ γ(άρ) Ἰπποκράτης λέγει τὰς νόσους ἀποτελεῖσθαι κ(ατὰ) λόγον τοιοῦτον· ἢ παρὰ τὸ πλῆθος τῶν προσφερομένων ἢ παρὰ τὴν ποικιλίαν ἢ παρὰ τὸ ἰσχυρὰ καὶ δυσκατέργαστα (εἶναι) τὰ προσφερόμενα συμβαίνει περιεσώματα ἀπογεννᾶσθαι, [καὶ ὅταν μὲν πλείονα ἢ τὰ προσενεχθέντα, κατακρατούμενη ἢ ἐνεργουμένη]

a Eurifonte, eppure in qualche altro è diverso. Si addice a Eurifonte in quanto egli stesso [Erodico] pensa che i residui sono la causa della malattia; sebbene Erodico diverga da Eurifonte in quanto [pensa che] ciò non [è dovuto al fatto che] il ventre si trovi evacuato o alleviato, [ma] in realtà fa dipendere [la ragione delle malattie] da quest'altra causa.

A volte quando le persone assumono il cibo capita che, rimanendo ferme, esso non viene digerito, [e ciò] fa che [il cibo], ancora crudo e indigerito, circoli [attraverso il corpo] in forma di residuo. A partire dai residui si generano allora due tipi di fluidi diversi, uno acido e l'altro amaro, in quanto [la ragione] per la quale si producono le affezioni [patologiche] è la diversa dominanza di ciascuno.

[Erodico] dice che le affezioni si generano per causa del diverso [grado] d'intensità o di debolezza [con cui si danno] questi [fluidi]. Ad esempio quando il fluido acido si produce in eccesso non può allora mescolarsi col poco fluido amaro che, per analogia, dovrebbe esserci;

oppure magari perché [entrambi i fluidi] si trovano sovrapposti. [Comunque] la sproporzione delle combinazioni dei fluidi darà luogo a delle affezioni [patologiche] la cui differenza si trova a seconda delle parti [in cui queste mescolanze si producono].

Ed è appunto per questa ragione che si considera che il fluido amaro diventerà un'affezione [patologica] nella testa, e [per questo motivo si considera pure] che, se in luogo del fluido amaro c'è invece quello acido che si trova a risalire, le affezioni che seguiranno [saranno] opposte. Nonostante ciò, [non] è per causa di questi [fluidi] che si verificano le affezioni opposte, ma a seconda dei luoghi in cui si concentra il reflusso [dei fluidi], giacché sarà a seconda che i fluidi convergano verso la testa, verso il fegato ovvero verso la milza che vanno a prodursi le diverse affezioni. La dottrina di Erodico [si basa] su queste [ragioni].

Secondo quello che Aristotele ha rimarcato su questo [assunto] Ippocrate crede che i fiati siano le cause della malattia. Ippocrate afferma che le malattie si producono per questa ragione. Capita che si generano dei residui per causa dell'eccesso di cibo che si assume, o per la sua varietà oppure per causa del duro o indigeribile che [possa] essere il cibo che si assume. Dunque nel caso in cui [quello che] è stato assunto si trovi in eccesso

VI.1 τὴν πέψιν θερμότης πρὸς πολλῶν [ὄ]ντων|προσαρμάτων οὐκ ἐνεργεῖ τὴν πέψιν· ἀπὸ δὲ τοῦ ταύτην παραποδίζεσθαι|περὶ ἰσχυρώματα γίνεσθαι. Ὅταν δὲ ποικίλα|5 ἢ τ[ὰ] πρὸς ἐνεχθέντα, στασιάζει ἐν τῇ|κοιλίᾳ πρὸς ἑαυτὰ καὶ κατὰ τὸν στασιασμὸν μεταβολὴ εἰς περισώμα[α]τα. Ὅταν|μέντοι γε ἐλάχιστα καὶ δυσκατέργαστα|ἢ [ι], οὕτως παραποδισμὸς γίνεσθαι τῆς πέψεως|10 διὰ τὴν δυσκατεργασίαν καὶ οὕτως|μεταβολὴ εἰς περισώματα. Ἐκ δὲ τῶν|περισωμάτων ἀναφέρονται φῦσαι· αἱ δὲ|ἀνενεχθεῖσαι ἐπιφέρουσι τὰς νόσους. Ταῦτα δὲ ἔφησεν ἀνήρ|κινῆσαι δόγματι τοιούτῳ· τὸ γ(άρ) πνεῦμα|15 ἀναγκαιότατον καὶ κυριώτατον ἀπολείπει τῶν ἐν ἡμῖν, ἐπειδὴ γε παρὰ τὴν τοῦτου εὐροίαν ὑγίεια γίνεσθαι, παρὰ δὲ τὴν δύσροίαν|νόσοι. Δίκην τε ἐπέχειν ἡμᾶς φυτῶν· ὡς γ(άρ) ἐκεῖνα πρὸς ἐρρίζωται τῇ γῆι, οὕτως|20 κ[αὶ] αὐτοὶ πρὸς ἐρρίζωμεθα πρὸς τὸν ἀέρα|κατὰ τε τὰς ῥῖνας καὶ κατὰ τὰ ὅλα σώματα· ἐξοικέναι μ(έν) γε φυτοῖς ἐκεῖνοισι, στρατιῶται|καλοῦνται. Ὡς περ γ(άρ) ἐκεῖνοι προσερρίζωμένοι τῷ ὑγρῷ μεταφέρονται|25 νῦν μ(έν) ἐπὶ τοῦτο τὸ ὑγρὸν, νῦν δὲ ἐπὶ τοῦτο, οὕτως καὶ αὐτοὶ οἰοῦνται φυτὰ ὄντες|προσερρίζωμεθα πρὸς τὸν ἀέρα καὶ ἐκκινῆσαι ἐξ μ(έν) μεταχωροῦντες νῦν|μὲν ἐπὶ τὰδε, αὐτοὶ δὲ ἐπ' ἄλλην|30 Εἰ δὲ ταῦτα, φανερόν ὡς κυριώτατόν (ἐστὶ)|τὸ πνεῦμα. Τούτων ἐκκειμένον, ὅταν γένηται|περισώμα<τα>, ἀπὸ τούτων γίνονται φῦσαι αἱ δὲ ἀναθ μ(ιαθεῖσαι) |τὰς νόσους ἀποτελοῦσιν· παρὰ τε τὴν|διαφορ[αν] τῶν [φ]υτῶν ἀποτελοῦνται αἱ νόσοι|35 Ἐὰν μ(έν) γ(άρ) πολλὰ ὄσι, νοσάζουσιν· ἐὰν δὲ ἐλάχισται, πάλιν νόσοις ἐπιφέρουσι· παρὰ τε τὴν μεταβολὴν τῶν φυτῶν|γίνονται αἱ νόσοι· διχῶς δὲ μεταβάλλουσιν ἢ ἐπὶ τὸ ὑπέμετρον θερμὸν|40 ἢ ἐπὶ τὸ ὑπέμετρον ψυχρόν. Καὶ ὁποῖως ἀγγένηται ἢ μεταβολή, νόσοις ἀποτελεῖ. Καὶ ὡς μ(έν) ὁ Ἀριστοτέλης οἶεται|—περὶ Ἴπποκράτους, ταῦτα. Ὡς δὲ|αὐτὸς Ἴπποκράτης λέγει γίνεσθαι τὰς νόσο(υς)|45 [± 2] γ[4/5]. . . . . ( ) . . . ἐρὶ φουσεω( ) ||

il calore che avvia e per cui si compie la cozione digestiva non riesce a portarla a termine a causa della quantità di nutrimenti dissimili, ed è per questa stessa ragione che vengono generati dei residui che la impediscono. Nel caso in cui [quello che] è stato assunto sia molto diverso, ciò fa rivoltare lo stomaco e da questa rivolta interna [segue] una trasformazione in residui. Nel caso in cui [quello che è stato assunto] sia molto poco oppure difficile da digerire esso impedisce anche la digestione, e in questo modo [si dà] una trasformazione in residui. [Si dà il caso che] da questi residui emanano infatti dei fiati che quando si levano verso l'alto provocano le malattie; [o a quanto pare] così la pensò l'uomo grazie al quale una tale dottrina fu messa in circolazione. Si può dire pertanto che lo pneuma è il più necessario e importante tra [gli elementi che ci sono] in noi, visto

che quando circola convenientemente si dà la salute, eppure è per causa della sua cattiva circolazione che avvengono le malattie.

[Per cui è] giusto [affermare che] noi assomigliamo alle piante perché così come queste attecchiscono nella terra con le loro radici, allo stesso modo anche noi siamo radicati nell'aria per il naso e per tutto il corpo. [Ecco spiegata] la similitudine [che potrebbe] esserci con quelle piante che si chiamano 'soldati'<sup>1</sup>, perché esse si spostano per causa dell'umidità radicandosi ora su questo perché è umido ora su quello [perché è umido], anche noi siamo simili a queste piante radicandoci nell'aria; e se siamo in movimento trasferendoci ora qui ora lì e di nuovo altrove ciò [si deve], è chiaro, [a quanto] importante sia lo *pneuma*.

Una volta affermato questo, [abbiamo detto] allora che si generano dei residui e che per causa di questi si [producono] anche dei gas che, all'evaporare, danno luogo alle malattie. Le malattie si originano per causa della trasformazione dei gas, questi sono patologici [a prescindere] che siano molti o che si diano in piccola quantità, perché anche ciò comporta delle malattie. Dunque le malattie si verificano a causa dell'[evaporazione] dei gas, i gas si trasformano in due modi: sia per un caldo sia per un freddo eccessivi; in ogni caso si produce una trasformazione [dei gas] che finisce [per generare] malattie. Ecco ciò che Aristotele pensava su Ippocrate.

Per quanto riguarda Ippocrate stesso, egli dice che le malattie si verificano (...) sulla natura (...)

VII.1 ἀνθρώπων- λέγει δι[  
 ἢ ὑπ[ .[.]ων/χολῆς καὶ φλέγμα[τ]ος, ἢ  
 |5ταῦτα, ἐπειδὴ γινομένοις [ καὶ οὗτοι σύν(εστιν) ὄψθ[ ἐκάς]του/παρόντος  
 εἰλ[.]ετι.τος[.]α.[ .ωνεῖναι ἐν ἡμῖν κ(ατὰ) φύσιν τὸ αἷμα τὸ [θερμότ(ατον)]τῶν  
 [ὑ]γρῶν, παρὰ φύσιν τε τὴν ἐκ[...].iv|10ὄτι ὑπὸ μ(έν) τ[(ῶν)] ἐν ἡμῖν γί(νονται) αἱ νόσοι, χολῆς  
 καὶ φλέγματος, ὑπὸ δὲ τ(ῶν) ἐκτός, [τραυμ]άτ(ων), πόνων, ὑπερμέτρου κ(ατα)[ψ]ύξεως [ἢ  
 θερμ]ό[τ]ητ(ος) παρὰ τε τὴν τῆς χολῆς καὶ τοῦ φλέγματος κατάψυξιν ἢ θερμ[ό]τη[τ]α πάλι  
 γί(νεσ)θ(αι) [τὰς νό]15\_\_ουσ. Ἀλλ(ὰ) γ(άρ) ἔτι φ(ησὶν) Ἴπποκράτης [γί(νεσ)θ(αι) τὰς] νόσους ἢ  
 ἀπὸ τοῦ πυρῆτος ἢ ἀπὸ τ(ῶν) διαίτηματ(ων), καὶ ταῦτ[α] μ(έν) ἐπιχειρητέον[ε]κτίθεσθαι ὅταν  
 μ(έν) γ(άρ), φ(ησὶν), ὑπὸ τ[ῆς] αὐτῆς νόσου πολλοὶ ἀ[λ]ίεσκονται [ἅμα, τὰς]20αἰτίας ἀναθετέον τῶι  
 ἀέρι, παρὰ [γ(άρ) πᾶσιν ἐκ]\_\_τούτ[ο]υ ἦπται αὐτὴ νόσος· ὅταν [δὲ] πολλὰ εἶδη καὶ ποικίλα  
 γί(νηται) νόσων, [αἴ(τια) λεκ]τέον τὰ διαιτήματα, οὐχ ὑγιῶ[ς] π[ο]ιούμενος τὴν ἐπιχείρησιν· ἐν[ί]τε  
 γ(άρ)]25τὸ αὐτὸ αἴ(τιον) πολλῶν καὶ ποικίλων νοσημάτων γί(νεται). Κ(ατα)σκευαστικὸν [γάρ]  
 τοι πλῆθος καὶ πυρετοῦ καὶ πλευρίτι]δος καὶ ἐπιληψίας (ἐστίν), ὅπερ κ(ατὰ) εὐε[τασιν]τῶν  
 σωματ(ων) ἀναδεχομένων τὸ πάθος τίκτει]30καὶ τὰς νόσους. Οὐ γ(άρ) δὴ πάντων σωματ(ων),  
 ἐπεὶ ἐν (ἐστιν) αἴ(τιον), ἥδη μία καὶ νόσο<c> φέρ[εται]\_\_ἀλλ'[ῶ]περ εἶπομ(εν), πολλὰ καὶ  
 ποικίλα εἶδη]. Καὶ τᾶ[μ]παλιν (ἐστίν) ὅτε ὑπὸ διαφορόν[τ(ων) αἰ(τίων)]ταῦτα γί(νεται) πάθη. Καὶ  
 γ(άρ) διὰ πλῆθος π[υ]ρετ(ος) αἰ]35ρεῖ, ἔτ[ι] καὶ διὰ δριμύτητα, [κ]αὶ χολῆγ[ῆ] ἐξ ὧν φανερόν ὡς  
 ψευδός (ἐστὶ) τοῦ[το], ὡς προϊόντος ἐπιδείξομ(εν) τοῦ λό(γου). Ἐ[κ]εῖνοι μὲντοι γε ῥητέον διότι  
 [ἄ]λλως Ἄ[ρι]στο[τέ]λης περὶ τοῦ Ἴπποκράτους λέγει[ι] καὶ]40\_\_ἀλλ[ῶ]ς αὐτός φ(ησὶ) γί(νεσ)θ(αι) τὰς  
 νόσους. Οἷς ἐπό]μενος ὁ <A>βυδηνός Ἀλκαμένης λέγει γί(νεσ)θ(αι) τὰς νόσους, ὡς φ(ησὶ)  
 περὶ]αὐτοῦ Ἀριστοτέλης, διὰ τὰ περιεσώ]ματα τὰ ἀπὸ τῆς τροφῆς [κατασκευα] ||

uom (...) dic (...) o per (...) la bile e il flegma, (...) questi, allora al diventare (...) che si trovano combinati in un modo tale che (...) ciascuno che infatti è presente (...) il sangue è il più caldo dei fluidi che per natura ci sono in noi, contronatura gli est (...) per cui le malattie si producono [tanto]

<sup>1</sup> *Pistia stratiotes (Lattuga acquatica)*.

per causa dei [fluidi congeniti] in noi — come la bile e il flegma — che per [cause] esterne del tipo delle ferite, dei dolori, di un raffreddamento oppure di un riscaldamento eccessivo; perché le malattie, ancora, si generano per un raffreddamento o per un surriscaldamento della bile e del flegma.

Come afferma Ippocrate, tuttavia, le malattie si producono sia per causa dell'aria sia dei regimi [alimentari]; per cui si deve fare fronte a queste cose e devono essere spiegate. Allora, dice [Ippocrate], si dovrà supporre che la causa [della malattia] è l'aria quando sono molti quelli che allo stesso tempo cadono nelle mani della stessa malattia; infatti è toccato [loro] contrarre la stessa malattia. Quando le malattie sono molteplici e di diverso tipo si dirà, ovvero se ne inferirà, che i regimi [alimentari] ne sono la causa, perché non si fa una vita sana. A volte pertanto la stessa causa produce varie malattie e di diverso tipo.

La pleura predispone alla febbre, alla pleurite e all'epilessia; per questa ragione si deve ammettere che è l'accumulazione [quello che] genera l'affezione e le malattie dei corpi. Tuttavia non di tutti i corpi, giacché se la causa fosse solo una ciò porterebbe indefettibilmente verso un'unica malattia; ma come abbiamo detto prima, ve ne sono molteplici e di vario tipo, e di nuovo cioè perché le cause sono diverse tanto che si producono tante [diverse] affezioni.

D'altra parte il fatto che si considerino [come cause] della febbre [tanto] gli eccessi, quanto l'acidità oppure la bile, rende appunto manifesta la falsità dello stesso [assunto]; quindi prima di andare avanti dovremo dimostrarne il [vero] motivo. [E quindi] bisogna dire [che quello che] Aristotele attribuisce ad Ippocrate è diverso da quello per cui Ippocrate stesso afferma che si producono le malattie.

A costoro [Aristotele e Ippocrate] segue Alcamene di Abido, il quale afferma che le malattie si producono, nel modo in cui Aristotele opina in base a questo [assunto], ossia dai residui che risultano dal cibar-

VIII.1 ζόμενα· αἴ(τια) γ(άρ) ταῦτα τ(ῶν) νό(σων) εἶναι. Κ(ατά) τοῦτο μ(έν)τοι γε διάφορος φαί(νεται π)ρὸς τὸν Εὐρυφῶντα, καθ' ὅσον κ(εῖνος)

μ[ε]ν τ[η]ν κεφαλήν εἶπεν ἐπικ[ου]σρικὴν γί(νεσ)θ(αι) τ(ῶν) περιττωμάτων, ἀλ[λ]ῶς δὲ ὁ Ἀλκαμένης εἶπεν· « Ἄνατρ[έχει] μ[εν] ὡς τὴν κεφαλήν τὰ περιε[σώματ(α)] ἀλλ' ἐπιχορηγούμενα πρὸς τῆς [κε]

φαλῆς καὶ ἐπιπεμπόμενα τῶι ὄλφ[10]—σώματι τὰς νόσους ἐμποιεῖ ». Ὁ δὲ Μεταποντῖνος

Τιμόθεος, καθὼς φησι περὶ αὐτοῦ ὁ αὐτὸς φιλόσοφος,

λέγει ἀποτελεῖσθαι τὰς νόσους τρόπῳ τούτῳ· ὅταν μ(έν) γ(άρ) ἡ κεφαλή ὑγιῆς|15 ἢ καὶ κ[α]θαρά, καθαρὰ καὶ ἡ τροφή ἀπ' αὐτῆς π(ροσ)τίθεται τῶι ὄλῳ σώματι, καὶ ο(ὕτως) ὑγιαίνει τὸ ζῶιον· ὅταν δὲ μὴ ὑγιῆς|ἢ, νόσους ἐπιφέρει τῶι τὰς διεξόδους ἀποφράσσεσθαι· ὅταν γ(άρ), φ(ησίν), αὗται ἀποφρα|20 γῶσιν, ἀνατρέχον τὸ περίσσωμα ὡς τοὺς κ(ατά) τὴν κεφαλήν τόπους|τέως τῶι μὴ ἔχειν διέξοδον ἐμμένει, ἐμμεῖναν δὲ μεταβάλλει|εἰς ἄλμυρον καὶ δριμύ ὑγρόν, κᾶπειτα|25 πλείω ἐμμεῖναν χρόνον καὶ ῥῆξι|ἐργασάμενον φέρεται εἰς ὅτιοῦν μέρος|καὶ παρὰ τὰς τούτου διαφορὰς διαφοροῦς| [τὰς] νόσους ἐπιφέρει. (Ἔστι) δ' ὅτε, φ(ησίν), καὶ|ἀθρό]ως οἰσθέν ἐπὶ τὴν τραχεῖαν|

30 ἀρτηρίαν, λάρυγγ δὲ αὕτη, πνιγμοὺς|ἐ[π]ι[έ]ρει καὶ συντόμους ἐξαγωγὰς|ἐκ το[ῦ] ζῆν. Νοσεῖν δὲ φ(ησι) τὴν κεφαλήν [ἢ] δι' ὑπερβολῆς|<v> κ(ατα)ψύξεως ἢ δι' ὑπερ|—β[ο]λήν θερμότητος ἢ διὰ

πληγῆν.|35 Ἄβας δ.ι...c οἶεται γί(νεσ)θ(αι) τὰς νόσους|[πα]ρὰ τὰς τοῦ ἐγκεφάλου καθάρσεις.| [Κ]αθαίρεσθαι δὲ τὸν ἐγκέφαλον διὰ|μυκ[τ]ήρ[ων], ὧτων, ὀφθαλμῶν,|στώματος, κ(ατά) τε τὰς

διαφορὰς τοῦ πλήθους τ(ῶν) κα|40 θάρσεων ὑγίειαν γί(νεσ)θ(αι) ἢ νόσον. Ὅταν μ(έν) γ(άρ)|κ(ατ') ἐλάχιστον γένηται ἡ καθάρσις,|ὑγ[ι]αίνει τὸ ζῶιον, ὅταν δὲ ὑπερ|μ[έ]τως, νοσεῖ. Λέγει δὲ διὰ ταύτας|τ[ὰ]ς καθάρσεις γί(νεσ)θ(αι) πέντε κατάρρους||

–si, e dunque che questi sono la causa della malattia. [Tuttavia] a quanto pare c'è una differenza [tra la dottrina di Alcamene] in relazione a [quella di] Eurifonte. Infatti questo [ultimo] disse che la testa opera particolarmente sui residui, Alcamene affermò [, invece,] quest'altro: « i residui producono le malattie col ritornare verso la testa, quando essi non sono distribuiti dalla testa e [da lì] riavviati per tutto il corpo ».

Timoteo di Metaponto, secondo quello che tramanda su questo assunto lo stesso filosofo [Aristotele?], afferma che le malattie si danno nel modo seguente. L'essere vivo gode di ottima salute ogniqualvolta la testa si trovi in buono stato e [dovutamente] evacuata; [per] 'evacuata' [si intende che] il cibo è [convenientemente] distribuito dalla testa stessa verso tutto il corpo.

Quando non c'è buona salute le malattie sopravvengono perché le vie d'evacuazione della testa si trovano ostruite. Siccome si trovano ostruite per il fatto che non c'è un'uscita — dice — il residuo [escrementizio] rientra verso i luoghi della testa dove era rimasto sino ad allora, e col rimanere lì diventa un liquido salato e amaro. È per il fatto che si trattiene per un tal lungo tempo laddove fu elaborato che questo liquido può scendere e versarsi in una qualsiasi parte, poiché ciò che comporta le diverse malattie [dipende] dalla parte in cui questo [versamento] ha luogo.

In questo modo, quando capita ciò [Timoteo] dice che questo fluido è avviato verso la trachea — o quel che è lo stesso, la laringe —, e la inonda, il che può portare all'asfissia o, per farla breve, [a quella sensazione che uno ha] quando la vita se ne sta andando. Timoteo di Metaponto afferma che la testa si può ammalare per un raffreddamento eccessivo, per un riscaldamento eccessivo oppure per un colpo.

Abas sostiene che le malattie si producono per causa delle evacuazioni del cervello. Il cervello si purga tramite gli orifizi del naso, delle orecchie, degli occhi e della bocca. La salute o la malattia si danno a seconda delle differenze di quantità delle evacuazioni. [In questo modo,] se la purga si dà molto di rado ciò [vuole dire che] l'essere vivente gode di buona salute; mentre se sono eccessive vuol dire che si è ammalato. [Abas] dice pure che a causa di queste evacuazioni si producono cinque [tipi di] catarri.

IX.1 [ lacuna di una riga ] [...]ι τωι μητ[ κα][τάρ]ρους. .[ |  
 5[...].κλεοδω[...].ενομεν[...].ην αυτη[...]. δύο ειπον[...].c παρα[...].10[...].εν οταν [[...].ο cωμα υγ[...].τωc  
 νόχοι .[|ται τὰ cωμα[τα|ρα[...]. προcενεχ[...].15πλήθη, ἀλ(λὰ) ειc περι[|και τὰc νόc[ουc|κρ[...].τωc ἐχ[...].  
 μετρίαν νόcου [ |>καὶ κατάψυξιν [20Ἡρόδικος δὲ [ |τὰc νόcουc [ |την δὲ (εἶναι) κατ[ |και  
 ἀλγηδ<όν>οc αἴ(τια) [ |ἐξη ἢ τροφή ἢ πρ[ |25τὰ cώματα οτ[ |φύcιν οἶεται γ[(άρ)] τη[  
 κ(ατὰ)|φύcιν ἐχόντ(ων) τ(ῶν) cω[μάτ(ων)|νόcον π[α]ρὰ φύcι[ν|παρὰ φύc[ι]ν διατεθη[ |  
 30ἡ ιατρικὴ παραγομέ[νη|φύcιν ἄγει ταῦτα, ω[ |δὲ τὸν ἄνδρα τὴν ια[τρικὴν|ἀγωγὴν ειc τὸ κ(ατὰ)  
 φύcιν [ |οὔτωc. Κεῖνο δὲ οτ[ |35 θερμότητοc και ὑπ[ |>cυνίcτανται νόχοι [ |Ὁ δὲ Αἰγύπτιοc  
 Νινυ[ |  
 συγγενικὰ γί(νεc)θ(αι) πάθη .[ |και τὰ μ(έν) συγγενικὰ [40 εἶναι. Ὑπὸ δὲ ἄλ(ληc) αἰ(τίαc) .[ |  
 τὰc νόcουc τρόπωι τ[οιοῦτωι |ἢ τροφή ληφθεῖcα μὴ [ |ἀλλ' ἐμμεῖνη ἢ θερμό[τηc] πλεί[ω] χ[ρόνον |  
 ἐξ αὐτῆc ἀπογεννᾶ [ |]

(...) catarri (...) cleodo (...) stessa (...) due diss (...) per (...) quando  
 il corpo san (...) le malattie (...) i corpi (...) prend (...) gli eccessi ma in (...) e le malattie (...) in  
 eccesso malat (...) e raffreddamento

Erodico (...) le malattie (...) esserle per (...) e la causa del dolore (...) che possa avere il (...) cibo, la (...) i corpi che (...) natura crede (...) che i corpi hanno (...) natura (...) malattia contronaturale (...) è disposto contronaturale (...) la medicina (...) che si mette affianco (...) natura porta queste cose (...) l'uomo (...) la medicina (...) portarlo verso quello che è naturale (...) in questo modo. Quello che (...) caldo e (...) si producono delle malattie.

Ninyas l'Egiziano (...) prodursi delle affezioni congenite. (...) e le congenite (...) essere. Per altra causa (...) le malattie di tal tipo (...) il cibo che si è assunto non (...) ma rimane, il caldo per lungo periodo (...) da sé stessa si produce (...)

[ mancano una o più colonne]

X [ lacuna di circa 26 righe]

]..... |  
 ].ινοϕ | ] νόσου ..|30 ] μ(εϕ)  
 εἶναι|.επιτω|ωιον|ωφα |ενον|35 λ|απαράν|] μὴ διὰ |αλγηδον(|]μενος|... |  
 40 ]μιν| ]ε| ]ιον| ]κευ| ]αλλειν δέ|45 ]ψυχ( ) ||

della malattia (...) essere (...) non per (...) il dolore (...) che si (...) trasformare (...) fred

XI.1 [ lacuna di circa 5 righe ]

].ϕ| ].[ ]ν καὶ ἡ ὑγρὰν|ἀ]λμυρὰν  
 με|10 ].ομενο...].και....| ]κεϕ| ]ϕ νεφροῦς| ]. τὴν θερμ(ὴν)|15  
 ]εἰ τον μεγα| ] ἡ δὲ πυρρὰ| ]. και πρασο| [ειδῆς ]ετα τὸ αἷμα|  
 ]..[.].[ 4/5 ].αιτατον|20[ ]...ματο[± 4]ον. Ἡ δὲ μέλαι|[να ± 3].[..]...ντ(ων)  
 [4/5]μέν(ων) ὑπόστασις|±4].....αἷμα [± 4] τόπον ἔχει|—[± 6]ε...c. Ἴππ[ων δ]ὲ ὁ Κρ[ο]τω|γιάτης  
 οἶται ἐν ἡμῖν οἰκείαν (εἶναι) ὑγρότη|25τα, καθ' [ἡ]ν καὶ αἰσθανόμεθα καὶ|[ζ]ῶμ(εν)· ὅταν μ(έν) οὖν  
 οἰκείως ἔχη|ἡ τοιαύτη ὑγρότης, ὑγαίνει τὸ ζῶιον,|ὅταν δὲ ἀναξηρανθῆ, ἀναισθητεῖ τε|τὸ ζῶιον καὶ  
 ἀποθνήσκει. Διὰ δὲ τοῦτ(ο)|30[κ]αὶ οἱ [γέ]ροντες ξηροὶ καὶ ἀναίσθητοι, ὅτι|χωρὶς ὑγρότητος·  
 ἀναλόγως δὲ τὰ πέλματα ἀναίσθητα, ὅτι ἄμοιρα ὑγρότητος. |Καὶ ταῦτα μ(έν) ἄχρι τούτου  
 φ(ησίν). Ἐν ἄλλω|δὲ βυβλίω αὐ[τ]ῶς ἀνὴρ λέγει τὴν κα|35 τωνομας[μ]έ[ν]ην ὑγρότητα μεταβάλ-  
 λειν δι' ὑπ[ε]ρ[β]ολῆν θερμότητος καὶ|δι' ὑπερβολῆν ψυχρότητος κ[αὶ] νό[σ]ου|ἐπιφέρειν.  
 Μεταβάλλειν δὲ φ(ησίν) αὐτὴν|ἢ ἐπὶ τὸ πλεῖον ὑγρὸν ἢ ἐπὶ τὸ ξηρό|40τερον ἢ ἐπὶ τὸ  
 παχυμερέτερον|ἢ ἐπὶ τὸ λεπτομερέτερον ἢ εἰς [ἔ]τερα. Καὶ τοιούτως νοκολ(ογεῖ),|τὰς δὲ νόσους  
 τὰς γινομένας|—οὐχ ὑπαγορεύει. Θρασύμαχ[ο]ς|δὲ ὁ Καρδιανὸς αἰ(τίαν) ἀπολεί<πει> τ(ῶν)  
 νό[σ]ων|45τὸ αἷμα· κ(ατὰ) δὲ τῆ[ν <τού>το]ν μεταβ[ο]λῆν ||

(...) o il fluido (...) salato (...) i reni (...) il caldo (...) il gran (...) rossa (...) del genere (...) il sangue. La nera (...) sedimento dell'urina (...) sangue (...) ha una localizzazione (...).

In accordo con la nostra stessa natura, sostiene Ippone di Crotona, c'è in noi un'umidità grazie a cui percepiamo e viviamo. Un essere vivo gode di buona salute sempre che abbia quest'umidità, ma quando si disseca, allora, diventa incapace di percepire, muore. Questa è la ragione per la quale gli anziani appassiscono e non percepiscono, giacché hanno carenza umidità.

In base a questa ragione afferma queste cose, [per esempio] e analogamente, che le piante dei piedi sono insensibili per causa dell'essere sprovviste di umidità. E fin qua [arrivano] le cose che dice [Ippone]. In un altro libro lo stesso autore dice che la suddetta umidità si trasforma tramite un caldo eccessivo oppure un freddo eccessivo, ed è in questo modo che sopravvengono le malattie. Quest'umidità si trasforma, assicura, fino a diventare completamente liquida, o sino ad asciugarsi

del tutto, oppure si fa più densa oppure più leggera o nel resto [dei modi possibili]. Ed è così che [Ippone] spiega la malattia, per quanto non enumeri le malattie che si verificano.

Trasimaco di Sardi dà per certo che il sangue sia la causa delle malattie e che sia per via della sua trasformazione

XII.1 ἀποτελεῖσθαι τὰς [νόσους. Με]ταβάλλ[ε]ιν δὲ ἢ δι' ὑπερβολὴν| καταψύξεως ἢ δι' ὑπερ[βο]λὴν θερμότη|τος. Τὴν δὲ μεταβολὴν τοῦ αἵματος γί(νεσ)θ(αι)|ἢ εἰς φλέγμα ἢ χολὴν ἢ ρεσηπός. Καὶ| 5τὸ μ(έν) αἷμα ἀπλοῦν [(έστιν)], ἢ δὲ χολὴ καὶ|τὸ φλέγμα καὶ τὸ ρεσηπός, ποικιλτὰ|ῶντα, ποικίλας καὶ διαφοροῦς ἐπιφέρει|ν}—νόσους. Πάντα [δ' ὁμοίω]ς, φ(ησὶν), ὁ Δέξιπ[πος] ὁ Κῶιος οἴεται συν[ί]στασθαι τὰς νόσους|10ἀπὸ τ(ῶν) τῆς τροφῆς π[ε]ριττωμάτων,|τοῦτ' (έστιν) ἀπὸ τε χολῆς καὶ φλέγματος, δυ(νάμεων) γ[ι]νομένων] περὶ μέρος καὶ περὶ ὅλον,|κινουμένων(ων) τούτ(ων) μὴ ἐξ ἑαυτ(ῶν), ἀλλὰ|παρὰ τὰς πολλὰς ἀκαιροῦς τῆς τροφῆς δόσεις.|Νοσοπ<οι>εῖν δὲ ταῦτα καὶ παρὰ τὸ πλῆ|15θος καὶ παρὰ τὸν τόπον καὶ εἶδος, με|ταβάλλειν δὲ αὐτὰ καὶ δι' ὑπερβολὴν|πάντ(ων)· καὶ γ(άρ) θερμότητος, κ(ατα)[ψ]ύξεως|ἢ τοιούτ(ων) παραπλησίον· καὶ ἄχρι μ(έν)|τούτου φαίνεται παρα[πλη]σίως τοῖς|20πρότερον [αιτιολογ]ῶν. Περιττό|{το}τερος δὲ αὐτ(ῶν) φαίνεται|κ(ατὰ) τοῦτο· λέγει γ(άρ) τηκομένης τῆς χολῆς καὶ|τοῦ φλέγματος καὶ ὑγροτέρων γι(νομένων)|— ἀποτελεῖσθαι ἰχῶρας καὶ ἰδρωτάς· |25σηπομένων(ων) δὲ αὐτ(ῶν) καὶ παχνομένων(ων)|— ἐπιφέρειν πῦον, μύζας, λήμας· ἀνα|ξηρανθέντ(ων) δὲ καὶ ρερεῶν ἀπο[τ]ελεσθ(έντων)|γί(νεσ)θ(αι) πόρους· καὶ... ἐξ αὐτ(ῶν)|λεγε..[ ± 10].[ ±3 τ]ῶι αἷμα| 30 τι| 13/14 ]απ[± 3] λεγομένη(ν)|χολὴν [..].[.....] φλέγματος ἐπιμειχθέν(τος)|τῶι αἷ[μα]τι [...]|μα ..... φλέγμα|. [λευκ]ανθέντος δὲ αὐτοῦ, λευκὸν|[ 6/7 ]. μελανθέντος δὲ καὶ μετα|35β[ληθέν]τος μέλαινα χολή. Καὶ ἢ μ(έν)|—τοῦ Κῶιου δόξα τοιαύτη. Φασίτας|δὲ ὁ Τενέδιος λέγει συνίστασθαι|τὰς νόσους ἢ παρὰ τὴν ἀποφορὰν|τῶν ἐν ἡμῖν ὑγροτήτ(ων) καὶ προκτι|40θεμένων(ων) ἀνοικείοις τόποις ἢ ἀπὸ τ(ῶν)|ἀποχωρ<ημάτων> αὐτ(ῶν)· εἶναι γ(άρ) φ(ησὶν) ἐν ἡμῖν|κατὰ φύσιν ὑγρότητας καὶ τὰς μ(έν)| {τὰς} ὑγρότητας οὐ κατονομάζει ||

che le malattie si producono. [Il sangue] si trasforma per causa di un raffreddamento eccessivo oppure di un riscaldamento eccessivo. La trasformazione del sangue risulta in flegma, bile o materia purulenta. Il sangue è semplice; la bile, il flegma e il pus sono invece di tipo diverso, [ed] essendo essi di diversi tipi [a essi] seguono molteplici e diverse malattie.

In modo praticamente uguale, dice [Aristotele], Dessippo di Cos crede che le malattie si verificano per causa dell'azione dei residui del cibo — cioè della bile e del flegma — che si producono tanto nelle parti che nel insieme [del corpo] al non agire già più per sé stessi ma a seconda dei diversi apporti impropri dell'alimento; cose queste che fanno ammalare. [I residui] si modificano addirittura a seconda della [loro] quantità, del luogo [dove si trovino] e de[l loro] tipo; anche l'eccesso di tutti questi [principi fa ammalare]. Ugualmente uno [si ammala] per il calore, per il raffreddamento o per cose simili a queste. Quanto a ciò, dunque, [la posizione di Dessippo] è molto vicina a ciò che per primo [dissero] coloro che indagavano sulle cause, sebbene in ciò [che segue] apparecchiasi ancora più a quegli stessi.

[Dessippo] afferma allora che quando la bile e il flegma si mischiano diventano più liquidi, poi finiscono per trasformarsi in umori ed essudazioni vari. Quando questi imputridiscono e si fanno più densi diventano pus, mucosità, muchi (...) quando si asciugano e si solidificano i pori diventano (...) per sé stessi (...) dic (...) al sang (...) qualche (...) si è detto la bile (...) il flegma al mischiarsi col sangue (...) il flegma stesso diventando bianco, quel bianco (...) annerirsi e trasformarsi in bile nera. Ecco qua la dottrina di quello di Cos.

Fasitas di Tenedo dice che le malattie sopravvengono sia a causa dell'emanazione dei liquidi che per natura ci sono in noi, [la quale avviene] con lo stagnarsi e distribuirsi questi verso luoghi [che sono a loro] impropri; sia per causa delle escrescenze stesse. [Fasitas] afferma difatti che ci sono in noi per natura dei liquidi, sebbene non menzioni tali liquidi (...)

XIII.1 τ[ ο[ |αἷμα.[|κατὰ το.[|5ἀποχω[|τοπ[|η...|ται ἢ ὅτα[ν ]ς|—ἄπασαι. [ ]ς|10φηεὶ συν[ίτασθαι|φλέγμα[τ]ο[|λαμβάνει ...| ἐξ ἑαυτ(ῶν)· εἰ δὲ τῆς [11/12] καὶ δια[τι]θεισ(ῶν) [τὸ ὄλον [c]ῶμ(α)|αὕτη γ(άρ) ἐπιμείνα[ca ± 13]|15αὐτὸ κήπεται, νοσοποιεῖ δὲ κ[(ατὰ)] τ[ὰ]|προειρημένα μὴ καθ' ἑαυτά, μετὰ δὲ|καὶ τῆς τοῦ σώματος διαθέσεως {ώς}|·ἐὰν γ(άρ) ἔχη τοῦτο ἢ νοσεῖ τὸ ζῶιον ἢ ὑγ[ιαί]νε(ι),|εὐκράτως μ(έν) γ(άρ) αὐτοῦ διακειμένου|20—ὕγεια γί(νεται), δυσκράτως δὲ νόσος.| Αἰγίμιος δὲ ὁ Ἥλειος οἶεται γί(νεσ)θ(αι) τὰς νόσους|ἢ διὰ πλῆθος τῶν περισσωμάτων) ἢ δ[ι]ὰ τροφή(ν).|Γι{θ}νόμενον δὲ τὸ πλῆθος νοσοποιεῖν|[μ]ὴ ἄπαξ, ἀλλ(ὰ) καὶ πλεονάκις. Συνίτασθ(αι)|25[δ]έ φ(ησι) τὸ πλῆθος τ(ῶν) περισσωμάτων τρόπῳ| [το]ιούτῳ· σύντηξις γίνεται ἀπὸ τῶν σωμάτων(ων), ἥτις ἀποκρίνεται τῇ μ(έν) κατὰ τὸ λόγῳ| θεωρητόν, τῇ δὲ καὶ κατὰ τὸ αἰσθητόν,|διὰ [δ]έ κοιλίας, οὔρων, ὄτων, μυξ[ῶ]ν,|30[ε]τόματος, τ(ῶν) ἄλλων ἀποκρίσεων γ[ι]νομένων)]|κατὰ λόγον. Εἰ μὴ γ(άρ) αὐτὸ σύντηξις ἐγί[νε]το|ἀπὸ τ(ῶν) σωμάτων(ων), εἰς ἄπειρον ἂν μέγεθος|ἤξεντο τὰ ἡμέτερα σώματα· Καὶ δε[όν]τως· προσθέσεως γ(άρ) γινομένης,|35μηκέτι δὲ ἀποφορᾶς, εὐλογον ἦν αὐξήσιν|γί(νεσ)θ(αι) ἐπὶ πλεῖον. Ἐπει δὲ οὐ μόνον πρόσθε[ε]ς|γί(νεται) τοῖς σώμασιν, ἀλλ(ὰ) π(ρὸς) λόγον τῆς π(ροσ)θέσεως καὶ ἀποφορὰ διὰ τ(ῶν) κατωνομασμένων(ων) ἀποκρίσεων, ταύτη ἐπ' ἐλάχιστον|40 ἢ αὐξήσε[ι]ς τ(ῶν) σωμάτων(ων). Φηεὶ δὲ τρέ[φ]εσθ(αι)|τὰ σώματα ὑπὸ τῆς νεαρᾶς καὶ ἀπέπτου τροφῆς, γενηθείσης δὲ τῆς πέψεως καὶ ἀναδόσεως κενούσθ[α]ι|τ[ὰ] ἀγγεῖα καὶ τὰς διεξόδους. Τὸ δ[ε] |45 πλῆθος συνίτασθαι εἰς φερομέν[η]ς|ἐτέρας τροφῆς, πρὶν τὴν πρώτ[ην]|πέψεως τυχεῖν. Ὅταν γ(άρ) προ[τέρ]ου ||

(...) sangue (...) secondo quest (...) escresc (...) luog (...) oppure quando (...) tutte. (...) dice sopravvenire (...) del flegma (...) prende (...) da sé stessi, se la? (...) e distribuendosi (...) tutto il corpo. Questo [flegma] quando rimane di nuovo imputridisce, provocando la malattia non già per le cause menzionate per sé stesse ma, piuttosto, a seconda di quale sia la disposizione del corpo. In funzione di come essa abbia luogo l'essere vivente si ammala o gode di buona salute. Se il corpo si trova ben regolato e disposto allora c'è la salute, ma se il flegma si trova in un cattivo equilibrio con lo stato del corpo ciò risulta in una malattia.

Egimio di Elide ritiene che le malattie si producano per la pletora dei residui oppure per causa del cibo; una volta che si è formato la pletora diventa motivo di malattia non solo un'unica volta ma diverse. [Egimio] afferma che la pletora si produce a partire dai residui in questo modo. Per una ragione teoretica, e secondo quello che i sensi rendono pure di manifesto, in qualche maniera ci deve essere una dissoluzione a partire dai corpi. A causa di [questa] ragione si producono delle secrezioni tramite il ventre, le urine, le orecchie, il naso, la bocca e altri; giacché se non fosse così allora l'insieme degli umori corporali che si è generato a partire dai corpi accrescerebbe i nostri corpi fino [a farli diventare] infinitamente grandi. E così dovrebbe essere, perchè se ci fosse [solo] assunzione senza secrezione logicamente si darebbe un accrescimento esagerato.

Allora [capita] che l'assunzione non è la sola [causa dello accrescimento] dei corpi ma esso si dà in relazione proporzionale dell'assunzione con l'emanazione per via delle suddette secrezioni; essendo essa [la ragione] per cui l'aumento dei corpi [risulta] graduale. [Egimio di Elide] crede che i corpi si accrescono per [causa] del cibo fresco e crudo; una volta che la digestione e l'assimilazione degli alimenti cominciano a prodursi, i vasi e le vie d'evacuazione [del corpo] si svuotano. La pletora si costituisce a causa dell'assunzione di altro alimento prima che la digestione di quello si sia data. In questo modo quando il primo (...)

XIV.1 [.....]την τροφήν π.[..].....|[ una riga assolutamente persa ]

[ ± 11 ] δ [ ± 12 ] ιν|[ ± 7 ]. πλῆθος δ...μ(εν) ἀπὸ τ(ῶν)|5 [περιεσσω]μάτ(ων) αἰ[τ]ιολογοῦντες, [χεδὸν εἰρήνται. Ἴ[δ]ωμ(εν) δὲ καί[τ]ρ[οὺς ἀπὸ τῆς φύ]ξεως τ(ῶν) [σω]μάτ(ων) καί[δ]ια[θέσεως αἰ]τιολ[ο]γοῦντας τὰς|νό[ου]ς καὶ τοὺς ἀπὸ τῆς τ(ῶν) στοιχείων|10ουε[τάσε]ως οἰομένους συνεστ<άν>αι τὰ|ἡμέ[τερ]α σώματα· καὶ πρῶτον ἀπὸ|Πλά[τω]νος. [Ο]ὔ[τ]ος γ(άρ) φησι τὰ ἡμέ[τερα] [σώματα συ]γχετάναι ἐκ τ(ῶν)|τεσσά[ρω]ν στοιχείων [κα]τὰ [ε]ύ[μ]φ[θ]αρσιν ὅτι καὶ τὰ ἐν κός|15μωι γί(νεται) [2/3] α. Διαφ[έ]ρειν δὲ ταῦτα·| σύμφ[θ]αρσιν, μῖξιν, κρᾶσιν. Καὶ σύμφ[θ]αρσιν [μὲν] καὶ σύγχυσιν, ὅταν σώματα|διὰ ἑαυ[τ(ῶν)] ὄλων ἦκοντα μίαν ὑπεράνω|ἀποτελέσει ποιότητα, ὡς ἐπὶ τῆς τετρα|20\_\_φαρμάκου. Μίξις δέ (ἐστίν) ὅταν σώ[ματά] τινα ἑαυτοῖς κ(ατὰ) παράθεσιν παρακέ(ηται)|καὶ μὴ δι' ἑαυτῶν ἦκη ὡς σωρὸς πυροῦ,|κριθῆς. Δ[ιάκ]ρασις δέ (ἐστίν) ὅταν σώματα|τινα ἐπὶ τ[αὐ]τ[ὸ] ε[ν]ελθόντα ἀλλήλοισ|25 παρακ[έ]θηται, ὡς ἐπὶ τοῦ οἰνομέλιτος|βλέπομ[ε]ν. Ἀπὸ τριγ(άρ)τοι τῆς τούτ(ων) διαφορᾶς|φθῆσιν ὁ Πλάτ(ων) τὰ ἡμέτερα σώματα|ἐκ τ(ῶν) τεσσάρων στοιχείων συνεστάναι|κατὰ σύμφ[θ]αρ[σ]ιν· ταύτη δὲ μὴ φαίνεσθ(αι) καθ' ἑ(ν)|30ἐν ἡμῖν πῦρ ἢ ἀέρα ἢ γῆν ἢ ὕγρον τῶν|κατὰ σύμφ[θ]αρσιν αὐτῶν τὰ ζῶια ἀπο|τελεῖσθ(αι). Ἀλλὰ γ(άρ) λέγει ἀνὴρ καί|τινα τ(ῶν) ἐν ἡμῖν μερ(ῶν) διαφοροῦ τε|τευχέν[αι] κράσεως ἐκ τ(ῶν) στοιχείων·|35οὐ γ(άρ) ὡσαύ[τ]ως κέκρται κεφαλῇ|ἢ χεῖρ, ἀλλὰ [ἄ]λλως μ(έν) κεφαλῇ, ἄλλως|δὲ θώραξ. Καὶ κοινῶς ἕκαστον τ(ῶν)|ἡμετέρων μερῶν διαφοροῦ κράσεω(ς)|τετύχηκεν, γί(νεται) καὶ αὐτὰ διάφορα ἑαυτ(ῶν). Ἔτι γε μήν φ(ησιν) ὡς ὁ μυελὸς|40 συνέστηκεν [ἐ]κ τῶν τεσσάρων στοι|χείων καὶ κυ[ρ]ιώτερός (ἐστι) τ(ῶν) ἐν ἡμῖν|ἀπάντ(ων), χρώμενος πιθανότητι λόγων|τοιαύτη· ἀνῆφθ(αι) γ(άρ) ἐκ τοῦ μυελοῦ|τὴν ψυχὴν τὴν τὸ ὄλον σῶμα διοικ(οῦσαν) ||

il cib (...) l'eccesso (...)

Oserei dire che si è fatta menzione di coloro che ritengono i residui la causa [delle malattie]. Bisogna che esaminiamo pure [le opinioni di] coloro che attribuiscono le cause della malattia tanto alla natura che alla disposizione dei corpi, inoltre [quelle di] coloro che considerano che i nostri corpi sono costituiti tramite una combinazione degli elementi. E innanzitutto [cominceremo] da Platone.

Egli afferma infatti che i nostri corpi sono costituiti a partire dai quattro elementi per dissoluzione così come capita con gli [altri corpi] nell'universo (...); bisogna fare distinzione [tra] queste cose: la capacità di dissolversi, di mischiarsi e di combinarsi simultaneamente. La dissoluzione — anche la capacità di fondersi — si dà quando [diversi] corpi, assolutamente per sé stanti, giungono a diventare un'unica qualità superiore; come [accade] con il tetrafarmaco. La mescolanza si dà quando questi stessi corpi rimangono adiacenti per giustapposizione, ma senza arrivare a diventare [uno solo], come capita con un fascio di grano o d'orzo. La fusione si dà ogniqualvolta ci siano dei corpi affiancati i quali vengono a fondersi gli uni agli altri, come vediamo che capita col vino mielato. E giustappunto per via della differenza che c'è fra queste [maniere di mischiarsi] Platone afferma che i nostri corpi sono costituiti dai quattro elementi, in base alle loro [rispettive] capacità di mischiarsi simultaneamente.

Alla luce di questa differenza non sembra [che sia] per uno solo [degli elementi] in noi — il fuoco, l'aria, la terra oppure l'acqua a seconda della loro capacità di dissolversi — che gli esseri viventi arrivano a generarsi, perché Platone afferma che la differenza che [v'è fra] alcune delle parti del nostro corpo [si deve al modo in cui] si sarebbe stabilita la compenetrazione a partire dagli elementi. La testa o la mano non sono affatto mescolate allo stesso modo, ma in un certo modo la testa e in un altro il torace, visto che in generale ciascuna delle parti del nostro [corpo] risulta da una combinazione diversa, la quale produce le differenze tra di esse.



τὸ ἔντερον τὸ π(ρὸς) τῆι κάτω|κοιλίαι καὶ εὐθύ, κἂν ἐφέρετο ῥαδίως|30[ῆ] τροφή. Ἐπεὶ δὲ σκολιὸν τέ (ἐστὶ) καὶ πο|[λύ]μηκες, ταύτηι ἐπιμένει πολλοὺς χρόνο(υς)·|[κ]αὶ περὶ μ(έν) τοῦ σώματος τοσαῦτα.[Λ]έγει δὲ καὶ περὶ τῆς ψυχῆς ὡς τρι|μερῆς (ἐστὶν), καὶ τὸ μ(έν) τι αὐτῆς (ἐστὶ) λο[γ]ικόν,|35τὸ δὲ θυμικόν, τὸ δὲ ἐπιθυμητικόν· καὶ τὸ μ(έν) λογικὸν ἀπολείπει περὶ|τοὺς κ(ατὰ) τὴν κεφαλὴν τόπους· εὐφυεῖς γ(άρ)|ο[ῦ]ροι π(ρὸς) παραδοχὴν τοῦ ἡγεμονικ(οῦ)·|[Τὸ] δὲ θυμικὸν ἔταξεν περὶ τὴν καρδ(ίαν),|40[οῦ] π[ό]ρρω μ(έν) τεταγμένον τοῦ λογικοῦ,|[ύπ]οτεταγμένον δὲ τῶι λογικῶι,|[ῖν]α δὴ καὶ ὑπήκο<ον> αὐτῶι γί(νηται). Τὸ μ(έν)τοι|[γε] ἐπιθυμ<ητ>ικὸν ἔταξεν μεταξὺ δια|[φρά]γματος καὶ ὀμφαλοῦ. Ἐπέστησεν|45[δὲ] τὸ ἦπαρ τῆι ἐπιθυμίαι κάτωχον, ἵνα ||

-ta non c'è tanta carne, [essa si trova] saldamente attaccata tutto intorno, le ossa della testa sono dunque più animate. In ogni caso [ciò] importa poco [giacché] si considera che le parti molto carnose non svolgono nessuna funzione, [motivo] per cui c'è il detto: « ventre grosso non fa spirito sottile ».

[Platone] crede che le ossa sono rese solide [al fine di] garantire il supporto [del corpo]. Le articolazioni si sono prodotte affinché si possano dare le contrazioni e i piegamenti delle [ossa] stesse. A queste le ossa sono legate dai nervi nelle loro [parti] esterne più fini che permettono i movimenti volontari. Le carni servono di protezione contro il freddo degli inverni e il caldo delle estati. I nervi si sono costituiti da una combinazione peculiare delle ossa con la carne senza lievito.

Per quanto riguarda le vene ve ne sono due, una di fianco all'altra. Una va a destra e l'altra va a sinistra. Fra le due quella che va a destra finisce arrotolata intorno a certe parti ramificate [della vena] che va a sinistra, e [la vena] che va a sinistra [fa altrettanto rispetto alla vena che va] verso destra. Ci sono due cavità, una su e l'altra giù. Quella inferiore ha a che fare con l'immagazzinamento dei residui. Intorno a questa si origina l'intestino crasso, che si ritorce affinché l'alimento si trattenga lì per un certo tempo e in questo modo [esso] non venga assorbito con facilità. Allo stesso modo in cui i corsi d'acqua che scorrono diritti non possono trattenersi nei loro letti, mentre quelli di correnti tortuosi sono più miti perché sono trattenuti; così, se l'intestino che si trova nella cavità inferiore fosse corto e retto allora l'alimento si sposterebbe [troppo] facilmente. Ma si dà il caso che è attorcigliato e che addirittura è molto lungo affinché l'alimento debba rimanerci per un lungo periodo. E queste sono le cose [che Platone sostiene] per quanto riguarda il corpo.

A proposito dell'anima afferma che ha tre parti, di cui una è quella razionale, l'altra è quella irascibile e l'altra quella desiderativa. La razionale la pone intorno alle zone della testa, poiché queste [aree] sono naturalmente adatte alla ricezione [degli ordini] della parte egemonica [dell'anima]. Quella irascibile la pone intorno al cuore — non lontano da dove fu collocata quella razionale — sottomessa alla razionale al fine di rimanere subordinata a essa. Alla fine egli mise la [parte] desiderativa tra il diaframma e l'ombelico. Assegnò al fegato [il compito] di occuparsi dell'appetito affinché

XVII.1 τὰς ἐπιθυμίας τα[.].[τόν τε πνεύμονα π(ρὸς) τῆι καρδίαι,| ἡ φύσις μαλακὸν τὰς|[ῆ] καρδία, φ(ησὶν), πυκνοκίνη[τος οὖσα ἀλ]|5λομένη μὴ .|[λέγει ἐκμαγεῖο|ν] ἐπειδήπερ νοσο|[αὐτὸς συννο[σεῖ] καὶ .|[ύγιαίνοντι συνυγαίν[ει]|10εἰς τὸ κατὰ φύσιν· καὶ περὶ τῆ[ς] ψυχῆς|] δὲ ταῦτα. Λέγει δὲ γί(νεσ)θ(αι) τὰς νό[σου]ς|τριχῶς· ἢ παρὰ τὰ στοιχεῖα ἢ [παρὰ τὴν]| γένεσιν τ(ῶν) σωμα(των) ἢ παρὰ τ[ὰ] τούτ(ων)|περισσώματα. Καὶ παρὰ μ(έν) τὰ στο[ιχεῖα]|15γίνονται νόσοι ὅταν ἢ πλείονα γένη[ται ἢ]|εἶδος μεταβάλη ἢ ἐν ἀνοικείῳ [καθί]|| καὶ γ(άρ) πλείονα γεγόμενα το[ῦ] δέοντ(ος)|τὰ στοιχεῖα νόσουσ κ(ατα)σκευάζε[ι] διὰ|τὸ πλήθος. Καὶ μὴν καὶ ἐκβάντ[α τοῦ]|20οικείου εἶδους πάλι ἐμποιεῖ τ[ὰ]ς νόσουσ|c. | Ἀλλὰ γ(άρ) ὡς ὁμοίως καὶ ἐν ἀνοικ[είοις] τό[ποι]σ ταχθέντα νόσουσ ἐπιφέρει παραυτ[ὰ] δι[ὰ] τοῦτο, τὸ δὴ ἐν ἀνοικείῳ τόπῳ περιε[.][...]εξ( .)|Καὶ παρὰ μ(έν) τὴν τ(ῶν) στοιχείων διὰ[θεσιν]|25 οὔτωσ συνίστανται αἱ νόσοι.

Πα[ρὰ μὴν δ]ὲ| τὴν γένεσιν τ(ῶν) σωματ(ων) γί(νονται) νόσοι τρ[όποι το] ἰούτω·οἶον ἢ σὰρξ λαμβάνει τὴν γένεσιν|ἐξ αἵματος πεπηγότος καὶ συνε[στα]μένου, τὰ δὲ νεῦρα ἀποτελεῖται ἐκ [τῶν]|30 ἰνῶν τοῦ αἵματος. Ταύτη δὲ ἀναιρ[ε]θειῶν τ(ῶν) τοῦ αἵματος ἰνῶν ἄπη[κτον]|διαμένει λοιπὸν τὸ αἶμα πλὴν ἐκ[ 7/8 ] ὅτι ἢ μ(έν) σὰρξ ἐξ αἵματος λαμβάνει|τὴν γένεσιν, τὰ δὲ νεῦρα ἐκ τ(ῶν) τοῦ|35 αἵματος ἰνῶν. « Ταύτη δὲ συνέχεται|φθίν, καὶ τρέφεται τὰ σώματα ταῦ[τα]|πρὸς τῆς πιμελῆς, τηκομένη|αὐτῆς καὶ διὰ τ(ῶν) ἀραιότητ(ων) τ(ῶν) ὁστέω[ν]|ἐπιχορηγουμένης καὶ τρεφούσης|40 τὰ ὁστέα. Ὄταν μ(έν) οὖν οὕτως γί(νηται) ἢ τ(ῶν) [σω]μάτ(ων) γένεσις, κ(ατὰ) φύσιν ἔχει τὸ ζῶον· ὅταν δὲ μὴ οὕτως γί(νηται), ἀλ(λ') ἐνηλλαγμέ[νωσ]|ἢ γένεσις, νόσους ἐπιφέρει. » Καὶ πε[ρὶ τὴν]| γένεσιν δὲ τ(ῶν) σωματ(ων) ο(ὔτως). Παρὰ [δὲ]|45 τὰ περιττώματα συνίστα[νται τριχῶσ]| αἱ νόσοι, ἢ παρ[ὰ τὰ]ς φύσας [τὰς ἐκ τ(ῶν) πε]||

i desideri (...) il polmone vicino al cuore, la natura spugnosa i (...) in quanto si trova sempre in movimento [la natura del] cuore, dice, non può essere che cangiante. Afferma [che il cuore è] ciò che (...) quindi malatt (...) lo stesso si ammala con (...) [quando] gode di salute, recupera la salute giunto a (...) verso quello che si trova in conformità con la natura. E queste sono le cose [che Platone afferma] sull'anima.

[Platone] crede che le malattie sorgono in tre maniere: o a causa degli elementi, o della formazione dei corpi, oppure a causa dei residui di essi stessi.

Le malattie si producono per causa degli elementi quando [essi] si danno in eccesso o perché subiscono qualche tipo di trasformazione, sia perché si insediano [in un luogo del corpo] improprio. Così, dunque, quando gli elementi si danno in eccesso, oltre quel che è dovuto, c'è predisposizione alle malattie a causa dell'eccesso. E dall'altro lato, quando [gli elementi] oltrepassano le forme che sono loro proprie, ciò pure produce malattie; o, allo stesso modo, il fatto che si formino in luoghi non appropriati, poiché, qualora [si formino elementi] in un luogo inopportuno per questa [ragione] sopravvengono ugualmente malattie. (...) Ed è in questo modo come si costituiscono le malattie per causa della disposizione [in cui si trovino] gli elementi.

Le malattie che si producono a causa della genesi dei corpi [lo fanno] così. Siccome la carne si origina dal sangue, [da dove] è emanata e si è costituita, i nervi si formano dalle fibrine del sangue. È per via della coagulazione del grasso del sangue, dice [Platone], che i corpi si nutrono, [giacché] quando il grasso si dissolve attraverso la porosità delle ossa fornisce [l'alimento] e li nutre. Pertanto, quando la formazione dei corpi si svolge in questo modo l'essere vivo gode [di uno stato di salute] in conformità con la natura; ma quando non si verifica così, [cioè, quando] la formazione [dei corpi] subisce dei cambiamenti, [allora] sopravvengono le malattie. Ecco [quello che dice Platone] per quanto riguarda la genesi dei corpi.

Le malattie si costituiscono per causa dei residui in tre modi: per i flussi d'aria che si staccano dei re-

XVIII.1 ριττωμ[άτ(ων) ἢ παρ]ὰ χολήν ἢ φλέγμα· διὰ γὰρ ταῦτ[α τὰ τρία] καὶ κοινῇ καὶ ἰδία γί(νονται)|νόσοι. Καὶ [γ(ὰρ) ἐν μόν]ον αὐτ(ῶν) νόσους ἐπιφέρει|καὶ δύο ε[υνάμφ]ω συνελθόντα πάλι νό[σους] κ(ατα)ε[κ]ε[υά]ζει. Ὡς ὁμοίως δὲ καὶ διὰ τὰ τρία ε[υγκατ]οισθέντα αἱ νόσοι ἀπο|τελοῦν[ται. Κα]ὶ ἢ μ(έν) τοῦ Πλάτωνος|—δόξα περ[ὶ νόσων] ἐν τούτοις. Φιλόλαος|δὲ ὁ Κροτ[ωνιάτ]ης συνεστάναι φ(ησὶ) τὰ ἡμέ|10 τερα σώμ[ατα ἐκ] θερμοῦ. Ἄμέτ<οχ>α γ(ὰρ) αὐτὰ (εἶναι)|ψυχροῦ, [ὑπομ]ιμνήσκων ἀπό τιν(ων) τοιούτ(ων)· τὸ σπέρμ[α (εἶναι) θερ]μόν, κατασκευαστικὸν δὲ|τοῦτο τ[οῦ ζώ]ου· καὶ ὁ τόπος δέ, εἰς ὄν|ἢ κ(ατα)βολή, [μήτρ]α δὲ αὕτη, (ἐστὶ)

θερμότερα|15καὶ εὐκ[υιᾶ ἐκ]εῖναι· τὸ δὲ εὐκός τινι ταῦτο δύναται ὧι ἔοι κεν· ἐπεὶ δὲ τὸ κατα |κευάζ[ρον ἀμέ]τοχόν (ἐστι) ψυχροῦ καὶ ὁ τόπος|δέ, ἐν ὧ[ι ἢ κ(ατα)βολ]ή, ἀμέτοχος (ἐστι) ψυχροῦ,|δηλον ὅ[τι καὶ τὸ] κ(ατα)κευαζόμενον ζῶιον|τοιοῦτο[ν γίνε]ται. Εἰς δὲ τούτου τὴν|20κατακ[ευὴν ὑ]πομνήσει π(ροσ)χρηῆται τοιαύ|τη· με[τὰ γ(άρ)], φ(ησίν), τὴν ἔκτεξιν εὐθέως {το}|τὸ ζῶιον ἐπιπᾶται τὸ ἐκτὸς πνεῦμα|ψυχρὸν ὄν· εἶτα πάλιν καθαπερὶ χρέος|ἐκπέμπε[ι] αὐτό· διὰ τοῦτο δὴ καὶ ὄρεξις|25τοῦ ἐκτὸς πνεύματος, ἵνα τῆ|ἐπεισάκτωι τοῦ πνεύματος ὀλκῆ θερμό|τερα ὑπάρχοντα τὰ ἡμέτερα σώματα π(ρὸς) αὐτ(ο)ῦ|καταψύχηται. Καὶ τὴν μ(έν) κύστασιν| τῶν ἡμετέρων σωμάτ(ων) ἐν τούτοις φ(ησίν).|30Λέγει δὲ γί(νεσ)θ(αι) τὰς νόσους διὰ τε χολήν|καὶ αἷμα καὶ φλέγμα, ἀρχὴν δὲ γί(νεσ)θ(αι)| τῶν νόσων ταῦτα· ἀποτελεῖσθαι|δέ φ(ησι) τὸ μ(έν) αἷμα παχὺ μ(έν) ἔσω παρα|θλιβομένης τῆς σαρκός, λεπτόν|35 δὲ γί(νεσ)θ(αι) διαιρουμέν(ων) τ(ῶν) ἐν τῇ σαρκὶ ἀγγείων· τὸ δὲ φλέγμα συνίστασθαι ἀπὸ τ(ῶν) ὀμβρῶν φ(ησίν). Λέγει δὲ τὴν χολὴν ἰχῶρα|εἶναι τῆς σαρκός. Παράδοξόν τε αὐτὸς|ἀνὴρ ἐπὶ τούτου κινεῖ· λέγει γ(άρ) μηδὲ τε|40τάχθα[ι] ἐπὶ τ[ω]ι ἥπατι χολήν, ἰχῶρα μ(έν)|τοῖς τῆς σαρκὸς (εἶναι) τὴν χολήν. Τὸ τ' αἷ|φλέγμα τ(ῶν) πλείετ(ων) ψυχ<ρ>ὸν (εἶναι) λεγόν|των αὐτὸς θερμὸν τῇ φύσει ὑποτί|θεται· ἀπὸ γ(άρ) τοῦ φλέγειν φλέγμα εἰρήσθ(αι)|45ταῦτη δὲ καὶ τὰ φλεγμαίνον[τ]α|μετοχῆ τοῦ φλέγματος φλεγμ[α]ί|νει. Καὶ ταῦτα μ(έν) δὴ ἀρχὰς τ(ῶν) νό[σ]ων| ὑποτίθεται, [c]υνεργὰ δὲ ὑπερβολ[ά]ς|τε θερμοσίας, τροφῆς, κ(ατα)ψύξεω[c καὶ] ||

-sidui, o per la bile, oppure per il flegma. Tanto in generale che in particolare le malattie si producono per via di questi tre fattori, [ma in realtà] è solo per causa di uno di questi che le malattie sopravvengono, gli altri due [fattori] che li accompagnano predispongono alle malattie nel caso in cui si diano assieme nello stesso posto; di modo che i tre possono ugualmente considerarsi come delle predisposizioni [a causa delle quali] si producono le malattie. E in ciò consiste quel che pensa Platone a proposito [delle] malattie.

Filolao di Crotona afferma che i nostri corpi sono stati formati [a partire dal] calore giacché [i corpi] non partecipano [assolutamente] del freddo, e per prova [egli] adduce evidenze come queste. Lo sperma è caldo, essendo questo [calore] quello che costituisce [qualunque] essere vivo. È caldo, anche, il luogo verso cui si versa [lo sperma]. L'utero è per sé ancora più caldo per il fatto che deve ospitare quei [fluidi vitali, e] quello che è in grado di ospitare qualche cosa deve somigliare a quello che ospita. Quindi, quello che costituisce l'essere vivo non fa parte del freddo e neanche ne partecipa il luogo in cui si produce il versamento dello sperma, per cui si rende evidente che la stessa [mancanza di freddo] è infatti quello che genera un essere vivente [qualsiasi].

La prova di questo è che entrambi<sup>2</sup> risalgono alla stessa [mancanza di freddo]. Ed è per ciò che subito dopo la nascita, dice, [quando] l'essere vivente prende l'aria dal di fuori, che è freddo, si vede allora costretto a espellerla di continuo. Perciò v'è una voglia dell'aria dal di fuori affinché quando si attira l'aria, i nostri corpi — che sono caldi — siano raffreddati dall'aria stessa. Ciò è quello che dice [Filolao] sulla struttura dei nostri corpi.

Egli sostiene che le malattie si producono per causa della bile, del sangue e del flegma; che questi costituiscono il principio delle malattie. Egli afferma che il sangue si coagula quando si trova oppresso al suo interno dalla carne, ma che è fluido quando i vasi [sanguigni] nella carne si rilassano. [Filolao] sostiene che il flegma si forma dalle piogge e afferma che la bile risulta dai sieri della carne. Come mai lo stesso personaggio [attribuisce] queste cose a quelle in questo modo paradossale?<sup>3</sup> Infatti egli non pensa che la bile sia stata assegnata al fegato ma che la bile sia un siero della carne. Il medesimo [Filolao] dice che il flegma è quello che per natura è la cosa più

<sup>2</sup> Cioè, un essere vivo qualsiasi e il modo in cui esso viene generato.

<sup>3</sup> Perché lo stesso personaggio mette in rapporto cose così paradossali?

calda, quando la stragrande maggioranza sostiene invece che è fredda; perciò viene appunto detto che « il flegma brucia »<sup>4</sup>. Per la stessa [ragione, se] le infiammazioni bruciano [ciò si deve al fatto che] partecipano del flegma. E questi sono i principi delle malattie che postula [Filolao]. D'altro canto contribuiscono [alla malattia] gli eccessi di temperatura in sinergia con l'azione dell'alimentazione o del raffreddamento;

XIX.1—ἐνδεία τ(ῶν) τούτ[ο]ις [παρα]πλησίον. Ὁ δὲ Πόλυβος ἐξ ἐνὸς μ[έν] στοιχείου οὐ λέγει τὰ ἡμέτερα σώμ[ατα] γεννᾶσθαι, ἀλλ(ὰ) πολλ(ῶν) τήν]αὐτήν φύσιν ἐχόν[τ(ων)], ἐξ ὑγροῦ τε καὶ ξηροῦ,]5ψυχροῦ τε καὶ θερμ[ο]ῦ, [οὐ χωρὶς ὄντ(ων) τ]ούτ(ων) ἀλλὰ κεκραμέν(ων) αὐτ(ῶν) μετρίως, ὑπερ]βαλὼν δὲ θάτερον θατ[έρου], νόσους ἀπο]τελεῖν. Δεύτερ[ον] δὲ λέγει τήν] τῶν σωματ(ων) μίξ[ιν] (εἶναι) ἐξ αἵματός τε]10 καὶ φλέγματος καὶ χ[ολῆς] ξανθῆς τε]καὶ μελαίνης· ἀπὸ δ[τούτ(ων)] ἢ ἐνὸς αὐτ(ῶν) ν..[μεταβολήν] ἢ κ(ατὰ) τὸν αὐ[συμμίξεως], κ(ατὰ) φύσιν [15σώματι] χωρὶς[θέ]ν[α] δ[νόσους] γί(νεσ)θ(αι). Νοσεῖν δὲ καὶ ἀ[φ' ὧν] ἐχ[ω]ρίσθη τόπων κ[α] εἰς [οὗς] μετεχ[ώ]—ρηκεν. Μενεκράτης δὲ ὁ Ζε[ῦ]ς ἐπικληθεὶς ἐν Ἱατρικῇ δ[ε]ξί[τι]ν τι[ν]α τ(ῶν) 20σωματ(ων) ἐκτιθέμενος ο(ὔτως) αἰτιολογεῖ τὰ πάθη· πρότερον περὶ τ(ῶν) πο[ιο]τή[τ]ω(ν) πολυπραγμον(ῶν) τ(ῶν) σωματ(ων), συνεστάναι γ[(ἀρ)] λέγει τὰ σώματα ἐκ τ(ῶν) τεσσάρων στοιχείων, β' μ(έν) θερμῶν, β' δὲ [ψ]υχρῶν·25θερμῶν μ(έν) αἵματος χολῆς, ψυχρῶν δὲ πνεύματος [κ]αὶ φλέγματος. Τούτ(ων) μ(έν) δὴ μὴ στασιαζόντ(ων), ἀλλ' εὐκράτ[ως] διακειμέν(ων), ὑγιαίνει τὸ ζῶιον, δ[υσκράτ]ως δὲ ἐχόντων νο[σεῖ]. Τότε]30 γ(άρ) ἐκθεῖ ἐκ τ(ῶν) ἡμετέρων σωματ(ων) φλέ]γματα, δοθῶνας κα[ὶ] οἰδ[ή]μα[τα] [ποιοῦντα]—καὶ κατάρρους δὲ ἐξ ὑ[περ]βο[λ]ῆς τοῦ] φλέγματος διαφόρ[ους] συν[ί]στασθ(αι). Π[α]λαι]οῦμενον γ(άρ), φ(ησί), ἐν τῷ σώμ[ατι] τι[ν] εἰ]35/σιόντι δὲ φλέγματι τὸ γ.εἰ..[†] νογενεῖς.οι πο[.]τηνκ.κα[ι] [†] ἐμμεῖναν δὲ τοῦτο πυρρὰν χ[ολήν] ἀπογεννᾷ. Ἐμμεῖνασα δὲ ἀ[ῦ]τη]καὶ παλαιωθεῖσα μέλαιναν ἀπογ[εννᾷ]40χολήν. Ἦν δὲ καὶ παλαιωθεῖσ[αν]καὶ ὑπέρχολον γενομένην δ[έ]χεται τι,] ὅπου ἂν τύχη, μέρος καὶ μη[δέν] φ(ησί)] ἀγαθὸν ἐργάζεσθ[α]ι. Οἰσθεῖσα μ[έν] γ(άρ)] ἐπὶ ἰχθία ἰχθιαδ[ι]κήν ἐμποιεῖ γ[ό]σον,]45ἐπὶ δὲ τὸν πλεύμονα περιπλ[ευμονίαν],] ἐπὶ δὲ τὰς πλευράς πλευ[ρίτιν],] ἐπὶ δὲ τὰ σπλάγχνα οἰσθεῖ[σ]α] καῦσον ἀπεργάζεται· τοιαῦ[τα] δὲ πολλ(ὰ) ||

ovvero la mancanza dei loro corrispondenti.

Polibo non pensa che i nostri corpi si siano generati a partire da un unico elemento, ma da diversi che hanno la stessa natura; [i corpi si generano] a partire dall'umido e dal secco, dal freddo e dal caldo. Questi non si danno separatamente, ma sono combinati con moderazione; le malattie accadono quando uno di questi elementi eccede un altro. In secondo luogo [Polibo] afferma che la mescolanza [che costituisce] i corpi è a base di sangue, flegma, bile gialla e nera. Per (...) di questi oppure uno di questi (...) trasformazione ovvero secondo lo stesso (...) della combinazione per natura (...) per la quale il corpo si allontana (...) si producono le malattie. Quindi l'ammalarsi [si produce tanto] per il fatto che [gli elementi] si allontanano da [certi] posti che [per] i luoghi verso i quali si trasferiscono [gli elementi].

Menecrate, soprannominato 'Zeus', nel *De medicina* espone in questo modo la prova del perché si verificano le affezioni di alcuni corpi. Anzitutto [tratta] per esteso le qualità dei corpi. In questo senso [Menecrate] afferma che i corpi si sono costituiti in base a quattro elementi, [di cui] due sono di [natura] calda e due di [natura] fredda. Di [natura] calda sono il sangue e la bile, di

<sup>4</sup> La lingua greca permette un gioco di parole tra « flegma » (φλέγμα) e il verbo per « bruciare » (φλέγειν) che non si lascia riprodurre in italiano.

[natura] fredda sono lo *pneuma* e il flegma. Quando questi non sono in discordia ma in equilibrio allora l'essere vivente gode di salute; si ammala [invece] quando [gli elementi] sono scompensati.

Quando [ciò accade] allora sono espulsi dai nostri corpi piccoli ascessi e infiammazioni; per l'eccesso di flegma si generano pure diversi [tipi di] catarrhi. [Menecrate] afferma che quando [il flegma] invecchia nel corpo (...) verso dove va il flegma lo (...) in conseguenza di essere rimasto in quiete si genera una bile rosso fuoco. Per il [fatto che] è rimasta in quiete e che è invecchiata questa stessa [bile rosso fuoco] diventa bile nera. Se per causa dell'essere invecchiata capita che [la bile nera] arrivi a un tal eccesso che si accumula lì dove si trova, non importa in quale posto in particolare, da ciò, dice [Menecrate], non ci si aspetta nulla di buono. Dunque in questo modo [la bile nera eccessiva e invecchiata] che si è trasferita all'articolazione dell'anca produce la malattia della sciatica, al polmone la polmonite, sopra le costole produce la pleurite, quella che si è trasferita verso le viscere scatena delle febbri etc. Queste

XX.1—καὶ διάφορα γί(νεται) πάθη. Ὁ δὲ Αἰγ[ινήτης] Πέτρων συνεστάναι φ(ησι) τὰ ἡ[μέτερα] σώματα ἐκ δις[ῶ]ν στοιχείων, ψυχροῦ τε καὶ θερμοῦ, ἐκατέρωι δὲ τούτ[ων] ἵαπολείπει τι ἀντίστοιχον, τῶι μ[έν] θερμῶι τὸ ξηρόν, τῶι δὲ ψυχρῶι τ[ὸ ὑγρόν]. Καὶ ἐκ μ(έν) δὴ τούτ(ων) συνεστάναι τὰ σώ[ματα]. Φησι δὲ γί(νεσ)θ(αι) τὰς νόσους ἀπ[ὸ τοι][ούτ(ων)] διὰ τὰς περιπτώσεις τῆς τροφῆς: 10 ὅταν ἀσύμμετρα ἢ κοιλία μὴ λ[ι][α]πληρω δὲ μὴ κατεργάζηται αὐτά, συμβαίνει νόσους γί(νεσ)θ(αι), ἢ ἀπὸ τ(ῶν) στοιχείων τ(ῶν) προειρημέν(ων) ὅταν ἀνώμαλα ἦι, νόσους ἀπεργάζεται. Περὶ 15 δὲ τῆς διαφορᾶς τῆς κατὰ τὰς νό[σους] οὐδὲν διακριβοῦ. Περὶ δὲ τῆς χολῆς ιδιώτερον παθολογεῖ. Φ(ησι) γ(άρ) αὐτὴν ὑπὸ τ(ῶν) νόσων ἀ<ὕ>τ(ῶν) κ(ατα)σκευάζεται(αι). Οἱ μ(έν) γ(άρ) ἄλλοι ἀπὸ τῆς χολῆς λέγουσι 20 γί(νεσ)θ(αι) τὰς νόσους, οὗτος δὲ ἀπὸ τ(ῶν) νόσων τὴν χολήν. Καὶ χρεδὸν οὐ[τ]ω[ς] ὁ Φιλόλαος οἶεται μὴ (εἶναι) ἐν ἡμῖν χολῆ[ν] οἰκείαν. Καὶ κ(ατὰ) μ(έν) τοῦτο συνηγόρου—εν τῶι Φιλολάωι, κ(ατὰ) δὲ τᾶλλα αὐτον<ο>εῖ. 25 Φιλιετίων δ' οἶεται ἐκ δ' ἰδεῶν συνεστάναι ἡμᾶς, τοῦτ' (ἔστιν) ἐκ δ' στοιχείων· πυρός, ἀέρος, ὕδατος, γῆς. (Εἶναι) δὲ καὶ ἐκάστου δυ(νάμει), τοῦ μ(έν) πυρός τὸ θερμόν, τοῦ δὲ ἀέρος τὸ ψυχρόν, τοῦ δὲ ὕδατος τὸ ὑγρόν, 30 τῆς δὲ γῆς τὸ ξηρόν. Τὰς δὲ νόσους γί(νεσ)θ(αι) πολυτρόπως κατ' αὐτόν, ὡς δὲ τύποι καὶ γενικώτερον εἰπεῖν τριχῶς· ἢ γ(άρ) παρὰ τὰ στοιχεῖα ἢ παρὰ τὴν τ(ῶν) σωματ(ων) διάθεσιν ἢ παρὰ τὰ ἐκτός. Παρὰ μ(έν) οὖν τὰ 35 στοιχεῖα, ἐπειδὴν πλεονάσῃ τὸ θερμόν καὶ τὸ ὑγρόν ἢ ἐπειδὴν μείον γένηται καὶ ἀμαυρόν τὸ θερμόν. Παρὰ δὲ τὰ ἐκτός γ' ἢ γ(άρ) ὑπὸ τραυμάτ(ων) καὶ ἐλκῶν ἢ ὑπὸ ὑπερβολῆς θάλπου, ψύχους, τ(ῶν) ὁμοίων, 40 ἢ ὑπὸ μεταβολῆς θερμοῦ εἰς ψυχρόν, ἢ ψυχροῦ εἰς θερμόν ἢ τροφῆς εἰς τὸ ἀνοίκειον καὶ διεφθορός. Παρὰ δὲ τὴν τ(ῶν) σωματ(ων) διάθεσιν ο(ὔτως)· « Ὅταν γ(άρ), φ(ησίν), εὐπνοῆ ὄλον τὸ σῶμα καὶ διεξίη ἀκω 45 λύτως τὸ πνεῦμα, ὑγίεια γί(νεται)· οὐ γ(άρ) μό(νον) κ(ατὰ) τὸ στόμα καὶ τοὺς μυκτῆρας ἢ ἀναπνοῆ γί(νεται), ἀλλὰ καὶ καθ' ὄλον τὸ σῶμα. Ὅταν δὲ μὴ εὐπνοῆ τὸ σῶμα, νόσοι γί(νονται), καὶ 50 τῆς ἀναπνοῆς ἐπεχομένης, νόσος ||

e tante [altre] diverse affezioni sono quelle che insorgono.

Petrone di Egina dice che i nostri corpi si sono costituiti [a partire] da un paio di elementi, freddo e caldo, dando a ciascuno di questi il suo corrispondente. Così a quello caldo [riconduce] il secco e a quello freddo l'umido. [Ed è così che] i corpi si sono costituiti a partire da questi [elementi]. [Petrone] afferma che le malattie si producono a partire da questi stessi [elementi], per via degli eccessi di cibo. Quando gli eccessi di cibo si danno smisuratamente lo stomaco non (...) saturato che questi stessi [eccessi] non arrivano a essere elaborati, [allora] capita che si producano delle malattie. Oppure le malattie si sviluppano anche a partire dagli elementi [di] cui si è parlato

prima [quando presentano] delle anomalie. Comunque, [Petrone] non specifica nulla sulla differenza a seconda delle malattie.

[Egli tratta pure] della patologia della bile, [ancorché] in un modo abbastanza particolare giacché afferma che è a causa delle stesse malattie che questa si forma. Mentre gli altri dicono che le malattie si producono per la bile, costui afferma [invece] che la bile si produce [a causa] delle malattie. In questo senso [si trova] vicino [alle opinioni di] Filolao — che crede che in noi non vi sia affatto della bile — per cui [Petrone] in ciò seguì Filolao; tra l'altro (...)

Filistione crede che siamo stati costituiti dalle quattro forme visibili, cioè, a partire dai quattro elementi; dal fuoco, dall'aria, dall'acqua [e] dalla terra. Ciascuno di questi ha una proprietà, quella del fuoco è il caldo, quella dell'aria il freddo, quella dell'acqua l'umidità, quella della terra la secchezza. Perciò le malattie che si producono [sono] così diverse, ma per quanto riguarda il loro tipo viene detto che in generale [le loro cause] sono tre: per causa degli elementi, per causa della disposizione dei corpi, o per cause esterne.

[Le malattie si producono] per causa degli elementi quando si danno calore e umidità in eccesso, ovvero quando il calore diventa così insufficiente da essere appena percettibile. Le cause esterne [per cui si verificano le malattie] sono tre: per causa di ferite e piaghe; per causa dell'eccesso di calore, di freddo e simili, o per causa della trasformazione dal caldo al freddo o dal freddo al caldo; oppure [per la trasformazione] dal cibo ad alimento improprio o in cattivo stato.

[Le malattie si producono] per causa della disposizione dei corpi in questo modo: [Filistione] dice che v'è salute a patto che tutto il corpo ispiri l'aria come deve e [la] espira senza problemi. La respirazione non solo si dà tramite la bocca e il naso, ma anche tramite tutto il corpo, di modo che quando il corpo non respira adeguatamente si producono malattie di diversi tipi. La respirazione in rapporto a tutto il corpo, una malattia (...)

XXI.1 [..][..].[ 19/20 ]|  
 [ 23/24 ]τὰς γι( )|[.].λλ[.].[ ± 16 ]  
 κινεῖσθαι|[.]μη[.].[ ± 15 ]].ωνταρηε|5[.].γ[.].  
 [ ±17 ]τοντα[.]γτ[ 15/16 ]θη ἐν τοῖς|  
 [..]αζ[ 15/16 ]φειλοντα|[.]ενει[ ± 15 ]ιωσ νόσοι  
 γί(νονται)|\_\_\_\_.ταυτα[ ± 15 ], ἡμῖν δὲ|10[ἀν]αγκαῖον .[ 8/9 ἀνθ]ρώπου ἀ' καὶ|  
 [2/3]οια[.].[ 10/11 ]αεωσ ταυ|τη[.]δια[± 3]ην.π[ ± 6 ] παθῶν αἴτιο|\_\_\_\_  
 λογίας·[c]υνέκτη[κεν δ]ὲ ὁ ἄνθρωπος|ἐκ [ψυ]χῆ[ς] καὶ σώμ[α]τ[ο]ς, ἀ[λ(λ')] εἰς τοῦτο ὑπο|  
 15[μν]ήξεωσ οὐ χρε[ία. Καὶ πε]ρὶ μ(έν) ψυχῆς|[ἄλλοι]ς ἀν[α]βάλλομα[ι· ἡμῖν δὲ] τοῦ σώμα[τος  
 μ]ελητέον, ἐπεὶ [μάλιτα] περὶ τοῦτο|—[cπου]δάξει ἡ ἱατρικ[ή. Τοῦ c]ώματος|[μ(έν) ο]ῦν τὰ  
 μ(έν) (ἐστιν) ἀπλᾶ μέρη, τὰ δὲ σύνθετα.|20 Ἀπλᾶ δὲ καὶ σύνθετα λαμβάνομ(εν) π(ρὸς) αἰσ|θησιν  
 καθὼς καὶ Ἡρόφιλος ἐπισημειοῦ|ται λέγων ο(ὕτως)· « Λεγέσθω δὲ τὰ φαινόμενα|πρῶτα, καὶ εἰ μὴ  
 (ἐστι) πρῶτα ». Ὁ μ(έν) γ(άρ) Ἑρασι|ετρατος καὶ πόρρω τοῦ ἱατρικοῦ κανό|25νοσ προῆλθε·  
 ὑπέλαβεν γ(άρ) τὰ πρῶτα|σώματα λόγῳ θεωρητὰ (εἶναι), ὥστε τὴν|[αἰσθη]τῆν φλέβα συνεστάναι ἐκ  
 λόγῳ|θεωρητ(ῶν) σωματ(ων), φλεβός, ἀρτηρίας, νεύρο(υ).|Ἀλλὰ τοῦ[τ]οῦ παραιτητέον.  
 Ἡμῖν δὲ|30λεκτέον ὡς τ(ῶν) σωματ(ων) τὰ μ(έν) <(ἐστιν)> ἀπλᾶ,|τὰ δὲ [c]ύνθετα, π(ρὸς) αἰσθησιν  
 τούτ(ων) λαμβ[α]νομ(έν)ων). Ἀπλᾶ μ(έν) οὔν (ἐστι) τὰ ὁμοιο|μερῆ, κ(ατὰ) τὰς τομὰς  
 διαιρούμενα|εἰς ὁμοιομέρη ὡς ἐγκέφαλός τε καὶ νεῦ|35ρον καὶ ἀρτηρία, φλέψ καὶ τὰ ὑγρά.|  
 Ἐκας[το]ν γ(άρ) τούτ(ων) καὶ ὁμοιομέρεσ (ἐστι)|καὶ τ[ε]μόνομενον εἰς ὁμοια χωρίζεται|μέρη[η. ]  
 Cύνθετ[α] δ' (ἐστι) τὰ ἀνομοιομερῆ ἢ τὰ|κατὰ [τὰ]ς τομὰς εἰς ἀνόμοια χωρίζο|40μεν[α] μέρη ὡς  
 χεῖρ, κέλος, κεφαλή,|ἥπαρ, πν]εύμων, ἕκαστον τ(ῶν) τοιούτ(ων)·|καὶ γ(άρ) [ἀνο]μοιομερῆ (ἐστι)  
 καὶ κ(ατὰ) τὰς τομὰς|εἰς ἀ[νόμ]οι[α] χωρί[ζε]ται μέρη. Τ(ῶν) δ' ἀπλ(ῶν)|τὰ μ[ (ἐν)

διε[σ]παρ[μ]μένα, τὰ δὲ ἠνωμένα. | 45K[αἰ διεσπαρμ(έν)α] μ(έν) οὖν (έστιν) αἷμα, χολή, φλέγμ[α  
καὶ ἀπλ]ῶς πάντα τὰ ἐν ἡμῖν ὑγρά, | ο[ 7/8 ] πνεῦμα, τὰ τούτοις ἐοικότα· | [τὰ ἠνωμέ]να δὲ τὰ μὴ  
τοιαῦτα. | Τ(ῶν) δὲ[ἠνωμένω]ν αὐτ(ῶν) τὰ μ(έν) (έστι) διατεταμέ[50]να, τὰ δὲ σ]τερεά  
τε καὶ διεσπληνιχότα, | [τ]ὰ [δὲ ο]ὔ[τε] ε[δ]ιε[σ]πληνιχότα οὔτε[δ]ια[τεταμέ]να. | Διατεταμένα μ(έν)  
οὖν | [ ± 11 ] . ἀρτηρία, φλέψ, τὰ τούτοις ||

le div (...) muoversi (...) le che (...) si nei (...) che si devono (...) le malattie diventano stesse (...) ma noi (...) necessariamente (...) dell'uomo, e anzitutto (...) della combinazione di questa stessa (...) le cause delle affezioni.

Non c'è bisogno di dire che l'uomo è costituito di un'anima e di un corpo, lascio che siano altri a occuparsi dell'anima, a noi spetta trattare del corpo poiché è di quello che la medicina soprattutto si occupa. Così, delle parti del corpo sono semplici, delle altre composte. Prendiamo 'semplici' e 'composte' in base a quello che si percepisce e a quello che Erofilo volle segnalare quando disse così: « si dica ciò che è manifesto [ai sensi] come primario, anche se [capita] che non lo sia ». In questo modo, col supporre che gli elementi primari siano di ordine teoretico, Erasistrato si staccò troppo dai parametri della medicina. Di conseguenza [sostiene che] una vena, nel modo in cui la percepiamo, è costituita da corpi concepiti dalla ragione, [e ciò che viene detto] della vena [lo dirà pure] di un'arteria o di un nervo; ma ciò è [proprio] quello che si deve evitare.

Per quanto riguarda il modo in cui questi sono colti dai sensi, a noi spetta dire che nei corpi ci sono delle parti semplici e delle parti composte. Semplici sono le [cose] omeomere; quelle che quando vengono tagliate si dividono in parti [qualitativamente sempre] uguali, così come [accade con] il cervello, un nervo, un'arteria, una vena e i fluidi [del corpo]. Ciascuno di questi è omeomero perché quando è tagliato si separa in parti che [in sostanza sono] uguali. Composte, invece, sono le [cose] anomeomere, ovvero quelle che a seguito di dissezioni si dividono in parti tanto diverse tra loro; come la mano, la testa, il fegato, il polmone e ciascuna di queste. In questo modo anomeomere sono [le parti che] a seguito di dissezioni si separano in parti disuguali. Tra [le parti] semplici, a loro volta, ci sono quelle che [possono] spandersi e quelle che si mantengono sempre come una. In questo senso, dunque, quelle che possono spandersi sono il sangue, la bile, il flegma e in generale tutti i fluidi in noi, (...) l'aria e i simili a questi. Quelle che si mantengono sempre come uno sono non sono le stesse rispetto alle precedenti. Tra quelle che si mantengono [sempre] come uno si trovano le dilatabili, le solide e rigide, e quelle che non sono né rigide né dilatabili. Dilatabili (...) l'arteria, la vena e quelle che sono

XXII.1 ἐγγύς. | Δ[ι]ε[σ]πληνιχότα δὲ ὀστέα, χόνδροι, τὰ ὅμοια. | Τὰ μ[ε]ταξὺ δὲ τούτ(ων) ἐγκέ[φ  
φαλος, μυελός, τὰ ἐ[ο]ικότα. Καὶ ἡ μ(έν) τοῦ ζώου εὐτασις ὡς ἐν κεφαλαί[οι]ς [...]θ( )5 \_\_\_  
τοιαύτη (έστιν). | Ἰδ[ί]αι δὲ [...]η[σ] [ ± 5 ] οἰκονομίας αὐτῆς ...[.]...[.]...[.]εἰπεῖν· οὕτως γ(άρ)  
αν..... [ ± 9 ] | ἀπὸ πάσης δὴ τοίνυν [σ]υ[σ]τάσεως ἀποφοραὶ τ(ῶν) | σωματ(ων) συνεχεῖς  
[γί]νονται) ἀπ' [ἀνύχ]ου [ἢ ἐμ]ψύχ(ου) | 10 καὶ ἀπὸ τῆς ἐμψύχου μᾶλλον [ἢ ἀ]πὸ τῆς ἀνύχου διὰ τε  
τὴν θερμασίαν [κ]αὶ διὰ τὴν κίνησιν. "Ὅτε δὲ.....[.]ρον | τῶν εἰρημέν(ων) ἀπὸ τῆς ἐμ[ ± 3  
θερμα]σίας μᾶλλον ἀποφοραὶ τ(ῶν) σωματ(ων) [γίνονται ἢ] ἀπὸ | 15 τῶν ἐκτός· τὰ γ(άρ) ἐψόμενα  
[καὶ τὰ] θ[ε]ρμ[α]ινόμενα τ(ῶν) ὑδάτ(ων) μικρότερα γίνονται π[α]ρὰ τὴν θερμασίαν, αἰ(τία) ἐν τῷ  
ἄνω τρ[έ]χουσαν αὐτὴν φύσει συναποφέρειν ἐ[αυτ]ῆ[σ] ἀτμοειδῶς πολλὴν ὑγρότητα[α καὶ ἅμα] |  
20 λεπτυνόμενον ὑπ' αὐτῆς τὸ [ὑγρ]ὸν ἀτμοειδῶς ἀποφέρεισθ[αι. Καὶ ο(ὔ]τως) μ(έν) | ἐπὶ τ(ῶν) ἐκτός.  
Διὰ ταῦτα [δὲ γίνεται] ἀποφορὰ π(ρὸς) τῆς θερμασίας ἀπὸ τῶν | ἡμετέρων σωματ(ων). "Ἡ τὰ  
κίνη[θ]εντ[α] | 25 δύναται ἀποφέρειν ταύτη γ(άρ) καὶ τὰ μ(έν) [βα]ρέα | καὶ παχέα δυσκόλως  
διαφορεῖται, [τὰ δ] ἐκούφα καὶ ἐλαφρὰ εὐχερῶς, ὡς ἂν δὴ | τῆς κινήσεως αἰ(τίας) ὑπ(αρχούσης) τῆς  
ἀποφορᾶς. | Καὶ γ(άρ) τὸ μ(έν) κατερραμμένον ἔδαφος | 30 οὐ πάνυ πολλὴν ἀποφορὰν ποιεῖται | διὰ τὸ

βάρος, τὸ δὲ κ(ατά)ξηρον πλείστην|διὰ τὴν κουφότητα, ἧ καὶ κονιορτὸς|ἀποφέρεται πολὺς, ἄτε δὴ τῆς κιν[ή]σεω(ς)|παραιτίας τούτ(ων) ὑπ(αρχούσης). Διὰ τὴν κίνη[ς]ιν|35οῦν ὡς ὁμοίως ἀποφορὰ ἀπὸ τ(ῶν) σωμάτων|γίνεται συνεχής. Τούτων δὴ ο(ὔτως) ἐχόντ(ων)|καὶ ἀποφορᾶς συνεχοῦς γινομένης|ἀπὸ τῶν ἡμετέρων σωμάτων), εἶπε[ρ] ἄν|τι τ(ῶν) ἀποφερομένων) μὴ ἐγίνετο εἰς τὰ|40σώματα πρόσθεσις, κ[ᾶ]ν διεφθείρετο ῥαδίως|τὰ σώματα. Ὅθεν ἡ φύσις ἐμηχανήσατο|ὀρέξεις τε τοῖς ζώοις καὶ ὕλην καὶ δυνάμεις, ὀρέξεις μ(έν) εἰς τὸ τὴν ὕλην αἰ|ρεῖσθαι, ὕλην δὲ εἰς ἀναπλήρωσιν τ(ῶν) ἀπο|45φερομένων), δυνάμεις μ(έν)τοι γε εἰς διοί|κην τῆς ὕλης· καὶ γ(άρ) οὐδὲν ὄφελος ἦ|ὀρέξεως, εἰ μὴ ὕλη παρῆν. Οὐδὲ μὴν|ὕλης ὄφελος ἦν, εἰ μὴ δυνάμεις παρῆ|σαν αἰ διοικονομοῦ<σαι>. Ἄλλὰ γ(άρ) ὕλην|50ὑπεβάλετο τροφήν τε καὶ πνεῦμα· |δύο γ(άρ) πρῶτα καὶ κυριώτατά (ἐστιν), οἷς δ[ιοι]|κεῖται τὸ ζῷον, ὡς φ(ησιν) ὁ Ἐρασίτρατος|c. | Ἐνιοὶ δὲ ἐγκαλοῦσιν αὐτῶι καὶ λέγουσιν ἐκεῖνο ἀ· οὐ [μ]όνον δύο εἶ[ναι] ||

vicine a esse. Le rigide [sono le] ossa, le cartilagini e similari. A metà tra questi [si trovano] il cervello, il midollo e quelle che assomigliano loro. Insomma, questa è la struttura dell'essere vivente (...) stessa (...) in particolare (...) della direzione dello stesso (...) detto. Così, infatti (...)

In questo modo, dunque, dalla struttura di un corpo si generano delle emanazioni continue, sia da una struttura animata sia da una inerte, per quanto molto di più da una struttura animata che da una inerte, proprio per causa del calore e del movimento. [D'accordo con le differenze di cui] si è fatto menzione, si danno più emanazioni a partire dai nostri corpi che dai corpi esterni per il fatto che [i primi] si mantengono più caldi. Infatti quando i liquidi vengono bolliti, o semplicemente riscaldati, si riducono per via del calore, la causa di ciò è che lo stesso calore che porta [loro] in alto per natura prende con sé buona parte dell'umidità sotto forma di vapore, e allo stesso tempo, quando [i liquidi] diminuiscono [per effetto] dello stesso calore, l'umidità viene portata via sotto forma di vapore. E così [capita] con i [corpi] esterni. E per queste stesse ragioni l'emanazione [che si dà] a partire dai nostri corpi si verifica per via del calore.

È così che i [corpi] che si possono muovere sono pure in grado di esalare delle emanazioni. Perciò, nondimeno, le cose grosse e pesanti difficilmente evaporano, ma quelle sottili e leggere sono invece volatili al massimo grado, come se il movimento fosse la causa dell'emanazione. Infatti, per causa della loro grande massa le fondamenta ricoperte di una casa non producono gran quantità d'emanazione, mentre quelle che sono secche in eccesso ne producono molta di più per via della loro leggerezza, grazie alla quale una gran quantità di polvere si volatilizza, capitando ciò per causa del movimento. Inoltre, è per via del movimento che ugualmente si produce una continua emanazione a partire dai corpi. Se le cose stanno così ciò [significa] che si produce una continua emanazione da parte dei nostri corpi, e se al posto delle emanazioni non avesse luogo [nessun tipo d']apporto verso i corpi allora questi si corromperebbero facilmente.

Perciò la natura ha dotato gli animali di appetiti, di un sostrato materiale e di proprietà. Gli appetiti servono al sostegno del sostrato materiale, il sostrato materiale [serve] alla sostituzione [della materia persa con] le emanazioni, le proprietà, peraltro, [servono] al mantenimento del sostrato materiale. Infatti, un appetito non è di nessun vantaggio se non c'è un sostrato corporeo, neppure un sostrato materiale presenterebbe alcun vantaggio se non ci fossero delle proprietà che lo mantenessero. Quindi il sostrato materiale si preserva sulla base del cibo e dell'aria, per cui — così come afferma Erasistrato — sono due i principi basilari grazie ai quali si regge l'essere vivente.

In questo modo, criticando il medesimo [Erasistrato], alcuni affermano in primo luogo che non sono solo due

XXIII.1 . [2/3].[[ ± 14 ].τατα· ὑπερβολὴν γ(άρ) οὐ[ ± 13  
 ἀν]αγκαῖον. Γ´· οὐδὲ τοῦ[το [ ± 6 διοικο]νομεῖται τὸ ζῶιον, ἀλλ(λὰ) αὐτά (ἐστιν)5 .[ ± 14 ]να  
 ὑπὸ τ(ῶν) δυνάμεων|..[ ± 13 ]ει π(ρὸς) τὸν Ἐρασίτρατον|..|..[ ± 7 ἔν οἱ]κείωι τόπωι  
 π(ρὸς) ἡμῶν δια|β.[ ± 10]. Ἐπει δὲ ὑλὴν ὑποβέβληται|τοῦ ζ[ώ]ι[ου ἢ φύς]ις τροφήν τε καὶ  
 πνεῦμα,|10ἀναγκ[αῖόν (ἐστι) περὶ] τῆς ἐκατέρου διοικήσεως|λαλήσ[αθαι <καὶ> π]ρό[τε]ρον περὶ  
 τῆς τοῦ πνεύματος(ς)|ἔλκετα[ι τ]οιγ(άρ)[τ]οι [τ]ὸ πνεῦμα ἔξωθεν|ὑπὸ τ[οῦ] ε[τό]μ[α]τος καὶ τ(ῶν)  
 μυκτῆρων|καὶ δι[ὰ τ]ῆς τρ[α]χείας ἀρτηρίας φέρεται εἰς|15 τε πλ[εύ]μον[α] καὶ καρδίαν, ἔτι δὲ  
 θώρακα,|διηθ[εῖτα]ι δὲ καὶ εἰς κοιλίαν ὀλίγον διὰ τοῦ|[στομά]χου καθ' ἡμᾶς, οὐ μὴν δὲ  
 κατὰ|τὸν Ἐρ[α]σίτρατον. Ἐπὶ τούτ(ων) δὴ τ(ῶν) τόπων|φέρετα[ι εἰς] τὰς κ(ατὰ) μέρος  
 ἀρτηρίας. Φέρεται|20δὲ κ[α]ὶ εἰς τὰ κοιλώματα· ὡς ὁμοίως δὲ|καὶ εἰ[ς] τὰ καθ' ὄλον τὸ σῶμα  
 ἀραιώματα,|εἶτα διεκθεῖ διὰ τ(ῶν) ἐν τῇ σαρκὶ φυσικῶν ἀραι[ω]μάτων εἰς τὸ ἐκτός. Τὸ δὲ πλεῖον ἐκ|  
 πνεῖται διὰ τε τοῦ ε[τό]ματος καὶ τ(ῶν) μυκτῆ|25ρων. Καὶ δὴ τοῦ εἰσπνεομένου πλεῖον|ἐκπνεῖται διὰ  
 τούτ(ων) τ(ῶν) τόπων, λέγω δὲ διὰ|ε[τό]ματος καὶ μυκτῆρων, ὅπερ (ἐστὶν) ἴσως παρά|δοξον. Πῶς  
 γ(άρ) οἶόν τ' (ἐστὶ) πλεῖον ἐκπνεῖσθ(αι),|καίτοι γε ἀπὸ τοῦ εἰσπνεομένου ἀναλου|30μένου τινὸς εἰς  
 τὰ σώματα; ἀλλ' οὐκ (ἐστὶ) πα|ράδοξον· ὃν γ(άρ) τρόπον κατατάσσεται τι εἰς|τὰ σώματα ἀπὸ τοῦ  
 εἰσπνεομένου, τὸν|αὐτὸν τρόπον καὶ τῶι πνεύματι τινα π(ρο)σ|τίθεται ἀπὸ τ(ῶν) σωματ(ων) καὶ  
 πλείονά γε, ἅτινα|35καὶ πλεῖον ἀποτελεῖ τὸ ἐκπεμπόμενον|πνεῦμα. Ψυχρόν τε ὑπάρχον τὸ  
 πνεῦμα(α)|θερμὸν ἐκπέμπεται, ἅτε δὴ φερόμενον|διὰ σωματ(ων) θερμῶν. Ἀμέλει γ(άρ) τὴν|εἰσπνοὴν  
 γί(νεσ)θ(αί) φ(ασι)ν εἰς τὸ πλεῖον θερμὸν|40τ[ὸ] περὶ τὴν καρδίαν κ(ατα)σβέννυσθαι καὶ|μὴ  
 σωματούμενον κ(ατα)φλέγειν τὰ σῶ|\_\_ματα. Τούτους γε ὕπνους, ὡς φησὶν ὁ Ἄρις<το>τέλης,|  
 ἀποτελεῖσθαι τοῦτον τὸν τρόπον· τῆς|γὰρ καρδίας φύσει θερμῆς ὑπαρχούσης|45καὶ [ἐ]ξ αὐτῆς  
 ἀνηρημένου τοῦ θερμοῦ|τ[ο]ῦ δ' ἐγκεφάλου ψυχροῦ, συμβέβηκεν|περὶ τῶι ἐγκεφάλωι συνίστασθαι|  
 ὑγρότητα τὴν ἀναφερομένην ὑπὸ|τ[ῆς] θερμότητος ἀπὸ καρδίας|50[ῆ]ν δὴ συνισταμένην  
 κ(ατα)ψύχεσθαι|κ[α]ὶ ἐκ τοῦ κ[α]τάρρου πάλιν κ(ατα)φέρεσθαι,|[μὴ] δυναμένην διὰ τὸ βάρος ἐπιμέ|  
 [νειν] ἐν τοῖς τόποις, εἰς [δὲ τῆ]ν καρδίαν ||

(...) quindi l'eccesso non (...) necessario. In terzo luogo né esso (...) amministra l'essere vivente, ma che questi stessi sono (...) dalle proprietà (...) contro Erasistrato (...) nel luogo opportuno in ciò che si riferisce a noi (...)

Visto che quello che genera e fa accrescere il sostrato materiale di un essere vivente è il cibo e lo *pneuma*, bisogna parlare dell'amministrazione di ciascuno [di loro], e in primo luogo di quella dello *pneuma*.

Anzitutto, l'aria è attirata dall'esterno tramite la bocca e il naso, ed è portata ai polmoni e al cuore — ovvero al torace — attraverso la trachea. Secondo quanto ci sembra, e non come la pensò Erasistrato, un po' [di quell'aria] arriva allo stomaco tramite la bocca. Da questi posti [l'aria] è poi portata alle arterie, dopo è trasferita alle viscere, anche ai pori [che sono] per tutto il corpo. Allora l'aria viene espulsa verso l'esterno attraverso i pori corporei [che sono presenti] nella carne; la maggior parte viene espirata attraverso la bocca e il naso. Quando [dico] che la maggior parte [dell'aria] inspirata si espira attraverso questi luoghi, tramite la bocca e il naso, [lo] dico perché può sembrare paradossale. Come mai può darsi che rimanga [aria] da espirare quando quest'[aria] è consumata dai corpi?

Ma ciò non è affatto straordinario. Siccome un po' [di quest'aria] viene integrata nei corpi dopo essere stata inalata, allo stesso modo parte [dell'aria] originaria dei [propri] corpi viene aggiunta all'aria [inspirata], a dire il vero la [parte] maggiore, il che fa che l'aria che alla fine viene espulsa sia [quantitativamente] più importante. [Se] l'aria che è presente è fredda [ma esce] calda quando viene espulsa [dal corpo, ciò capita] perché si sposta attraverso dei corpi caldi. Per cui viene detto certamente che la respirazione si produce al fine di soffocare il caldo eccessivo [che c'è] intorno al cuore e affinché i corpi non si compattino col consumarsi.

[Per quanto riguarda] il sonno, secondo quanto afferma Aristotele, si produce così. Dato che il cuore è per natura caldo e che il calore del cervello — [che è] freddo — dipende da quello di prima, occorre che l'umidità che monta dal cuore per via del calore finisca col condensarsi intorno al cervello. Una volta condensatasi, quando si raffredda, l'umidità precipita di nuovo dal cervello, ed è portata verso il basso finché per causa del [suo proprio] peso non riesce più a trattenersi in queste parti. Allora l'umidità [va] verso il cuore

XXIV.1 [ manca una riga ] — καὶ τῆι μίξει τὸ θερμόν. [ Ὡ]δε τ[ὸν ὕπνον γί(νε)θ(αι)], τὴν δὲ ἐγρήγορσιν ἀποτελεῖσθαι [ἀ]ν[α]λ[ο]υμένης|τῆς ὑγρότητος ἀπάσης τῆς περι τῶι [ἐγκεφάλωι],|5 ἔπειτα τοῦ θερμοῦ πάλιν πλεονάζοντ[ο]ς. 2/3|τοι γε ἑαυτὸν ἐπαινεῖ ὁ Ἀριστοτέλης ὅτι π[α]ρὰ [τοῦς] |ἄλλους καὶ τὸν ὕπνον καὶ τὴν ἐγρήγορσιν αἰτ[ιο]λογεῖ, ἐκείνων αὐτὸν [μ]όνον τὸν ὕπνον αἰ[τι]ολογούντ(ων), μηκέτι δὲ καὶ τὴν ἐγρήγορσιν.|10 Πλὴν περι οὗ ὁ λό(γος), τὸ πνε[ῦ]μα ψυχρὸν εἰσπνεῖ[τα]ι,|θερμόν μ(έν)τοι γε ἐκπνεῖται, ὡς δὴ διὰ θερμῶν|χωρίων φερόμενον. Καὶ μὴν ξηρὸν μ(έν) εἰσπνεῖται, ὑγρὸν δὲ ἐκπνεῖται· καὶ δῆλον·|εἰ γ(άρ) τις περι τοῦ στόμ[α]τος καὶ τοῦ μυκτῆρος|15 τὴν χεῖρα ἢ μέρος τι τοῦ ἱματίου προθείη,|συνόψεται ἔνικμον [ὄν τ]οῦτο, ὡς δὴ ἐν|τῶι πνεύματι καὶ ὑγρότητος συνεκπεμπο|μένης. Καὶ περι μ(έν) τῆς το[ῦ] πνεύματος διοι|κῆσεως ταῦτα. Περι δὲ τῆς τροφῆς [ἀ]ναγ|20 καὶ ὑπομιμνήσκειν μετὰ [ταῦτα]· [α]ὔ[τ]η προσενεχθεῖσα|πρώτης κατεργασίας τυγ[χ]άνει ἐν στόματι,|τεμνομένη μ(έν) πρὸς τῶν προσθίων ὁδόν|των, τομεῖς καλοῦνται, καταλαινομέ|νη δὲ πρὸς τ(ῶν) μυλῶν, λοιπὸν κ(ατα)πίνεται|25 διὰ στομάχου καὶ φέρεται εἰς κοιλίαν.|Κάν ταύτη δὲ μεταβάλλει τε καὶ ἀποικειοῦται|χυλουμένη ἐπὶ τὸ οἰκεῖον. Καὶ γ(άρ) ἀρέσκει|ἡμῖν τὴν τροφήν ἐν κ[ο]ιλίαι μεταβάλλειν|τε ἐπὶ τὸ οἰκεῖον κ(ατ)<ερ>|30 γασίας τυγάνειν [κα]ὶ οὐχ ὥσπερ ὁ Ἀσκληπιάδης ὁ οἰνοδότης καὶ Ἀλέξανδρος|ὁ Φιλαλήθεις διέλαβον, ὡς τέμνεται μόνον|καὶ χυλοῦται ἢ τροφή ἐν κοιλίαι καὶ προδιάθει|σιν τις αὐτῆι γί(νεται), οὐ μὴν ἀποικειώσιν|35 ἐπὶ τὸ οἰκεῖον. Ἡμεῖς γ(άρ) λέγομεν καὶ χυλοῦσθ(αι)|τὴν τροφήν ἐν κοιλίαι καὶ κ(ατ)εργασίας τυγ(άνειν) καὶ| μεταβολῆς τῆς |ἐπὶ τὸ οἰκεῖον, ὡς ἂν δὴ διὰ τοιούτ(ων) καὶ θερ|μοτέρων παραφερομένην χωρίων. Καὶ|δεόντως ὥσπερ κἀπὶ τ(ῶν) ὑδάτ(ων)· ταῦτα|40 γὰρ ῥέοντα διὰ τινων τόπων μετα|λα<μ>βάνει τῆς ἐπ' ἐκείν(ων) δυνάμεως|καὶ τὴν αὐτὴν κείνοισι ἴσχει δύναμιν.|Ἐὰν γ(άρ) ὄσιν ο<ι> τόποι ἀσφαλτώδεις, καὶ|τὸ ὕδωρ ἀσφαλτῶδε<ς> γί(νεται) κ(ατὰ) τὴν δύναμ(ιν),|45 ἔάν θειώδεις, θειώδη μεταβάλλον|τα γί(νεται) καὶ τὰ ὕδα<τα>. Ὡς οὖν ταῦτα μετα|βάλλει τὰς δυνάμεις παρὰ τὰς τ(ῶν) τόπων|διαφοράς, ο(ὕτως) κἀπὶ τῆς τροφῆς· αὕτη γ(άρ) πα[ρ]αφερομ[έ]νη ± 5 |διὰ θερ|50 μοτέρων τόπων [ν 11/12 ]νη|ἐν κοιλίαι καὶ... [ 9/10 ]χυς [τ]όποι μὲν ἢ τ[ ± 10 ]...[.].εγεί|τωιδ....[ 10/11 ] . τ [ . ] ρ ο ι η ε |μεν[.]να [ ± 12 ] .δε κα[τ]ερ||

(...) e dalla mescolanza il caldo. E dunque è così che si produce il sonno. Lo stato di veglia occorre invece quando si svuota tutta l'umidità intorno al cervello, allora il caldo diventa di nuovo dominante (...) [Il fatto che] indaghi sulle cause del sonno e della veglia [non] porta lo stesso Aristotele a vantarsi nei confronti degli altri, perché essi fecero solo un'indagine sulle cause del sonno, ma non [andarano] oltre rispetto a quelle della veglia.

Riprendiamo però il nostro discorso. La ragione [per la quale] l'aria che si inspira è fredda, mentre quella che si espira è calda era [ , dicevamo, ] perché essa si attraversa luoghi che sono caldi. È chiaro anche che l'aria che si inspira è secca [mentre] quella che si espelle è umida. Poiché chiunque metta la mano oppure una parte qualsiasi del pallio intorno alla bocca e al naso si

accorgerà che l'aria è umida, e che questa umidità è buttata fuori assieme all'aria. E [fin qui si è trattato] delle cose che riguardano l'amministrazione dell'aria.

Una volta [dette] queste cose, bisogna fare menzione [dell'amministrazione] del cibo. Quando questo viene assunto si avvia una prima digestione già nella bocca. [Anzitutto il cibo] è spezzato dai denti di fronte, chiamati incisivi, essendo poi tritato dai molari. Il resto [del cibo] viene poi inghiottito attraverso la gola e portato fino allo stomaco, e lì si trasforma fino a diventare completamente un succo che [possa] assorbirsi in modo appropriato.

Infatti noi siamo convinti del fatto che il cibo si trasforma nello stomaco finché diventa adatto, perché lì ha luogo un secondo processo di digestione e non [riteniamo], come pensarono Asclepiade (quello che prescriveva il vino) o Alessandro Filalete, che il cibo si triti e si liquefaccia solo una volta nel ventre per via di qualche disposizione dello stesso, e non per [il fatto che si trasforma finché può essere] proprio assorbito. Infatti noi diciamo che il cibo si liquefà nello stomaco e che la digestione si produce ad opera di una trasformazione di quello finché diventa adatto [ad essere assorbito], e che [per il fatto che] queste cose si trovano così disposte può darsi che [il cibo] sia portato verso parti più calde.

E le cose devono essere così, come capita pure con le acque. Infatti, queste scorrendo attraverso certi luoghi si trasformano assumendo le proprietà di quelle attraverso cui [scorrono], e ciò appunto fa che [le acque adottino] una proprietà [diversa] a seconda dei luoghi per cui scorrono. In questo modo, dunque, se [i luoghi] sono [neri] come il bitume l'acqua diventa nera per azione della proprietà di questi, mentre se sono gialli come il solfuro quando si trasformano le acque diventano allora [di un] giallo solforoso. E ciò è così in funzione delle differenze dei posti [attraverso cui scorrono le acque], giacché questi [luoghi] trasformano le proprietà delle acque; e lo stesso vale anche per il cibo.

Questo pertanto (...) quando è portato attraverso posti più caldi (...) nello stomaco e (...) posti o (...)

XXV.1 [γαρί]αc τυγγάνει. Ἄναλαμβανομένη δὲ πρὸς τ(ῶν) ἀγγείων τ(ῶν) ἀπὸ τοῦ με[ε]ντερίου μ(έν)|ἐκφυόντ(ων), ἐμφυόντων δὲ εἰ[ε] τὴν κοιλίαν|προστίθεται τῷ ὄλωι ρώματ[ι]. Καὶ μὴν| 5[καὶ] ἀτμοειδῶc διὰ τῶν ἀρ[αιωμ]άτ(ων)|τῶν ἐν τῇ κοιλίᾳ ἀναλαμβάνεται ἢ τροφή|καὶ ἐξ ὠμῶν γί(νεται) ἢ π(ρόc)θεcιc τῷ ὄλωι ρώματι,|ὥc ἂν δὴ καὶ ἐξ ὠμῶν γινομένηc τῆc|ἀναδόceωc. Καὶ ἐν τῷ cτόματι δὲ ληφθεῖ|10cηc τῆc τροφῆc παρὰ ταῦτὰ ἀνάδοc<ic> γί(νεται) ἀπ' αὐ|τῆc, ὥc ἂν δὴ πάλιν καὶ ἐξ ὠμῶν γινομένη(ηc)|τῆc ἀναδόceωc. Ταῦτη δὴ κα[ι] οἱ κ(ατά)ξηρα|ῖcχοντεc τὰ cτόματα διακ[λυ]c|ἀμενοῖ|μαλακώτερα φέρονται, ὥc [ἂν] δὴ ἀν[α]δόce(ωc)|15παρὰ τὰ γινομένηc. Ἄμει|λει δὲ τούτῳ|τῷ λό(γῳ) καὶ δυ(σ)ώδη π(ρο)cφερόμε[νοι] δ[ι]ωθόμεθ(α)|αὐτὰ κατὰ τὴν παρὰ τὰ γεν[ομ]ένην|γεῦcιν, καὶ ἐκ δ' ὧν ἀντιλαμβα[νό]μεθα καὶ αὐτὰ εἶρ(ηται).|Ἐξ ὧν φανερόν ὥc καὶ ἐξ ὠμῶν γί(νεται) ἢ ἀνάδο(cic).|20 Ἀλλὰ γ(άρ) καὶ κατὰ τὴν κ(ατά)ποcιν τὴν διὰ cτομάχου|τῆc τροφῆc ἀνάδοcic γί(νεται) καὶ π(ρόc)θεcιc τῷ ὄλωι.|Ἐξ ὧν φανερόν ὥc καὶ πέψic γίνεται καὶ ἐν κοιλίᾳ,|καὶ ἐξ ὠμῶν δὲ ἢ ἀνάδοcic. [T]αῦτη δὴ|καὶ τοῦ Ἀcκληπιάδου διοίcoμ[(εν)· οὔ]τοc γ(άρ)|25 ἐξ ὠμῶν αὐτὸ μόνον λέγει γί[(νε)c]θ(αι) τὴν ἀνάδο(cic),|ἡμεῖc δὲ καὶ ἐξ ὠμῶν μ(έν) καὶ ἐκ π[έ]ψ[ε]ωc|\_\_\_τῆc ἐν κοιλίᾳ γι(νομένηc). Καὶ τοῦ Ἐραc[ι]c[τρά]του δὲ|διοίcoμ(εν), καθ' ὅcον κεῖνοc μ(έν) τὸ {μ(έν)} αἶ[μα] εἶπεν|μόνον (εἶναι) τροφήν, ἡμεῖc δὲ καὶ τ[ὸ] αἶ[μα] μ(έν)|30εἶναι τροφήν, μὴ μόνον δέ, ἀλλ(ὰ) κ[αὶ] τὴν ὠμὴν|\_\_\_δὲ τροφήν. Εἶτα τῆc τροφῆc ἢ μ(έν) [κε]χ[υ]λω(μένη)|καὶ λεπτομερεcτέρα αὐτόθεν ἀνα[δίδο]ται τῷ|ὄλωι ρώματι διὰ τ(ῶν) ἀραιω(μάτων), ἢ δὲ cτερεὰ καὶ | τ[ρα]χεῖα| πέccεται ἐν κοιλίᾳ· πέψic γ(άρ) (ἐcτι) μεταβολὴ κ[αὶ] χύλω]cic {ἐπὶ τ[ο]ι.1}|·35καὶ διαίρεcic γ(άρ). Καὶ οὐ μόνον ἐν [κοιλίᾳ]|γί(νεται) ἀνάδοcic, ἀλλ(ὰ) πάcηc τῆc τροφῆc ἀλ[ ± 10]εἶπεται| καὶ φέρε(ται) εἰc τὰ ἐγτερ[(α)] καὶ ἐν τούτ(οic) ἀνά| δ(οcic). {καὶ ἐν τοῖc ἐντέροic| ± 6} οἰοic}.

Ἡ γ(άρ) μερικθεῖσα εἰς ταῦτα τροφή ἀν[αδί]δοται|ἢ διὰ τ(ῶν) περὶ αὐτὰ ἀραιωμάτ(ων) ἢ διὰ [τ(ῶν) ἀγγ]είων|τ(ῶν) ἐμφυόντ(ων) εἰς αὐτά. Καὶ οὐ πᾶς[α, ἐλ]άχιστον|40 δ[ε] ταύτης ἀπολείπεται, ὃ δὴ π(ρὸς) τ[ῆς ἐ]ν τῷ|κ[ό]λῳ ιδιότητος ἀποκοποῦτα|ι. Γί(νεται) δ[ε] καὶ τι τοῦ|ε[π]έρματος. Καὶ γ(άρ) τοῦτο κατασκευά[ζε]ται|π[ρὸς] τῆς ιδιότητος τῆς ἐν τοῖς ε[περ]ματικ(οῖς)|πόροις μεταβαλλούσης τὴν φε[ρομέ]ν(ην)|45 ὡς αὐτοὺς τροφήν. Ο(ὕτως) δὴ καὶ τὸ κ[3/4]αταλλ( )|πρὸς τῆς ἐν ἐκάστῳ ιδιότη<το>ς γί(νεται) [τροφ(ή). Τοῦ]] \[ὄ]τι τροφή (ἐστίν) ἐν τοῖς ἐντέροις ἕξω βλέπε/|των οὕτως ἐχόντ(ων) † πορονκατ[....]ενθ( ) †|κ[αὶ] ἀπὸ τ(ῶν) ἐντέρων ἀνάληψις γ[ίνετ]αι|τῆς τροφῆς. Τὸ μ(έν) γ(άρ) ἐν τῷ λεπτῷ [ἐν]τέρῳ|50 παρακείμενον λεπτότερον τ' ἐστ[ι] καὶ|ὑγρότερον, τὸ δὲ ἐν τῷ ἀπευθυ[μέ]νῳ|ξηρότερόν τε καὶ παχύτερον, ὡς ἂν δὴ|ἀπ[ὸ] τούτ(ων) ἀναδόσεως γεγεν[ημ]ένης.|Ἦς π(ρὸς) ἀ[ὐ]τὰ <τὰ> ἀποκρινόμενα περιεσώμ[ατά, φ(αειν),] | τροφή||

ha luogo la digestione.

L'assorbimento [dei nutrienti] comincia a darsi nei vasi che salgono dal mesenterio e si espandono verso il ventre, [da lì l'alimento] è poi distribuito per tutto il corpo. Ugualmente l'alimento riesce a passare attraverso gli interstizi che ci sono nello stomaco, una volta [che è diventato un brodo] fumeggiante;[solo così] si può produrre la distribuzione dei nutrienti a tutto il corpo a partire dal cibo crudo, poiché la distribuzione si produce a partire dal cibo crudo.

Ed è [per il fatto che] il cibo che si assume attraverso la bocca [è] crudo che si produce la distribuzione a partire dallo stesso; giacché è di nuovo per causa dell'essere crudo degli alimenti che si dà la distribuzione. È per causa di questa stessa [crudità] per quelli che hanno la bocca secca che essa si umidifica portandola in questo modo ad ammorbidirsi, perché così la distribuzione può in seguito avere luogo. Ed è senza dubbio per questa stessa ragione che vomitiamo il cibo fetido e guasto subito dopo averlo mangiato. Ed è a partire da queste cose che concepiamo e manifestiamo queste stesse [opinioni]. Per tali cose è evidente pure che la distribuzione si genera a partire dal cibo crudo.

Ma è appunto inghiottendo il cibo attraverso la bocca che si produce la [sua] distribuzione e la [successiva] assimilazione [dell'alimento] per tutto il corpo. Per tali cose è anche evidente che avviene la cottura sia che la distribuzione (del cibo) avia nel ventre e da cibi crudi.. Ed è anche per [ragione di] questo punto che differiamo da Asclepiade. Siccome costui afferma che la distribuzione si produce solo da cibi crudi per il fatto che il cibo è crudo, noi diciamo che avvenga sia da cibi crudi sia della cottura che avviene nel ventre

E differiamo anche da Erasistrato in quanto egli disse che solo il sangue costituisce [il principio dell'alimento, noi diciamo invece che non solo il sangue, ma anche il cibo crudo è nutritivo. Perciò stesso il [cibo] solido e aspro si cuoce nello stomaco [e] viene distribuito per tutto il corpo attraverso gli interstizi [dello stomaco, una volta] che viene da esso estratto il succo ed [è stato] minutamente scomposto in piccole particelle. La digestione è una trasformazione [che consiste in] una conversione [del cibo] in succo: in una differenziazione, insomma. Infatti la distribuzione [del cibo] non occorre solo nello stomaco, ma tutto l'alimento rimane in minime [porzioni] quando esce [dallo stomaco] ed è portato agli intestini in cui [, propriamente,] si produce la distribuzione [del cibo]. E negli intestini (...)

Una volta diviso in parti negli stessi [intestini], il cibo viene allora distribuito attraverso gli interstizi [degli intestini] ovvero attraverso i vasi che si sviluppano negli stessi. Dato che non tutto [il cibo ma] solo un' infima parte dello stesso rimane [dopo la digestione], questa stessa [parte] è quella che — in virtù della particolarità del colon — si trasforma in feci. E qualche cosa [del genere] capita con lo sperma giacché esso viene elaborato nei dotti spermatici per via della peculiare trasformazione che essi stessi esercitano sul cibo che vi arriva. È in questo modo quindi l'alimento diventa (...) in funzione della particolarità che [è] in ciascuno.

Quando l'alimento si trova negli intestini (si veda all'interno [del papiro])<sup>5</sup> questi presentano dei ἄλλοι (..) e perciò l'assorbimento dell'alimento si produce negli intestini. L'alimento più leggero e più liquido rimane nell'intestino tenue, quello più secco e spesso nel retto, come se [la stessa] distribuzione [del cibo] si producesse per il fatto che gli stessi [intestini sono due]. Si dice, ancora, che per ragione di questi [due] stessi [intestini] si formano separatamente [due tipi di] residui (..) alimento

XXVI.1 [.]με[.] τρ]οφή δὲ τ(ῶν) ἀλόγων ζώων. Πρὸς τοῦτο τὰ μ(έν) περιεσώματα τροφή (ἐστὶ) τ(ῶν) ἀλόγων ζώων, αὕτη δὲ π[(ρὸς)] αὐτ(ῶν) λαμβανομένη[μ]ε[ταβ]άλλει εἰς τὴν σάρκα τῶν (ῶν) καὶ αὐτ(ῶν)|5|αὐξεί τὸ σωμα(α)· ἡμεῖς μ(έν)τοι γε τὰς τ(ῶν) ἀλόγων ζώων|σάρκα[ac π]ροσφερόμεθα οἷον ὀρνίθων καὶ τ(ῶν)|παρα[πληρ]σίμων, καὶ πρὸς τοῦτ(ων) τρεφόμεθ' αὐξάν[ο]μεθα. [Τῶι] δὲ αὐτῶι λόγῳ τροφ(ή)|ἐστίν, [φ(ακίς)], τ(ῶν) ἀνθρώπων τὰ περιεσώματα.|10|Εἰ δεῖ οὖν τ]ροφήν (εἶναι) τ(ῶν) ἀνθρώπων τὰ περιεσώ(ματα), ἐπειδὴ τὰ ἄλογα τ(ῶν) ζώων τρέφεται πρὸς τ(ῶν) περι[cc]σώματ(ων) καὶ αὐξεται, ἡμεῖς δὲ πρὸς τ[(ῶν) ἀ]λόγων ζώων, τοῦτωι τῶι λό(γῳ)|φῆσο[μεν κα]ὶ τὸ ξύλον καὶ τὸν λίθον καὶ|15|τὰ πλ[ηρ]σίμων τροφήν (εἶναι), ἐπειδὴ πάντα εἰς πάντα μετ[αβ]άλλει. Ἄλογον δὲ τοῦτο· καὶ γ(άρ) τὰ θανάσιμα τῶν [φαρμ]άκων ἐροῦμεν τροφήν, ἐπειδή περ οἱ ὄρνυγες εἰστούμενοι τὸ κόνειον τρέφουσι| —[το]ὺς ἀνθρώπους. Πλὴν ταῦτα μ(έν) ο(ὕτως).|20|Ἐκεῖνο δὲ ῥητέον ὅτι γί(νεται) καὶ ἐν κοιλίᾳ πέψις|καὶ ἐξ ὧμων δὲ ἀνά[δο]ς, ἡ πλε[ί]ω(ν)|δὲ ἀνάδοσις ἀπὸ τε κοιλίας καὶ στομάχου|καὶ ἀπὸ τ(ῶν) ἐντέρων καὶ τοῦ κόλου, καὶ ἀτμοε[ι]δῶς διὰ τ(ῶν) ἀραιωμάτων τ(ῶν) ἀμφ' αὐτά,|25|καὶ ἀπὸ τοῦ στόματος.

Καὶ οὐ μόνον ἀπὸ τοῦτ(ων) ἀνάδοσις γί(νεται) καὶ πρόσθεσις, ἀλλὰ καὶ ἀπὸ τ(ῶν) ἐν τοῖς ἀγγε[ί]οις παρ[α]κειμέν(ων)· καὶ ἀπὸ τῆς ἐν ταῖς φλεβῶν παρακειμένης τροφῆς καὶ ἀπὸ τῆς ἐν αὐταῖς ἀρ[θ]ροῖσι ἀνάδοσις γί(νεται) καὶ πρόσθεσις τῶι ὄλωι|σώματι καὶ ἀτμοειδῶς. Ὁ μ(έν)τοι γε Ἐρασιέτρα|τος οὐκ οἶεται ἀνάδοσιν γί(νεσ)θ(αι) ἀπὸ τ(ῶν) ἀρτηριῶ(ν)· μὴ γ(άρ) (εἶναι) κ(ατὰ) φύσιν ἐν αὐταῖς αἷμα, τοῦτό (ἐξ) τ]ροφή, ἀλλὰ πνεῦμα, οὐχ ὑγιῶς ἰστάμεν(ος) λό(γῳ),| 35|ὡς ἀποδείξομεν. Εἷς μ(έν) γ(άρ)· εἴπερ μὴ παρέκειτο ἐν [ἀ]ρτηρίασι κ(ατὰ) φύσιν αἷμα, ἐχρήν| διαί[ρ]ουμέν(ων) ἀρτηριῶν αἷμα μὴ ἀποκρίνεσθαι·| — ἀποκρίνεται δὲ γε· ὥς τ[ε] καὶ τροφή ἐν ταύταις.| Πρ[ὸς] τοῦτο ἀπολογοῦνται οἱ Ἐρασιετρά|40|τεῖοι λέγοντες διότι, διαιρέσεως γεν(ομένης)| [κατὰ] τὰς ἀρτηρίας, κενοῦται τὸ αἷμα κἀπορ(ρεῖ)|τῶν ἀρτηριῶν, οὐ μὴν ἐκ τ(ῶν) ἀρτηριῶν.| Διαφέρει δὲ τὸ διὰ τινος κενοῦσθαι ἢ τὸ ἕκ του ὡς κἀπὶ τ(ῶν) ἐκτόσ· καὶ γ(άρ) διὰ τ(ῶν)| 45|κρονον(ῶν) ῥεῖ τὸ ὕδωρ, οὐ μὴν ἐκ τ(ῶν) κρονον(ῶν).| Οὕτως καὶ τ(ῶν) ἀρτηριῶν διαιρηθειῶν| δι' αὐτ(ῶν) μὲν κενοῦται τὸ αἷμα, οὐ μὴν ἐξ αὐ| — τῶν· οὐ γ(άρ) κ(ατὰ) φύσιν ἐν ταύταις αἷμα· |a τῶι δὲ συναναστομῶσθαι τὰς φλέβας εἰς τὰς ἀρτηρίας|b καὶ κενὸν γί(νεσ)θ(αι), τῶι μὴ δύνασθαι κενὸν|c ἀθροῦν ἀπολείπεσθαι τρόπον μετὰ τὴν π[νε]ύματος| κένω(ειν), |d παρεμπῆπτον τὸ αἶ[μ]α ἐκ τ(ῶν) φλεβῶν [εἰς] τὰς ἀρτη| ρίας(ειν), |e διὰ μ(έν) [τ(ῶν)] ἀρτηριῶν [ἀ]ποκρίνεται, |f οὐ μὴ|v ἐξ αὐτ(ῶν) ἀγγείων(v).| Νωθρόν δ' (ἐστὶ) λίαν τοῦτο· α' μ(έν) γ(άρ) τὰ ἡμέ|50|τερα σώματα τοῖς ἀσυμπτότοις εἰσ[ε]ύμασι|v ὡς εἰσφύει τε καὶ ἐτάμνοισι· ὡς γὰρ οὗτοι κ(ατὰ)χθέντες ἢ τρυπηθέντ[ε]ς οὐκ ἀποκρίνου||

(..) alimento degli animali irrazionali. Dunque per quanto riguarda ciò, quello che rimane dopo la digestione è, da un lato, il cibo degli animali irrazionali. Quando questo viene ingerito si trasforma, dall'altra parte, nella carne di alcuni [animali irrazionali] e fa accrescere il corpo degli stessi.

Per quanto riguarda noi, ci cibiamo della carne degli animali irrazionali come quella degli uccelli e similari, essendo per via di queste che ci nutriamo e accresciamo. Per la stessa ragione viene detto che ciò che risulta dopo la digestione degli esseri umani è il cibo [degli animali

<sup>5</sup> Questa indicazione si trova nel margine del papiro e rinvia il lettore (forse lo scriba stesso) a leggere l'aggiunta che si trova scritta sul verso del papiro.

irrazionali]. Se quello che risulta dalla digestione degli esseri umani deve essere [il loro] alimento perché gli animali irrazionali si cibano e accrescono a partire dai [suddetti] residui [e] noi [ci cibiamo e accresciamo] a partire dagli animali irrazionali allora, per lo stesso ragionamento, dovremo dire pure che il legno, le pietre e [le altre] cose di questo genere sono anche del cibo poiché tutto si trasforma in tutto; il che è assurdo. Per cui dovremmo considerare [pure come] alimento i veleni letali del momento che le quaglie che si cibano della cicuta nutrono pure gli uomini.

A prescindere da queste cose, bisogna ribadire che a partire dal cibo crudo si produce nello stomaco la [sua] cottura e distribuzione. [Abbiamo detto che] la distribuzione [dell'alimento si produce] per lo più dal ventre — o dallo stomaco — dagli intestini e dal colon, già una volta fumeggiante, attraverso gli interstizi di questi stessi due e dalla bocca. E non solo è tramite questi che si dà la distribuzione [del cibo] e l'assunzione [dell'alimento], ma anche a partire da quello che v'è nei vasi; dato che la distribuzione si produce a partire dall'alimento che si trova nelle vene, e [la sua] assunzione per tutto il corpo si produce a partire da quello che, [una volta] fumeggiante, v'è nelle arterie stesse.

Tuttavia Erasistrato non pensa che ci sia distribuzione [di nutrimento] a partire dalle arterie, perché allo stato naturale nelle stesse non c'è sangue, cioè nutrimento, bensì *pneuma*; il che — come dimostreremo — non sta in piedi per una semplice ragione: se il sangue non fosse contenuto naturalmente nelle arterie, sarebbe necessario che quando esse vengono recise non ne scaturisse del sangue; tuttavia esso esce [quando vengono recise]; dunque c'è anche nutrimento [*scil.* sangue] in esse. Contro tale obiezione si difendono gli Erasistratei dicendo che, quando c'è una recisione nelle arterie, il sangue viene svuotato e sgorga [attraverso] le arterie, ma non [è emesso] dalle arterie, distinguendo in questo modo tra l'essere svuotato attraverso qualcosa dall'essere svuotato provenendo da qualcosa, come occorre anche nel mondo esterno; come se [dicessero] che l'acqua che scorre attraverso le fonti non provenga certo dalle fonti.

Così anche quando le arterie sono recise, il sangue viene svuotato attraverso le arterie non certo provenendo dalle arterie, poiché allo stato naturale in esse non si trova sangue. Però le vene hanno uno sbocco comune verso le arterie e si forma un vuoto; per l'impossibilità che rimanga un vuoto assoluto dopo lo svuotamento dello *pneuma*, il sangue, trasfondendosi dalle vene nelle arterie, fuoriesce attraverso le arterie, non provenendo certo da esse.

Ma questa spiegazione è troppo semplice. In primo luogo, dato che i nostri corpi assomigliano ai corpi incomprimibili, come i tubi e le canne, i quali, quando si rompono o vengono perforati, non lasciano fuoriuscire

XXVII.1 *ci tò ἐν αὐτοῖς περιεχόμενον πνεῦμα|οὐδὲ κενοὶ γίνονται* τούτου, ἀλλ' ἐμμένον ἔχουσιν|  
*ἐν αὐτοῖς, ο(ὔτως) καὶ ἐπὶ τ(ῶν) ἀρτηριῶν διαρθεῖς(ῶν)|οὐ πάντως κενωθήσεται ταῦτα τοῦ*  
*πνεύματος), ἀλλ' ἐμμενεῖ ἐν ταῖς ἀρτηρίαις καὶ μετὰ τὴν|διαίρεσιν, ὥσπερ κατὰ τ(ῶν) ἐκτός. Β´·*  
*εἴπ[ε]ρ ὁ κενός(ς)|ἀθροῦς αἷ(τιος) γίνε(ται) τῆς παρεμπτόσεως τοῦ αἵματος|ἐκ τ(ῶν) φλεβῶν εἰς τὰς*  
*ἀρτηρίας ο(ὔτως), ἐχρ[ῆ]ν τὸν|αὐτὸν αἷτιον γίνε(σ)θ(αι) τῆς κ(ατ)οχῆς τοῦ πνεύματος, καὶ|*  
*προαναπληρῶ(σαι) <τὸ> κενῶθ(έν)·| 10ἀλ(λὰ) γ(ὰρ) οὐ γίνε(ται), ὥστε <τὸ>*  
*αἷτιον παρορᾶν| δεῖ. Naί φαίνονται οἱ Ἐρασιτράτειοι, οὐκ ἔοικε|τὰ ἡμέτερα σώματα*  
*τοῖς ἀσυμπτ[ώ]τοις|σώματιν, ἄθλιπτα κατ'ονόμασται, ἀλ(λὰ) ἀκῶν|ἐμπεπληρωμένοι ὑγροῦ καὶ*  
*ἐμπεπνευμα|τωμένοι· ὡς ὁ [μ(έν) ἀ]κ[ός] τρωθεῖς ἀποκρί<νει>|15δι' αὐτοῦ τό [τ]ε πνεῦμα καὶ*  
*ὑγρόν, οὐ μὴ|ἐξ ἑαυτοῦ· οὔτως καὶ αἱ ἀρτηρίαι διαρθεῖσιν|διὰ μὲν αὐτ(ῶν) κενούμενον ἔχουσι*  
*τὸ|αἷμα, οὐκ ἐξ αὐτ(ῶν)|δέ· πρὸς δὲ καὶ τοῦτ' εἴ|ποιμ(εν) διότι οὐ [το]ῖς οὔ[τε] εὐμπτῶτοις ἔοικεν|*  
*20τὰ ἡμέτερ[α] σώματα, ἀλλὰ τοῖς δὴ ἀσυμπτῶτοις. [Καὶ] τα[ῦ]τα|δὴλα ἐπὶ τ(ῶν) [τ]ελευτ(ῶν)·*  
*κατὰ γ(ὰρ) τὰ ὑμέ(νια)|εὐρίσκοντα[ι] αἱ ἀρτηρίαι ἀσυμπτῶτοι, αἱ δὲ φλέβ(ες)| [c]ὑμπτῶτοι·|*

Ἐ[ἰ τ]οιγ(άρ)τοι τα[ῦ]τα τοῦτον ἔχει τὸν τρόπ[ον],|25μοχθηροὶ φαίνονται καὶ κ(ατὰ) τοῦτο οἱ [Ἐ]ρα[στ]ρα[τ]ρ(άττειοι).|Ἐἴτα φέρε δὲ καὶ οἰκει[οῦν]τες μὴ τοῖς|ἀστυμπτότοις, [ἀλλὰ] τ[οῖ]ς εὐστυμπτότοις|ῶς γε ἀκοῖς, ἵνα [κ]αὶ αὐτοῖς συναγο[ρε]ύω|μεν, λέγωμεν ὡς ἐπεὶ τοῦ ἀσ{κ}κοῦ τὸ ἐν[ὸ]ν κενώ(θειν),|30ἐπιστυμπτόσις γί(νεται), καὶ οὐχὶ κενὸς ἀθροῦς τόπο[ς].| Ο(ὔτως) ἐχρῆν καὶ ἐπὶ τῆς δ[ια]ίρε[σ]εως τ(ῶν) ἀρτηριῶν μετὰ τὴν κένωσιν| τ ο ὦ π ν ε ὑ μ α τ ο ς ἐπιστυμπττειν ταύτας.| Ἐπιστυμππτοῦσῶν γ[(άρ)] αὐτ(ῶν), οὐκ ἂν ἐγίνετο|κενὸς ἀθροῦς, [ο]ὐ[δὲ] παρέμπ[τω]σι[ς] α[ἵ]ματος|35οὐδὲ ἀπόκρισις τούτου, [οὐ]δέ γε κένωσ<ις>,|ῶστε καὶ κατὰ τοῦτο ἄτοποι (εἰσιν). Φέρε|δὲ μετὰ τὴν [δι]αίρεσιν κ(ατὰ) τούτους ἀποκρινο(μένου)|τοῦ πνεύμ[α]τος, ἀποκρίνεσθαι|τὸ αἷμα τῶι μ[ὴ] δ[ύ]ν[α]σθαι κενὸν ἀθροῦν|40ἀπολειφθῆναι· φήσομ[(εν) ὅτ]ι οὐκ ἐχρῆν αἷμα|κενοῦσθαι τούτῳ τῶι λό(γω), ἀλ(λά) τὸ πν[εῦ]μα τὸ ἐν τῆ[ι] ἡμ[ετέ]ραι| παρακείμενον|συγκρίσει λε...[.].[.]. καὶ συνέρχεσθ[αι] τοῦτο τῶι πνεύματι|τῶι ἀποκριθέντι. Οὐκ ἀποκρίνεται δέ|45γε τοῦτο καὶ συμπλη[ρ]οῖ τὸν τοῦ κενω(θέντος)|πνεύματος τῶν, ἀλ(λά)...[.] ἀπο[.]μ...[.]ου. Ἐἴτα κατὰ τοῦ[ς] Ἐρασι[στ]ρατ<εἰ>ου<ς> τού<του>[ς] κενούται {μεγόν}. καὶ .[.]οἰαυ[.]. Ἐρασι[στ]ρατ[ε]ῖοι [± 2]ει[6/7] καρδία δεχ[η] |50τῶν ἀρτηριῶν (έστι) καὶ .[.]...[.] τοῦ πνεύματος [.]οἰονδ[...].| ..[.]<ς>δε τῶν|[πρῶτη {θη}] κενώσεται [ ± 4 ]...θα|κατὰ τοῦ μέγα † ρονετο[ς].[ ].. κε ||

l'aria in essi contenuta; essi non si svuotano neppure della stessa, ma conservano [quell'aria che] vi risiede. In questo modo, nel caso in cui le arterie vengano recise, [deve occorrere] che lo *pneuma* non si svuoti completamente tramite le stesse; anzi [esso] rimane nelle arterie dopo la recisione come [accade con] le [cose] del mondo esteriore.

In secondo luogo, se il vuoto assoluto [fosse] il responsabile della trasfusione di sangue che si produce dalle vene verso le arterie, dovrebbe essere pure il responsabile del trattenimento dello *pneuma* presente, e del fatto che esse si riempiano nella misura in cui si svuotano. Nonostante ciò, visto che questo non è possibile, bisogna dunque considerare il responsabile. Coloro che sono a favore di Erasistrato dicono che sì, i nostri corpi non assomigliano ai corpi incompressibili — quelli conosciuti come incoercibili — ma piuttosto a un otre che è stato riempito di liquido e gonfiato d'aria. Come l'otre che è stato perforato espelle l'aria e il liquido attraverso se stesso ma non da sé stesso; allo stesso modo le arterie che vengono recise ritengono il sangue che si svuota attraverso esse, ma non a partire da esse stesse.

In relazione a ciò, invece, dovremmo dire perché i nostri corpi assomigliano non a quelli comprimibili ma a quelli incompressibili; queste cose sono rese chiare [a partire dalle arterie dei] cadaveri. Lungo le membrane sono presenti infatti delle arterie incompressibili e delle vene dilatabili.

E se le cose stanno così, in base a ciò si rende evidente che coloro che sono a favore di Erasistrato chiaramente stanno sbagliando, perché ciò porta [loro] a credere come giusto che [le arterie] non [assomigliano] ai [corpi] incompressibili, bensì a quelli che [sono] facilmente dilatabili — come gli otri — ; e per convenire con loro [dovremmo] affermare che ogni volta che si svuota l'interno di un otre si produce un versamento congiunto [di liquido e d'aria] e non che il luogo [rimane] assolutamente vuoto. In questo modo bisognerebbe che, quando le arterie vengono recise — dopo lo svuotamento del loro *pneuma* — esse subiscano un versamento, giacché una volta che queste collassano non dovrebbe prodursi vuoto assoluto, né trasfusione di sangue (o fuoriuscita dello stesso), e neppure alcuno svuotamento, poiché in base a ciò queste cose sarebbero assurde.

A partire dal loro argomento segue che dopo la recisione, una volta espulso lo *pneuma*, il sangue dovrebbe uscire perché esso fuoriusciva al fine che il vuoto non potesse assolutamente darsi. Per questa ragione dobbiamo dire che non [è] il sangue [quello che] bisogna che si svuoti, ma lo *pneuma* che si trova presente nella nostra costituzione (...) e che esso sia equivalente allo *pneuma* fuoriuscito. Questo [*pneuma*] pertanto non viene svuotato né aiuta a riempire il luogo che fu

svuotato dallo *pneuma*, tuttavia (...) Poiché secondo gli Erasistratei (...) quando si svuota (...) e (...) gli Erasistratei (...) il cuore riceve (...) delle arterie che ci sono e (...) né dello *pneuma* (...) in primo luogo si svuoterà (...) secondo la grand (...)

XXVIII.1 νωθῆναι τὸ ἐν ταῖς ἀρτηρίαις τῷ πολὺν κεχωρίσθαι ταύτας τῆς καρδίας. | Καὶ πάλι πρώτη πληρωθήσεται αἷματος πρὸ τ(ῶν) ἀρτη(ριῶν), | οὕτως τε πολὺν χρόνον γενήσεται, | 5 εἰς τὸ μετὰ τὴν κένωσιν τοῦ πνεύματος | ῥυθῆναι [ἀ]π' αὐτ(ῶν) τὸ αἷμα. Καὶ ἐπὶ πᾶσιν, εἴπερ ἡ καρδία, πρώτη κενουμένη τοῦ πνεύματος, | πρώτη καὶ πληροῦται κ(ατὰ) τὴν παρέμπτωσιν | αἷματος, λέγω ὡς ἀναιρεθήσεται τὸ ζῶιον ἐν ἀνοι | 10 κείῳ γί(νεσ)θ(αι) τόπωι τὸ αἷμα καὶ δεσπόζοντι τοῦ ζώιου | μ[ορί]ωι. Οὐκ ἔχει δὲ ταῦτα | τοῦτον τὸν τρόπον· πολλῶν γ(ὰρ) διαιρουμέν(ων) ἀρτηριῶ(ν) | οὐδεὶς ἀπέθ[ανεν]· οὐκ ἄρα ὑγιῆς (έστιν) ἢ τ(ῶν)δε τ(ῶν) | Ἐρασιστρατείων κεκομψευμένη δόξα. | Τ[ούτ](ων) | οὕτως ἐκκειμέν(ων), ὅτι μ[έν] καὶ γί(νεσθαι) διὰ τὰς ἀρτη| ρία{ω}ς | ἀνάδοσις, ὑπεμνήσαμ(εν)· ὅτι δὲ καὶ κ(ατὰ) τὰς | 15 ἀρτηρίας ἀπεδείξαμ(εν) καὶ πλείων γειή ἐν ταῖς φλεβί ἀνάδοσις ἤπερ ἐν ταῖς ἀρτηρίαις, ὡς ἀποδείξομ(εν). | Α' μ(έν) γ(ὰρ) ἀξιολογώ[τεραί] (εἰσιν) αἱ φλέβες (τῶν) ἀρτηριῶν· πιθανὸν δὲ ἐν τῷ ἀξ<ι>ολογωτέρῳ πλείονα γί(νεσ)θ(αι) τὴν | 20 ἀνάδοσιν παρὰ τὰ ε...[.]τατοῦ (εἶναι). | Ἀξιολογώτεροι δὲ (εἰσι) τ[ῶν] ἀρτηριῶν αἱ φλέβ(ες), | ἐν δὲ ταύται[ς] πλείων γενήσεται ἡ ἀνάδοσις. | Καὶ β'· καὶ αὐτ[αί] (εἰσι) κ(ατὰ) τὸ μέγεθος αἱ ἀρτηρίαί | ταῖς φλε[ψ]ίν, φέρε γ(ὰρ) ο(ὔ)τως ἔχειν, ἀλλ' οὖν γε | 25 αἱ μ(έν) ἀρτηρίαί, μείζονες οὖσαι κ(ατὰ) τὴν περιοχίην, αὐτὸ μόνον φανήσονται τῷ τε | τετραχίτωνες (εἶναι) καὶ συνεχ<αν>αὶ ἐξ εὐρώσ | των τ(ῶν) χιτών(ων). | Αἱ δὲ φλέβες ἀσθενέσ | τεραὶ ὑπ(άρχουσαι) κατὰ τὴν περιοχίην τῷ μονοχί | 30 τῶνες εἶναι ὁμοῦ εὐρυκοιλιώτεραί | γε εἰσι τ(ῶν) ἀρτηριῶν, εὐρυκοιλιώτεροι δὲ | ο ὕ [ c a i ] πλείονα ἔξουσιν καὶ τὴν ἀνάδοσιν τῆν εἰς αὐτὰς γι(νομένην). | Τὸ δὲ γ'· αἱ μ(έν) ἀρτηρίαί | π[λ]εῖον ἔχουσι τὸ παρακεῖμενον ἐν αὐτ(αῖς) πνεῦμα(α), | 35 ἢ [ττον δ]ὲ τὸ αἷμα, αἱ δὲ φλέβες πλείον[ε] ἔχουσι τὸ αἷμα, ἐλάχιστον δὲ τὸ πνεῦμα(α). | Ἀρέσκει γ(ὰρ) ἡμῖν καὶ ἐν ἀρτηρία καὶ ἐν φλεβί | κατὰ φύσιν παρακεῖσθαι καὶ αἷμα καὶ πνεῦμα(α), | [οὔ]τως δὲ ταῦτα παρακεῖσθ<α>, κα | 40 [θῶς] πρόκειται. Πλὴν ἐπεὶ ἐν μ(έν) ἀρτηρία | πλεῖον {πλεῖον} τὸ πνεῦμα, ἐν δὲ φλεβί | ἔλα[ττ]οῦ τοῦτο, πιθανώτερον πλείονα | γί(νεσ)θ(αι) ἐν φλεβί τὴν ἀνάδοσιν ἤπερ ἐν ἀρ(τηρία). | Καὶ διὰ μ(έν) τούτ(ων) συνακτέον ὡς πλείων | 45 [γί(νεσθαι)] ἢ ἀνάδοσις ἐκ τ(ῶν) φλεβῶ(ν) ἤπερ ἐξ ἀρτηριῶ(ν). | Ὁ μέντοι γε Ἡρόφιλος ἐναντίως διείλη | φεν· οἴετα[ι] γ(ὰρ) πλείονα μ(έν) γί(νεσ)θ(αι) ἀνάδοσιν | ἐν ταῖς ἀρτηρίαις, ἥσσονα δὲ ἐν | ταῖς φλεβί διὰ δύο ταῦτ[α]· α' μ(έν), ἐπει | 50 δὲ ἤπερ ἀμφοτέραι μ(έν) ὀρεκτικῶς ἔχουσι | τῆς τροφῆς, ἢ τε φλὲψ κ[α]ὶ ἡ ἀρτη ||

[svuotarsi] lo [*pneuma*] che si trova nelle arterie è stato espulso, perché esse distano molto rispetto al cuore. A sua volta, il cuore è il primo che si riempirà di sangue, prima che le arterie (...)

In questo modo ci vorrà molto tempo prima che il sangue fluisca per le stesse [arterie] dopo [che si sia prodotto] lo svuotamento dello *pneuma*. In ogni caso se il cuore, per il fatto che è il primo a svuotarsi di *pneuma*, è ugualmente il primo a riempirsi dopo la trasfusione di sangue, dico che l'essere vivente morirebbe a causa dell'afflusso del sangue presso un luogo improprio e la parte dominante dell'essere vivente. [Ma] le cose non capitano in questo modo giacché dei tanti che si sono tagliati le arterie nessuno è morto; per cui la dottrina dei sostenitori di Erasistrato non è solida, [ma] una sottile bugia.

Una volta che le cose sono state così esposte, cioè, che d'accordo con ciò che abbiamo menzionato, la distribuzione [dell'alimento] si dà ugualmente per via delle arterie; visto che abbiamo già dimostrato che [essa] aveva luogo attraverso le arterie. [Ora occorrerà] dimostrare che ancor più che nelle arterie la distribuzione [si produce] nelle vene:

In primo luogo perché le vene sono più importanti delle arterie, (...) è plausibile che la distribuzione [dell'alimento] si produca nei luoghi di maggiore importanza. Le vene sono più

importanti delle arterie perché in quelle la distribuzione [dell'alimento] si svolgerà in maggior misura.

In secondo luogo, per quanto riguarda la dimensione, le arterie sono uguali alle vene — poniamo che sia infatti così — nonostante [le arterie] siano maggiori quanto al rivestimento, possono sembrare [maggiori] solo per quanto riguarda quest'ultimo, giacché in confronto ai quattro strati che hanno [le arterie], assemblati a seconda della loro durezza, le vene ne mostrano solo uno. Le vene sono più fragili per il fatto di avere un solo strato, [ma] sono più cave delle arterie ed essendo più cave la distribuzione [dell'alimento] che si terrà in esse sarà anche maggiore.

In terzo luogo, [quello che] le arterie contengono maggiormente in sé stesse [è] lo *pneuma* presente [nel corpo] e, in minore misura, il sangue. Le vene, per contro, contengono maggiormente del sangue e in misura minore dello *pneuma*. Pertanto ci risulta favorevole il [fatto che] il sangue e lo *pneuma* si trovino per natura presenti tanto nelle arterie che nelle vene. Il fatto che essi si trovino presenti in un tale modo comporta che essi vi stiano pure allo stesso tempo, sebbene nelle arterie prevalga lo *pneuma* e nelle vene esso sia meno; [e perciò è pure] più plausibile [pensare] che si produca maggior distribuzione [dell'alimento] in una vena che in un'arteria. A partire da queste cose si può concludere dicendo che più che attraverso le arterie la distribuzione [dell'alimento] si dà piuttosto attraverso le vene.

Invece Erofilo la pensava del tutto all'opposto, dato che [egli] crede che la distribuzione si dia maggiormente nelle arterie e in misura minore nelle vene; [ciò] a partire da queste due [ragioni]: da una parte, in primo luogo, visto che entrambe — la vena e l'arte-

XXIX.1 ρία, ἐπεὶ δὲ κατ' ἴσον ὀρέγονται τῆς τροφῆς,|κατ' ἴσον καὶ ἡ ἀνάδοσις εἰς αὐτὰς γενήσεται.| Δεύτερον δέ· αἱ μ(έν) ἀρτηρίαί, φ(ησὶν), συστέλλον|ταί τε καὶ διαστέλλονται τὸν τε σφυγμὸν| 5ἀποδιδόασιν, αἱ δὲ φλέβες οὔτε συστέλλον| ται οὔτε διαστέλλονται οὐδὲ σφυγμοδῶς| κινουῦνται.

Ἐπεὶ τοιγ(άρ)τοι αἱ μ(έν) ἀρτηρία(ι)|[c]σφυγμοδῶς κινουῦνται, αἱ δὲ φλέβες|οὐ κινουῦνται [c]σφυγμοδῶς, ταῦτη ἐπὶ τ(ῶν)|10 ἀρτηριῶν διὰ [τ]ῆν διαστολὴν εὐ[λο]γόν (ἐστὶ) πλείονα| γί(νεσ)θ(αι) τῆν| ἀνάδοσιν ἤπερ τῆν ἐπὶ τ(ῶν) φλεβῶν διὰ τῆν|

εἰρημένην αἰ(τίαν). Οὐκ ὀρθῶς δὲ ὁ προκείμενος ἀνὴρ ἐποίησεν· Οὐ γ(άρ) ἐνόησεν ὡς| εὐρυκοιλιώτεραι (εἰσὶν) αἱ φλέβες παρὰ τὰς|15 ἀρτηρίας, εὐρυκοιλιώτεραι δὲ οὖσαι|πλείονα δεόντως ἔξουσι καὶ τὴν ἐν αὐ|ταῖς γινομένην ἀνάδοσιν. Καὶ π(ρὸς) μ(έν) τὸ α' ἀπὸ τοῦ κεφάλαιον τοῦτο καθήξει λέγειν,|πρὸς δὲ τὸ δεύτερον ἐροῦμ(εν) διότι| 20 αἱ ἀρτηρίαί σφυγμοδῶς κινουῦνται, συστελλόμεναι καὶ διαστελλόμεναι, ο(ὕτως) δὲ κινούμεναι ἐκθλίβουσιν εἰς τὸ ἐκτὸς τὴν τροφὴν. Εἰ δὲ ταῦτα ο(ὕτως) ἔχει, ὁμολογουμένως ἐπιβυθίζεται ὅτι πλείων ἀνάδοσις γί(νεται) τροφῆς εἰς τὰς φλέβας ἤπερ εἰς τὰς ἀρτηρίας. Ἄλλ(ὰ) ἐπ[ο]μένως κἀκεῖνο δεῖ ὑπονοῆσαι, ὡς|

[τρο]φή παράκειται ἐν ταῖς ἀραιότησι τ(ῶν) φλεβῶν|[κ]αὶ [τ(ῶν)] ἀρτηριῶν. Καὶ κοινῶς ἐν πάσῃ ἀραιότητι τετμημένη κατὰ τὸ ἡμέτερον σῶμα|30 παράκειται τροφή, καὶ ἀνάδοσις γί(νεται) εἰς αὐτὴν|[κ]αὶ [π(ρὸς)θ]εσις τῶι ὅλῳ σώματι, ὥστε καὶ|[κ]ατὰ τὰς κοιλότητας τ(ῶν) ἀρτηριῶν καὶ τ(ῶν)|φλεβῶν παράκειται τροφή καὶ ἀνάδοσις|[τ]αύτης εἰς αὐτάς. Καὶ μὴ γ κἀκεῖνο|35 δ[ε] [εἰ] ὑπολαβ[ε]ῖν, ὡς ἡ τροφή π[α]ρὰ οὐ προσ|[τίθ]εται ἀγαδιδομένη τῶι ὅλῳ σώματι,|[ἀλ]λὰ τὸ μ(έν) νόστιμον τὸ ἀπ' αὐτῆς ἀνα|[δί]δοται καὶ π(ρὸς)τίθεται τῶι σώματι, τὸ| δὲ ἀλλότ[ρ]ιον καὶ κυβαλῶδες χωρίζο[μ]ενον εἰς ἔντερα διὰ τ(ῶν) ἀποπάτ(ων) ἀπο|[κ]ρίνεται. Ἄλλ(ὰ) γάρ τοι εἰ πᾶσα ἡ λαμβανομένη τροφ(ή)|ἀνελαμβάνετο καὶ π(ρὸς)ε[τ]ίθετο, εἴτα|[μ]ηδεμ[ί]α ἀπ' αὐτῆς ἐγένετο ἀπόκρι|[σις], ἐκ[ὸ]ς ὑπερφυεῖς κ(ατά) τε τὰ μεγέθ(η)|45 [καὶ] τὰς ῥώμας ἂν ἐγινόμεθα. Ἐπεὶ|[δὲ] οὐ π[α]ρὰ π(ρὸς)τίθεται, ἀλλ' ὥπερ ἡ νόστιμος <τροφή> ἢ δ[η] ἀλλοτρίως ἀποκρίνεται|[οὔ]τω καὶ μέτριοι κατὰ σώματα|[τε] καὶ τ[οῦ]τ(ῶν) δὲ ὑποδεδειγμένων|50 [..] οὐ ὑπ[ε]ρ τοῦ διὰ τῆς κύστεως|[ἀπο]κ[ρ]ινο[μ]ένου διάστασις γεγένηται|[π]αρὰ τοῖς ἀρχαίοις τ(ῶν) φιλοσόφων|[οἱ] μ(έν) γ(άρ) εἰπ[ο]ν ἐν τῶι προσφερομένῳ||

ria — hanno bisogno dell'alimento, tendono allora in ugual misura all'alimento, e perciò la distribuzione che si darà verso esse [si produrrà anche] in ugual misura. D'altra parte, in secondo luogo, [Erofilo] dice che le arterie si contraggono e si espandono in quanto mostrano una pulsazione; le vene, [invece,] né si contraggono né si espandono e neppure si muovono ritmicamente. Mentre le arterie si muovono ritmicamente le vene non si muovono ritmicamente, essendo questa dilatazione delle arterie la causa per cui viene detto che è più sensato [pensare] che la distribuzione [dell'alimento] si dia piuttosto [per le vene] che per le arterie.

L'uomo di cui si è parlato in primo luogo dunque non espose ciò correttamente perché non si accorse che, in confronto alle arterie, le vene sono più cave; e per il fatto che [le vene] sono più cave deve essere anche maggiore [la capacità] di distribuzione che in esse si produce. In relazione alla prima osservazione [di Erofilo] sarà conveniente fare questa menzione capitale; in rapporto alla sua seconda osservazione diremo che le arterie si muovono per pulsazioni — contraendosi e dilatandosi — giacché muovendosi in tale modo costringono l'alimento a uscire verso l'esterno. Se le cose hanno luogo in questo modo ne seguirà di conseguenza che la distribuzione dell'alimento si produrrà in maggiore grado nelle vene piuttosto che nelle arterie. D'altra parte, si deve supporre di conseguenza che l'alimento si trova presente nelle cavità delle vene e delle arterie. In generale in ogni cavità del nostro corpo che è stata tagliata ospita dell'alimento<sup>6</sup>, verso essa stessa si produce pure la distribuzione e il suo assorbimento per tutto il corpo, dimodoché l'alimento si trova nelle cavità delle arterie e delle vene; addirittura la distribuzione di questo si dà in esse.

E bisogna capire che tutto l'alimento che viene assunto non si distribuisce per tutto il corpo, ma [solo] ciò che di proficuo c'è in esso viene distribuito e assunto dal corpo, mentre ciò che è superfluo e in apparenza inservibile viene separato verso gli intestini e espulso attraverso le feci poiché, altrimenti, se venisse assunto e distribuito tutto il cibo che si assume e non si producesse alcuna secrezione a partire dallo stesso, allora [i nostri corpi] verrebbero ad accrescersi al punto da oltrepassare le massime dimensioni che potremmo sopportare.

E quindi dato che non tutto [il cibo] che si assume [si distribuisce] ma [solo ciò che di] proficuo c'è nel cibo, quel che è superfluo che si espelle [si trova] così in proporzione ai corpi (...) stess (...) tra coloro che si sono dimostrati (...) che, tra gli antichi filosofi, c'è disaccordo sul fatto che sia a partire dalla vescica che si produce la separazione tra quello che si espelle [e quello che non].

Poiché da una parte coloro che dissero che (...)

XXX.1 ὑγρῶι ἐνυπάρχειν φ[ 7/8 ]·|δε καὶ νόστιμον καὶ [ ± 9 ] τῶ μ(έν)|νόστιμον ἀναλαμβάν[άνεσθαι].|.·|μάτ(ων) καὶ π(ρο)τίθεσθαι το[ῖς σώ]μασιν, τὸ|5δὲ φαῦλον φέρεσθαι εἰς κ[ύ]τιν καὶ κατὰ|τὰς ἀπουρήσεις ἀποκρ[ί]νεσθαι εἰς τὸ ἐκτό(ς).| Οἱ δὲ ἔφασαν πᾶν μ(έν) ὑγρὸν ο. [...]|ηστ.·|ἐαυτῶι (εἶναι), ἥδη δὲ κατὰ [τ]ὰς προσφορὰς|αὐτοῦ τὸ μ(έν) ἀναδίδ[ο]σθαι καὶ π(ρο)τ[ί]θεσθαι|10τοῖς σώμασιν, τὸ δὲ κ[α]τὰ φέρεσθαι εἰς|τοὺς κατὰ τὴν κύτιν [τόπους καὶ διὰ]|τῆς ἐν τούτοις ἐνυπαρχο[ύ]σης δυνά[με]ως ἐνθ[ε]ν|ἀποκρίνεται δριμύ τε κ[αὶ] ἄλμυρόν·|Ταύτη γ(άρ) τὸ οὔρον ἐλκοῦν [τε καὶ δά]κρυ(ν)|15ὅτι (ἐστὶ) δριμύ τε καὶ ἄλμυρόν. [Ἄλλ' ἐκεῖ]|νο ῥητέον ὅτι ἐπὶ τοῦ πρώτ[ου] ἐκκει|μένου γίνονται οἱ πλείους|τ(ῶν) ἀρχαί[ων]|καὶ εἰς τοῦτο ὑποδείγματι χρῶν[ται τῇ θά]λάσῃ καὶ τῶι ἡλίωι οὔτο[ς γ(άρ) τῶι ἄναμ]|20μα νοερὸν ἐκ θαλάσ[ς]ης εἶναι ἀπὸ|τοῦ νοστίμου τοῦ κ(ατὰ) τὴν θ[ά]λασσαν|τρέ[φ]εται, ἀναλαμβάνων μ(έν) τὸ λεπτόν, τὸ δὲ|ἀργότερον καὶ παχύτερον κ[αὶ] ἄλμυρόν (κατα)λει[π]ων ἐν τῇ θαλάσῃ. Αποφ[έ]ρεται δὲ καὶ ἀπὸ|25τοῦ π(ρο)φερομένου ὑγροῦ τὰ τρέφοντα ἡμᾶς·|ἀπὸ γ(άρ) τούτου τὸ μ(έν) νόστιμον [καὶ λεπτόν]|ἀναδίδοται εἰς τὰ σώμα[τα] ἡμῶν, τὸ δὲ|φαιλότερον καὶ ἀργότερον κύ[βα]λον διὰ|τὴν

<sup>6</sup> I.e. ossia ogni minimo passaggio del nostro corpo ospita del sangue.

κύστιν εἰς τὸ ἐκτὸς ἀποκρίνεται].30Τούτων οὕτως ἐκκειμμέν(ων) α[ |οὐκ ἔχομ(εν) παγίως εἰπεῖν περὶ τοῦ ὑγροῦ]|τοῦ ἀποκρινομένου κ(ατὰ) τὰ ἀπου[ρήματα, πό]|τερον τὸ ἀλλότριόν (ἐστι) τὸ ἀποκρίνόμενον ἐπὶ|τῷ ἐν τῷ ὑγρῷ καὶ [| 35ἐνυπάρχειν ἀχρεῖον ὑγρὸν, [ἢ ἐν τῇι] κ ὕ ς τ ε ι μεταβάλλει π(ρὸς) τῶσα[| κεῖνο δὲ λέγομ(εν), ὅτι ἀπὸ τοῦ π[(ροσ)φερομ(έν)ου]|ὑγροῦ ἀποκρίνεται κατὰ τὰ σ[ώματα]|| ὑγρὸν δριμύ τε καὶ ἀλμυρόν. Κ[αὶ ταῦτα μ(έν)]|40—περὶ τῆς διοικήσεως τῆς κ(ατὰ) τὴν [κύστιν].|Πειρῶνται δὲ κ(ατα)σκευάζειν ὅτι ἀπὸ παν[τὸς τοῦ]|σώματος συνεχεῖς γίνονται ἀποφοραὶ, λο[γιζόμενοι]|ἀπό τιν(ων) τοιούτ(ων)· καὶ πρῶτον ἀπὸ τ(ῶν) ἀ[ψύχ(ων)].|Ἀρώματα γ(άρ), φ(ακί), εἰ πόρρω κέοιτο, [ὄσφραϊνό]|45μεθα τῷ σώμα<τα> φέρεσθαι ἀπ' αὐτ(ῶν) π(ρὸς ἡμᾶ]ς.|Τάχα δὲ πρὸς ταῦτ' ἐροῦσι ἀπὸ μ(έν) τ(ῶν) [ἀρωμάτων]|μὴ γί(νεσ)θ(αι) ἀποφορὰν σωματ(ων), προ[πάσχειν|δὲ τὸν ἀέρα π(ρὸς) τ(ῶν) ἀρωμάτων·|τρό[πον]|δὲ τοῦτον κατὰ τὰς εἰσπνοὰς [αἴσθησιν γί(νεσ)θ(αι)]|50ἡμῖν τ(ῶν) ἀπὸ τ(ῶν) ἀρωμάτων δυνάμεων κα[ὶ] μὴ|— εἶναι ἀποφορὰν. Νωθρὸν δὲ λία[ν φαίνεται]|τοῦτο· σώματα γ(άρ) (ἐστι) κατὰ τὸ λόγῳ θε[ωρητὸν]||

nel liquido ingerito, c'è (...) ciò che è proficuo [del cibo] e (...) dall'altro, ciò che è proficuo [del cibo] è assunto (...) e riassunto dai corpi, ciò che è [rifiutabile e] leggero è portato alla vescica e viene espulso al di fuori sotto forma d'urina.

D'altro canto, quelli che dissero che ogni liquido è (...) per sé stesso, allora, già dallo stesso momento in cui viene ingerito, una parte dello stesso [liquido passa a] distribuirsi e riassumersi nei corpi, mentre l'altra è portata verso il basso, verso le zone che [si trovano] intorno alla vescica, e da lì, in virtù della proprietà che regge queste stesse [parti, il liquido] viene espulso salato e agro. Per questa [ragione] l'urina è irritante e corrosiva, poiché è acre e salata.

In ogni caso su questo si dovrebbe dire ciò che, risalendo al mare e al sole come illustrazione, [fu] la prima cosa che postulò la maggioranza degli antichi: che per via della passione intellettuale che il mare sente [per il sole] esso si ciba di ciò che [v'è] di proficuo nel mare facendone ascendere la parte leggera, da un lato, e lasciando nel mare la parte più pesante, grezza e salata dall'altro. I nutrienti che ci [nutrono] si assimilano anche a partire dal liquido ingerito. Per questo stesso [motivo] quello leggero e proficuo è distribuito nei nostri corpi, mentre quello più rifiutabile e inutile si espelle — [in quanto] indigesto — verso l'esterno attraverso la vescica.

In questo modo, una volta affermate tali cose (...) non possiamo affermare con forza sul liquido che si espelle attraverso l'urina se ciò che di nocivo si espelle si trovava già nel liquido [ingerito] e (...) alla umidità superflua che c'è [nel corpo], oppure se si trasforma nella vescica per via di (...) [per cui] diciamo che quel [liquido] si espelle acre e salato attraverso i corpi a partire dal liquido che fu ingerito. E [ciò sia sufficiente] per quanto riguarda il funzionamento della vescica.

Alcuni tra questi stessi cercano di stabilire che si producono continuamente emanazioni da tutto il corpo risalendo, anzitutto, a ciò che si trova sprovvisto di un'anima. Dicono che se possiamo sentire le spezie da lontano ciò [è perché] sentiamo i profumi dei corpi che sono portati da esse stesse fino a noi. [Ma] per quanto riguarda ciò che [essi] dicono di seguito [si vede] che l'emanazione che [si stacca] dai corpi non si produce per causa delle spezie, [ma perché] l'aria si è vista previamente influenzata dalle spezie. Ed è in questo modo, tramite le ispirazioni, che si produce in noi la sensazione delle proprietà a partire dalle spezie; e che non c'è emanazione. E ciò pare oltremodo stolto perché, in linea con il loro ragionamento teoretico, sono i corpi

XXXI.1 τὰ ἀποσπώμενα ἀπὸ τ(ῶν) ἀρωμάτων. Καὶ τοῦτο|διῆλον ἐπὶ τ(ῶν) πεπαλαιωμένων ἀρ{αι} ωμάτων·|ταῦτα γ(άρ) ἀσθενῆ καὶ οὐκ ἐνεργοῦ[ς] ἀν ἴσχει|τὴν δύναμιν διὰ τὸ πολλὴν γεγενῆσθαι ἀπ' αὐ|5 τῶν διὰ τὸν χρόνον ἀποφορὰν, ἐξ ὧν συνάγεται|— τὸ λεγόμενον. Καὶ ἀπὸ τ(ῶν) κρεῶν δὲ ταῦτὸ ὑπο|μυμνήσκουσι λέγοντες τὰ μ(έν) ἔωλα κουφότερα (εἶναι)|καὶ ὀλιγοτροφώτερα, τὰ δὲ

πρόσφατα βα<ρύ>τερα|καὶ πολυτροφώτερα. Καὶ τοῦτο δῆλον ἐπὶ τῆς|10αὐτοψίας· σταθὲν γ(άρ) τὸ  
 ἔωλον κρέας κατα|λήψη κουφότερον, τὸ δὲ π(ρόσ)φατον βαρύτερον·|Τίνος αἰ(τίας)  
 γι(νομένης); Δῆλον ὅτι τῶι ἀπὸ μ(έν) τ(ῶν) ἐώλων|πολλὴν γεγονέναι ἀποφοράν, ἀ π ὀ δ ἐ  
 τ(ῶν) π(ροσ)φάτ(ων)|ἔλαττον, καὶ μὴ διαφέρειν ἢ κατὰ τὸ αἰσθητὸν|15ἀπὸ τοῦ ὑποκειμένου  
 ποιεῖσθαι ἀφαίρεσιν ἢ κ(ατὰ)τὸ λόγῳ θεωρητόν. Καὶ μὴν καὶ ἀπὸ τ(ῶν) ἄρτ(ων)|ταῦτὸ  
 κ(ατα)σκευάζουσιν·|οἱ γ(άρ) θερμότεροι βαρύτεροί|τ[ε] καὶ πολυτροφώτεροι, οἱ δὲ ψυχρότεροι|  
 κουφότεροι καὶ ὀλιγοτροφώτεροι διὰ τὴν αὐτὴν|20αἰτίαν. Καὶ ταῦτα πιστοῦσιν οἱ ἀλεῖπται· οὐκ ἄν|  
 ποτε γ(άρ) π(ροσ)έφερον τοῖς ἀθληταῖς θερμούς τε|ἄρτους καὶ πρόσφατα κρέα, εἰ μὴ βαρύτερα  
 ἦ<ν>|καὶ πολυτροφώτερα, τοὺς δὲ ψυχροτέρους|ἄρτους καὶ τὰ ἔωλα τ(ῶν) κρεῶν ἐξέκλινον,|25\_\_\_  
 εἰ μὴ ὀλιγότροφα καὶ κοῦφα ὑ(πὴρ)χεν).| Π(ρόσ) τούτους τοὺς|λόγους ἀντιφέρονται οἱ  
 Ἑμ(πειρικοί) λέγοντες· « Οὐκ εἶ|τι ἀπὸ τίνος ἀφαιρεῖται, ἐκεῖνο ὀφείλει κοῦ|φον γί(νεσ)θ(αι), οὐδ’  
 εἶ τί τινι προστίθεται, ἐκεῖνο βαρῦ|τερον γί(νεται), ἀλλ’ (ἔστιν) ὅτε π(ροσ)θέσεως γινομένης  
 τὸ|30ὑποκείμενον κ(ατα)σκευάζεται κουφὸ<τερο>, (ἔστι) δ’ ὅτε|καὶ ἀφαιρέσεως γενομένης τὸ  
 ὑποκείμενον|γί(νεται) βαρύτερον ὡς ἐπὶ τ(ῶν) ἀσκῶν καὶ ἐπὶ τ(ῶν)|[τ]ελελευτηκότ(ων) ζώῳ καὶ  
 ἐπ’ ἄλλων ».| Καὶ α’|[μ(έν) τ]οῦ ἀσκῶ ὑπομιμνήσκουσιν· « Ὁ ἀσκὸς|35[γ(άρ) κενός, χωρὶς  
 πνεύματος(ς), βαρύτερός (ἔστιν),| πλη| ρω(θεῖς)| [ δ ἐ  
 πνε]ύματος(ς), κουφότερος γί(νεται). Καὶ τὰ ζῶια|[ἐκ] τούτ(ων) συνέστηκεν, ψυχῆς τε καὶ  
 σώματος(ς),|[καὶ ὅτε] μ(έν) ἀμφοτέρω ταῦτα πάρ(εστιν), κοῦφόν (ἔστι)|[τ]ὸ ζῶιον, ὅτε δὲ  
 [ἀ]φανίζεται ἀπὸ τοῦ σώματος(ς)|40ἡ [ψ]υχῆ, βαρύτερον γί(νεται) τὸ σῶμα. » « Καὶ μὴν ,  
 φ(αcίν),|ῶ[τι] (ἔστι) σῶμα ἢ ψυχῆ οἱ πλείους τ(ῶν) φιλοσόφων|λέγουσι καὶ ἀσώματος δὲ αὐτὴν  
 ἀπολεί|[πο]ντες, οὐσίαν ἢ<ν>|τινά αὐτὴν ἔχειν ἔφ(ασαν), ὡσεὶ ἢ| θυρὶς ἀφαιρέσει μεῖζ(ων)  
 γί(νεται), π(ροσ)θέσει δὲ| μικροτέρω(α).|[Φ]ανερὸν οὖν τοιγ(άρ)τοι ἐκ τούτ(ων),  
 ὡς κ(ατὰ) ἀφαίρεσιν|45[γί(νεται)] βαρύτερος καὶ κ(ατὰ) π(ρόσ)θεσιν κουφότερος ὡς ὑπε|  
 [δ]είξωμεν».| Λίαν δ’ (ἔστιν) οὗτος ὁ λόγος μῶρος τε|[καὶ ἀπα]τητικὸς ὡς ἀποδείξωμεν·  
 Ἀ’ μ(έν) ἀπο|[δείξωμεν] οὗτ[ω]ς· τίνος γ(άρ) ἀφαιρέσει λέγομεν|τίνι|[π(ρόσ)θεσιν  
 γί(νεσ)θ(αι)] ; Καὶ οὐχὶ ταῦτοῦ τῆς π(ροσ)θέσεως|50[ὁ λόγος] οὗτος· π(ροσ)τίθεμεν γ(άρ) τῆ  
 θυρίδι|[ἀφαιροῦ]μ(εν) δὲ τοῦ τοίχου. Εἶτα καὶ ἐ|[π]ὶ τῆς|[ψ]υχῆ|[ς] καὶ τ|[ῶν]| ἀσκῶν λέγομεν ὡς  
 ἢ ψυχῆ αἰ(τία) (ἔστι)|τῆς [κουφ]ότητος καὶ [τὸ] πνεῦμα ἀς|\_\_\_[κοῦ] τῆς κουφότητος. [ ] Δι’ ἣν  
 αἰ(τίαν) παροῦ||

quelli che si staccano dalle spezie. E ciò diventa evidente per le spezie invecchiate, giacché col  
 passare del tempo [queste spezie] si indeboliscono, e già non esalano più con tutta la loro forza la  
 propria essenza che dovrebbe generarsi a partire da sé stesse; queste cose si deducono da quello che  
 si è detto.

E, d'altra parte, [essi] menzionano lo stesso [argomento] per quanto riguarda le carni,  
 dicendo che la carne frollata è più digeribile ma meno nutriente, mentre quella fresca è più pesante  
 da digerire e nonostante ciò più nutriente. E ciò salta agli occhi perché [per il fatto che] la carne  
 frollata venne appesa essa diventò più leggera e la [carne] fresca, invece, rimane più pesante. Perché  
 capita questo? È chiaro che [è] perché l'emanazione che devono generare le carni che non sono  
 fresche è molta di più, e molta di meno [quella che si genera] a partire dalle carni fresche. Ancora,  
 d'accordo con ciò che precede, non c'è differenza tra il fatto che l'emanazione a partire dal soggetto  
 sia percettibile o che [si dia] solo per una ragione teoretica; addirittura, e a giudicare [da quello che  
 capita] con i pani, [queste cose] si accordano pure a quella [ragione]. Ed è per la stessa causa che le  
 [carni] più calde sono più pesanti [da digerire] e più nutrienti, mentre le [carni] che sono fredde  
 [sono] più leggere ma meno nutritive. Perlomeno queste sono le cose che opinano gli allenatori  
 degli atleti, poiché non darebbero mai [da consumare] agli atleti dei pani caldi o delle carni fresche  
 se essi non fossero più sostanziosi e nutrienti, neanche sconsiglierebbero dei pani freddi e — tra le  
 carni — quelle appese se non fosse che, per natura, essi sono meno sostanziosi e nutrienti.

Gli Empirici si oppongono a questi argomenti dicendo: « non perché qualche cosa si stacca da un'altra quella deve divenire leggera, e neanche perché una cosa qualsiasi aderisca a qualche altra quella [deve] divenire più pesante, ma il soggetto si fa da sé più leggero quando subisce un'addizione; mentre quando subisce un distaccamento il soggetto diventa più pesante, così come [capita] con gli otri, con gli animali che sono morti e con le altre [cose] ».

E in primo luogo [gli Empirici] fanno riferimento [all'esempio] dell'otre: « perché l'otre vuoto, senz'aria, è più pesante; [ma quando] viene riempito d'aria diventa più leggero. E [dato che] gli esseri viventi sono costituiti a partire da questi, anima e corpo, quando si trovano entrambi presenti l'essere vivente allora è leggero; [mentre] quando l'anima non si palesa nel corpo allora il corpo diventa più pesante ».

« Addirittura — dicono [gli Empirici] — la maggioranza dei filosofi affermi che l'anima è un corpo, [essi] partono [dal fatto] che questa è incorporea, fino ad arrivare al punto di dire che[l'anima] stessa possiede un qualche tipo di proprietà, come se [si trattasse] di un'apertura, che fa sì che [essa] accresca con il distaccamento e rimpicciolisca con l'addizione. A partire da queste cose è chiaro pertanto che, come abbiamo segnalato, si può diventare pesanti per distaccamento e leggeri per addizione ». Come dimostreremo questo argomento è semplice, anche poco brillante e fallace.

Così [quello che] dovremo dimostrare in primo luogo [è: perché] diciamo che l'addizione ad una qualsiasi cosa si produce a partire dalla sottrazione di qualche cosa? Ma questa stessa spiegazione [non si applica nel caso] dell'addizione. La ragione [è] questa: [perché nella misura in cui] ingrandiamo un'apertura sottraiamo qualche cosa da una superficie. Per quanto riguarda l'anima e gli otri, [possiamo] dire allora pure che l'anima è la causa della leggerezza [del corpo] e che l'aria è [la causa] della leggerezza dell'otre. La causa per la quale

XXXII.1 της μ(έν) τῆς ψυχῆς [κ]οῦφ[ό]ν (ἔστι) τὸ ζῶιον, ὅτι καὶ πνεῦμ(α) ἡ ψυχὴ, τὸ δὲ πνεῦμα κοῦφον τὴν φύσιν. Πνευματικὴ δὲ καὶ ἡ ψυχὴ τοιαύτ(η) δὲ ὑ(παρχούσης), εὐλόγως παροῦσα μ(έν) κοῦφον παρ(εχέτω) τὸ ζῶιον, ἔχει τὸ ζῶιον, ἄποῦσα δὲ βαρύτερον· οὕτω γ(άρ) ὑπὸ τῆς ψυχ(ῆς) βαρύνεται τὸ ὄλον σώμα. Τί δεῖ καὶ λέγειν ; Τοῦτο μ(έν) {αποτ(ων)αλ(ων)} ἀπὸ τ(ῶν) ἄλλων (ἔστιν), τοῦτο δὲ ἀπὸ τ(ῶν) κινῆται γ(άρ) τὸ ὄλον σώμα τῆς ψυχῆς διὰ τοῦ γεώδους μεμ[ι]γμένης καὶ 10 διαβαταζούσης αὐτὸ δυνάμει ὅτι εἰς τὸ ἄνω γινόμενον ἄπ' αὐτῆς τῆς ψυχῆς γί(νεται). διὸ δὴ καὶ ῥητέον ὅτι ἐπ' αὐτῆς γένηται π(ρόσ)θεσις, ἐκεῖνο γί(νεται) βαρύτερον, ἀλλ(λ') ἐὰν βαρέος τινός τι γένηται π(ρόσ)θεσις, ἐκεῖνο γί(νεται) βαρύτερον. 15 Ἡ δὲ ψυχὴ τοσοῦτον ἀπέχε[ι] τοῦ (εἶναι) βαρεῖα, ὥστε καὶ τὸ φύσει καταβρῖθον κ[ο]υφίζειν καὶ βαρύνειν. Ταύτης οὖν πα[ρ]ούσης ἁπλοῦς κοῦφόν (ἔστι) τὸ ζῶιον, ὅταν μ(έν) τοῖς γεωφανισθῆ ἡ ψυχὴ τῶν μηκέτι παρῆναι 20 τὸ κουφίζον μηδὲ αἰωροῦν λοιπὸν βαρέα φαίνεται εὐλόγως τὰ νεκρὰ τ(ῶν) σωματ(ων). Καὶ ἐπὶ τ(ῶν) ἄσκων δὲ πεπληρωμέν(ων) τοῦ πνεύμ(ατος) κουφότης καταλαμβάνεται τῶν τοῦτο κ[ο]υφίζον ὃν κουφίζειν τὸν ἄσκον, ὅταν δὲ κενωθῆ τὸ πνεῦμα, 25 βαρύνεται ὁ ἄσκος τῶν ἐστερηθη τοῦ κουφίζοντος αἰ(τίου). Ἀτὰρ δὴ καὶ τοῦτο γί(νεται) ἐπὶ τ(ῶν) θερμῶν ἄρτων καὶ ψυχρότερ(ων)· οἱ μ(έν) γ(άρ) [θε]ρμότεροι βαρύτεροι (εἰσι) καὶ πολυτροφώτεροι τῶν μηδέπω πολλὴν ἀποφορὰν γεγενῆσθαι ἄπ' αὐτῶν, 30 οἱ δὲ ψυχροὶ κοῦφοί (εἰσι) καὶ ολιγότροφοι τῶν ἰκανὴν ἀποφορὰν γεγενῆσθαι. Ἔτι δὲ καὶ ἀπὸ τούτων διδάσκουσιν ὅτι γί(νονται) τινες ἀποφοραὶ κατὰ τὸ λόγῳ θεωρητὸν καὶ ἀπ[ὸ] τ(ῶν) ἀψύχων· τὰ γὰρ ὑγρά τὰ ἐν ἀγγείοις τινὶ ὑπομείναν 35 τα ποσοῦς χρόνους ἐλάττω καταλαμβάνεται. Καὶ ἀπὸ τ(ῶν) χυλῶν ταῦτα γί(νεται)· ἐνίοτε γ(άρ) ὑπὸ ἡλίου ἢ ἄλλων τιν(ῶν) συζηρανθέντες ἐλάττω φαίνονται. Τίνος γι(νομένου) ; Τῶν δὴλον πλείονα ἀποφορὰν γεγενῆσθαι ἀπ' αὐτ(ῶν) τοῦ λεπτομερέστερου, 40 ὑπομονὴν δὲ τοῦ γεωδετέρου. Ὁ

δ'αὐ[τ]ῶς λό(γος)|\_\_καὶ ἐπὶ τ(ῶν) ἀναπλασσομέν(ων) κολλυρίων.| Καὶ ἐπὶ τὰ φυτὰ δὲ μεταβαίνουσιν καὶ λέγουσιν·| « Τὰ μ(έν) παραυτὰ ἀποτμηθέντα βαρύτερά (έστιν),|τὰ δὲ ποσοὺς ὑπομείναντα χρόνους κουφότερ(α)|45ὡς ἐπὶ τῆς θριδακίνης, ἐπὶ τ(ῶν) ἀνθέων·| Ταῦτα γ(άρ) πάντα διὰ τὴν ἀποφορὰν ῥυζόκαρ(φα)|κατασκευάζεται »· Ἐκ δὲ τούτ(ων) καὶ τ(ῶν) τού[τ]οις| παραπλησίων πιττοῦσιν ὡς ἀποφορὰ γί(νεται) ἀπὸ τοῦ|\_\_ρώματος. Π(ρὸς) τοῦτον τὸν λό(γον) λέγουσιν·|50 « Εἰ ἡ ἀποφορὰ αἰ(τία) (έστι) τῆς ῥυζότητος, ἐχρῆν μὴ|μόνον κ(ατὰ) τὴν ἀπότμηξιν ῥυζοῦσθαι|τὰ προκείμενα ἀλ(λά) τι καὶ ἐπὶ τ(ῶν) δένδρων·|καὶ γ(άρ) καὶ ἀπὸ τοῦ δένδρου ἀπουσία γί(νεται).|Ὁὐ γί(νεται) δὲ τοῦτο· οὐκ ἄρα ἡ ἀποφορὰ αἰ(τία) (έστι)|55τῆς ῥυζότητος »·| Οὐ βλέπουσι δὲ οὔτοι||

un essere vivente è leggero è perché possiede un'anima, poiché l'anima è aria e l'aria è leggera per natura. Essendo dunque l'anima aerea, è sensato [pensare che è la sua] presenza [che] conferisce leggerezza all'essere vivente e la sua assenza più pesantezza; e che perciò tutto il corpo si sostiene in virtù dell'anima.

Cosa resta da dire? Da una parte che [il corpo esiste] sia a partire dagli altri [corpi] sia a partire dai movimenti, giacché tutto il corpo si muove per via dell'anima che, essendo stata essa ricoperta da un strato terreo, gli conferisce la consistenza [necessaria] affinché [il corpo] si tenga sollevato a partire da essa stessa. Per cui bisogna dire che quando si produce un'addizione su qualsiasi cosa quella diventa più pesante, o detto in altro modo, che ogni volta che si dà un'addizione di qualcosa a qualche altra cosa pesante essa diventa più pesante. L'anima è lungi dall'essere pesante perché per natura alleggerisce e rialza quello che è pesante (a causa della sua gravità). Quindi quando quest'[anima] si trova presente l'essere vivente deve essere leggero; per contro, quando l'anima non si manifesta, non lo [fa] neanche la levità che sospende [il corpo] per il fatto che [l'anima] non si trova più presente, rimanendo allora [solo] la pesantezza che, in verità, è ciò cui la morte dei corpi assomiglia.

E sugli otri che si sono riempiti d'aria [resta da dire che] la loro leggerezza si spiega per causa del fatto che quest'aria – che è leggera – alleggerisce l'otre, quando l'aria si svuota l'otre diventa pesante perché gli manca la causa che [fa] che sia leggero. E questo è quel che capita con i pani caldi e quelli più freddi, infatti, quanto più [essi] sono caldi tanto più sono pesanti e nutrienti, perché non si è generata ancora tanta emanazione a partire dagli stessi; i pani freddi sono leggeri e meno nutrienti perché si è generata abbastanza emanazione.

E a partire da queste cose alcuni [degli Empirici?] professano che, per una ragione teoretica, le emanazioni accadono pure a partire dagli esseri sprovvisti d'anima, poiché i liquidi che rimangono per qualche tempo in un tipo di recipiente qualsiasi [ne generano] di meno; ed esso stesso si produce anche a partire dagli [altri] succhi. Ma a volte sembra nondimeno che [questi liquidi] siano evaporati dal sole o per altri [motivi] qualsiasi. Di cosa si tratta? Evidentemente ha avuto modo di generarsi più essenza a partire dalla maggiore volatilità degli stessi, rimanendo sul fondo la parte più solida. Questa stessa ragione [spiega quello che capita] quando si applicano gli impiastri.

Per quanto riguarda le piante invece cambiano di opinione e affermano senz'altro che: « tanto la verdura come i fiori appena recisi sono più pesanti e quelli che sono stati recisi tempo fa sono più leggeri; giacché tutti questi presentano dei rami appassiti per causa dell'emanazione ». Da tali cose e dalle relative a esse [costoro] assicurano che si produce un'emanazione a partire dal corpo. In relazione a questo argomento [essi] dicono: « se l'emanazione è la causa dell'appassimento, non solo i suddetti [fiori] dovrebbero appassirsi qualora vengano recisi, ma ciò dovrebbe capitare pure nel caso in cui [essi sono sugli] alberi, dato che la perdita [d'emanazione] si produce anche a partire dall'albero; ma [siccome] ciò non si dà, l'emanazione non è allora la causa dell'appassimento ».

XXXIII.1 τὸ ἀνάλογον· γίν(εται) μ(έν) γ(άρ) καὶ ἐπὶ τ(ῶν) δενδρῶν ἀπο|φορὰ τ(ῶν) ἀνθέων πλείων,  
ἐπ[ι] δὲ τ(ῶν) ἀφηρημέν(ων) οὐ πλείων. Καὶ ἐπὶ μ(έν) τ[(ῶν)] ἐπὶ τῶι  
δένδρει καὶ ἡ κίνησις αὐτὴ ἀναλοῖ πλείω καὶ|5 ἔτι ἡ θερμασία ἀναλοῖ ἰκανά, ἐπὶ  
δὲ τ(ῶν) ἀποτετη|μέν(ων) καὶ μὴ ὑπὸ φύσεως διοικουμέν(ων), ἐλάσσω|τῶι μῆτε κίνησιν μῆτε  
θερμότητά τι<να> (εἶναι) ἐπ' αὐτ(ῶν).|Τίς οὖν ἡ αἰ(τία) παρ' ἣν τὰ μ(έν) ἀποτηθέντα ξηραίνεται,  
τὰ δὲ ἐπὶ τῶι δένδρει οὐ ξηραίνεται; Κα|10 φησὶ δὲ αὕτη καὶ φαινομένη·τὰ μ(έν) γ(άρ) ἐπὶ τῶι δέν|  
δρει οὐ ξηραίνεται τῶι π(ρὸς) λόγον τῆς ἀποφορᾶς|γί(νεσ)θ(αι) καὶ τὴν π(ρὸς)θεσιν. Τ ἂ  
δὲ ἀποτηθέντα ξηραίνεται τῶι μηκέτι γί(νεσ)θ(αι) ὡς αὐτὰ π(ρὸς)θεσιν, ἐξ ὧν|  
φαγε[(ρὸν)] ὡς καὶ ἀπὸ τ(ῶν) φυτ(ῶν) γί(νεται) ἀποφορὰ. Κ α ἰ  
ἐπὶ τ[ᾶ]|15 ἄλογα δὲ τ(ῶν) ζώων μεταβαίνουσι. Λαμβάνουσιν γ(άρ) τοὺς|  
θηρε[υ]| τὰς κύνας ὡς οὗτοι τῆι ῥινηλασία κυν[θ]η|ρεύουσι τὰ θηρία  
τρόπῳ τούτῳ· παραγίνον| ται ἐπὶ τὰς ἀτραποὺς δι' ὧν κενώρη[κε]γ| τὰ θηρία  
καὶ τ(ῶν) ἀτραπῶν|ῥόδμω {ι}μεν[οι]| 20 χωροῦσιν ἐπὶ τὴν θήραν. Τίνας αἰ(τίας) γι(νομένης) ;  
Δῆ|λον ὅτι τῆς ἀπὸ τ(ῶν) θηρίων ἀποφορᾶς προσ|καθιζούσης π(ρὸς) τὰς ἀτραποὺς. Ταύτη δὴ|καὶ  
ἐν τοῖς καταξήροις τόποις θῆραι οὐ γί(νονται), ἐν μέντοι γε τοῖς χαυνοτέροις. Καὶ ἡ αἰ(τία) παρ[ά]|  
25 κείται, ἐπειδήπερ τὰ ἀπὸ τ(ῶν) θηρίων σώματα|ἀποσκιδνάμενα π(ρὸς)πίπτοντα μ(έν) γῆ|ἀπο|  
κρότῳ καὶ {μη} καταξήρῳ διασκιδνάται,|χαυνοτέρα δὲ π(ρὸς)πέσοντα καὶ παραδεχομένη|  
φυλάσσεται καὶ διαμένει. Ταύτη δὴ καὶ οἱ θηρευ|30 ται κύνας χωροῦντες καὶ ὀφρῶμενοι τῆς|  
ἀποφορᾶς τῆς ἀπὸ τ(ῶν) θηρίων τῶι περιώζεσθ(αι)|αὐτήν, εἴτα χωρήσαντες καταλαμβάνου| \_ \_ \_ \_ \_  
τὸ θηρίον καὶ αἰροῦσι. Ταύτη δὴ καὶ ἐπὶ τ(ῶν)|ὑετ(ῶν) οὐ γί(νονται) ῥινηλασία κατὰ λόγον·  
ἐξαφανίζων| γ(άρ) ὁ ὄμβ[ροσ]|  
35 τὰ ἀπὸ τ(ῶν) θηρίων σκιδνάμενα σώματα κα| λυτήριος γί(νεται) τῆς θήρας· Καὶ τούτῳ μ(έν)  
τῶι|\_ \_ \_ \_ \_ τῶν γί(νονται) αἰ θῆραι. Μάλιστα δὲ γί(νονται) καὶ ἐὰν| σκύλα|  
κεσ ἔπονται τοῖς θηρίοις καὶ ἐὰν νέα ἦ· ἀπα|λώτερα γ(άρ) ὄντα, πλείονα τὴν ἀποφορὰν ποιεῖ,|  
40 οὕτως γε ἡ γῆ πλείονα δεχομένη τὴν| ἀποφορὰν ῥαδίως σημαίνει τοῖς κυσὶ τὰ θηρία·|  
Εἰ δὲ ταῦτα φαγερὸν ὡς γίνονται τινεσ| ὑ-ἀποφοραὶ καὶ ἀπὸ τ(ῶν) ἀλόγων  
ζώων. Π(ρὸς) δὲ [τ]οῦ[τ]οῖς|καὶ Ἐρασίετρατο[ς] πειρᾶται κ(ατα)σκευάζειν τὸ προ[τ]εθ(έν).|  
45 Εἰ γ(άρ) λάβοι τις ζῶιον οἷον ὄρνιθα ἢ τι τῶν παρα|πλησίων, καταθοῖτο δὲ τοῦτο ἐν λέβητι| ἔ π ἰ  
τινας χρόνους μὴ δοὺς τροφήν, ἔπειτα|[σταθ]μῆσαι εὐν [τ]οῖς σκυβάλοις τοῖς αἰσθη(τῶς)|[κε]κ  
ενωμένοις, εὐρήσει παρὰ πολὺ ἔλας|50 σον τοῦτο τῶι σταθμῶι τῶι δῆλον πολλὴν ἀπο|\_ \_ \_ \_ \_  
φορὰν  
γεγενῆσθαι κατὰ τὸ λόγῳ θεωρητόν· Ἄλλὰ γ(άρ) καὶ ἐπὶ τὸν ἄνθρωπον μεταβαίνοντες|  
[ποιοῦ]νται τὸν λό(γον)· οἱ τε γ(άρ) πίνοντες ἀρώματα|καὶ οἱ σκροδοφαγήσαντες ὁμοιον ἔχουσι|  
55 [τ]ὸ διὰ τ(ῶν) ἰδρώτ(ων) κενούμενον τοῖς π(ρὸς)ενη||

L'analogia, perché, per quanto riguarda gli alberi, l'emanazione si produce piuttosto [a partire] dai fiori visto che [l'emanazione] degli [alberi a cui] sono stati recisi [dei fiori] non è tanta. Per quanto riguarda i [fiori] che si trovano sull'albero, il movimento stesso comporta che si impieghi una maggiore [quantità d'emanazione] e, allo stesso tempo, il calore fa che [se ne dia] abbastanza. Per ciò che riguarda gli [alberi a cui] sono stati recisi [i fiori] o che la natura non mantiene più, l'[emanazione si dà] in minore misura per il fatto che né il calore né il movimento agiscono sugli stessi. Dunque, qual è la causa per cui i fiori, quando vengono recisi, appassiscono mentre quelle che rimangono sull'albero non appassiscono? È sicuro ed evidente [per] questa [ragione che segue]. Quelli che si trovano sull'albero non appassiscono per la relazione proporzionale che si dà tra l'emanazione e l'assunzione; invece, quelli che sono stati recisi appassiscono per il fatto che l'addizione non si produce assolutamente per esse. Per tali cose diventa chiaro che si origina dell'emanazione a partire dalle piante.

[Essi] vanno poi a considerare gli animali irrazionali, prendendo per esempio i cani da caccia per il fatto che questi trovano le prede grazie alla traccia in questo modo: le fiutano mettendosi nei sentieri dove sono passate le prede, uscendo poi alla caccia fino a scovare la preda. Quale ne è la causa? È chiaro che l'emanazione [che si stacca] a partire dagli animali perdura nei sentieri, ed è perciò che non c'è caccia negli ambienti molto secchi, ma piuttosto in quelli più umidi, e la causa si radica nel fatto che quando i corpi delle prede si squamano, [queste squame] cadono sul terreno duro e secco scomparendo per via dell'eccesso di secchezza. In un [ambiente] più temperato [le squame] che saranno cadute si raccoglieranno, di modo che si conserveranno e la [traccia] persisterà. Ed è appunto perciò che i cani da caccia cacciano, poiché annusano la traccia delle prede mantenendola viva, e una volta sulla pista finiscono per balzare sulla preda, e la riportano [al cacciatore]. Tale ragione fa pure sì che il loro olfatto non funzioni durante le piogge. È chiaro dunque che la pioggia funge da misura preventiva per la preda per il fatto che [disperde] i corpi che si squamano dalle bestie. E ciò è quello che capita in rapporto alla caccia, e perciò [le battute] diventano più fruttuose quando [i cani] che seguono le bestie sono giovani e se [lo sono] pure queste, poiché [quanto] più giovani sono [le prede] tanto più diffondono la traccia, cosicché il terreno assimila molto più facilmente la traccia che indica le prede ai cani. Se queste cose [vanno così] è evidente che a partire dagli animali irrazionali si staccano delle emanazioni.

In relazione a questi [*scil.* gli Empirici], addirittura, Erasistrato prova a imbastire questo [esperimento]. Se si prendesse un animale, un uccello o un altro qualsiasi del genere, mettendolo in un orcio per qualche tempo senza che venga cibata e sia poi pesata insieme agli escrementi — quelli che chiaramente si può osservare che ha evacuato — , si troverebbe nell'operazione di pesatura che vi è stata una gran perdita di peso; sembra evidente che ciò, secondo quanto stabilisce la ragione teoreticamente, è perché l'emanazione che si è generata [è stata] molta di più.

D'altro canto, addirittura, riconducendo il tema anche all'ambito umano, [essi] proseguono il discorso dicendo che coloro che assumono delle spezie aromatiche e coloro che mangiano dell'aglio hanno attraverso i [loro] sudori un'escrezione simile a ciò che hanno

XXXIV.1νεγμένοισ, ὡς ἂν δὴ ἀποφορᾶς γεγενημέν(ης)|κατὰ τὸ λόγῳ θεωρητὸν ἀπὸ τ(ῶν) π(ροσ)ενηγεμέν(ων).|Εἰ δὲ ταῦτα ἐν τῇ ἡμετέρᾳ συγκρίσει ὄντα| ἀποφέρεται κ(ατὰ) τὸ λόγῳ θεωρητὸν καὶ κατὰ τὸ αἰσθ(ητόν),| ὅκαὶ ἐκτὸς ὄντα ἡμῶν ἔξει σώματά τινα ἀπορ| ῥέοντα ἀπ' αὐτ(ῶν). Ὁ δὲ Ἀσκληπιάδης πειρᾶται|κατὰ τὸν τόπον καινολογεῖν τὰ γ(άρ)| ἀρώματά φ(ησι)|καὶ τὰ σκόρδα τὴν ἰδίαν ποιότητα ἀποβάλλει|ἐν τῇ ἡμ<ετ>έρα συνκρίσει γενόμενα. Εἰ γ(άρ) συνέω|10[ζέ]ν ἐν ταῖς ἡμετέραις συγκρίσει τὰς ποιότητας|[ἐχ]ρήν καὶ ἡμᾶς καὶ αἰσθάνεσθαι καὶ συναντιλαμβ(άνεσθαι)|[τῆς π]οιότη[τ]ητος αὐτ(ῶν) διεκγυμένῃ καθ' ὅλον|[τ]ὸ ε[ῶ]μα· τὰ τοιαῦτα ληφθέντα καὶ ἐξαιματω|[θέντα κ(ατὰ)τά]ρρεται ἐπὶ πᾶν μόριον τοῦ σώματος|15[ ± 12 ] τοῦς μυκ[τῆ]ρας· εἰ τοῦτο| [ ±13 ] γεγενησ καὶ τοῖς μυκτῆρσι|[...] π(ροσ)ενηγεμέν(ων) ὑφ' ἡμῶν, ἐπειδήπερ|[...]η ποιότης [ἐν] τῷ[τ]ῆς ἡμετέροις σώμασιν (ἐστιν)|[οὐ γί]νεται|] δὲ τ[ο]ῦτο· [ο]ὐ γ[άρ]| συναισθανόμεθα τ(ῶν)|20πο[ιοτήτ](ῶν) τοῖς μυκ[τῆ]ρσι. Ὅτι δὲ αἱ ποιότη[τε]ς αὐ[.....]..[.....] τῷ σώματι δὲ γενηθ( ) ..[ ± 7 ] ... τὰς εἰρημέναις αἰ(τίας). Ὑπο[.]ο[.]δεγ[.....].. δὲ τις ἐρεῖ| [.....]οὐν διὰ τ(ῶν) αὐτ(ῶν) αἱ ποιότη[τε]ς τ(ῶν) λαμβανο| μέν(ων)| 25[ἀπ]οφαίνονται .. μ... τῆς ποιότητος| [...]·φ.....υπ....νο...c ἐν τοῖ[ε] σώμασιν|α.....μ(εν) ληφθέντα ἀναλύεται καὶ ἀπολ| λ[υ]ται ἐν πνεύμασιν [ἀλ(λ')] ἐπὶ τῇ ἐπιφανε[ί]α γενηθ[έ]ντα πάλι σωματοῦνται καὶ περιώζεται| 30[.]να. Προ[.]... τοῦτον πειρῶνται τινες| [ἀν]τ[ι]λ[έ]γειν, φ[έρεσθ]αι {φέρεσθαι} μ(εν) καὶ ἐπὶ τοῦς μυκ[τῆ]ρας τοῦτον τὸν τρόπον καὶ ἐπὶ τὰ λοιπὰ μέρη|[το]ῦ

σώματος, .φ...ν δὲ ἐπὶ πλεῖον κακοῦν|τὴν αἴσθη[ε]ιν καὶ κωλυτήριον γί[(νεσ)θ(αι)] τῆς|  
 35ἀντιλήψεως τ(ῶν) ἐδεχθέντ(ων). Ὅν τρόπον|καὶ οἱ βυρκοδέψαι· οὔτοι γ(ὰρ)  
 κεκακωμένην ἴσ|χοντ[ε]ς τὴν αἴσθησιν οὐδὲν παραπ[ο]δίζονται|κατὰ τὴν ὁδμήν· τὸν αὐτὸν καὶ  
 ἀπὸ τ(ῶν) ἐδεσ|τῶν κακουμένη αἴσθησις| 40 οὐκ ἀντιλαμβάνεται τῆς  
 δυ(νάμεως) τῆς ἀπ' αὐτ(ῶν).|—Ὁὐ πιθανῶς δὲ οὐδ' οὔτοι τι ἐπιχειροῦσιν περὶ λό(γου).|Ἡμεῖς δὲ  
 φ(αμεν) π(ρὸς) τὸν Ἀσκληπιάδην διό[τ]ι ἡ αἴσθησις τ(ῶν) ἐν ἡμῖν οὐκ ἀντιλαμβάνεται διὰ τὸ μὴ|  
 ὑποπίπτειν αὐτῇ ταῦτα· ὃν γ[(ὰρ)] τρόπο[ν] τὸ περσό|45με[ν]ον ἐν οἰκείῳ τόπῳ δεῖ (εἶναι) ἵνα  
 πέψη<ται>|καὶ [δ]ὲν τρόπον τὸ ἐξαιματούμενον δεῖ ἐν οἰκείῳ|τόπῳ γενέσθαι εἰς τὸ ἐξαιματοθῆναι,  
 ο(ὔτω) καὶ|τὸ ὁδμώμενον ἐν οἰκείῳ τόπῳ δεῖ (εἶναι)|εἰς τὸ ὀσφρηθῆναι. Τὰ δὲ ἐν ἡμῖν ὑπ(άρχοντα)  
 μὴ ὑπο|50πίπτειν τῇ αἰσθήσει εἰκότως ἐκλανθάνει| αὐτήν· δι' ἣν αἰ(τίαν) τ(ῶν) εὐωδῶν  
 λαμβανομένων|[..ἡ α]ἰ[σθη]σις οὐ κ(ατα)λαμβάνει τὰς τούτ(ων) ποιότητας·|Καὶ π(ρὸς) μ(ὲν)  
 τὸν Ἀσκληπιάδην ταῦτα. Λέγουσι||

assunto; allora, secondo quanto stabilisce teoreticamente la ragione, l'emanazione si deve produrre a partire dagli [alimenti] che si sono assunti. Se tali cose [si danno] nella nostra costituzione ciò [è perché] emettono da sé stanti verso l'esterno, secondo quanto stabiliscono la ragione teoretica e i sensi, delle emanazioni e delle particelle che appartengono alla nostra costituzione.

Su questo punto Asclepiade prova ad apportare qualcosa di nuovo in relazione a questo argomento. Le spezie, dice, e gli alimenti che contengono l'aglio perdono le qualità loro proprie una volta che si trovano nella nostra costituzione. Se le loro qualità si mantenessero nella nostra costituzione fisica allora noi dovremmo percepirle e bisognerebbe che acquisissimo la [suddetta] proprietà mentre essa passa attraverso tutto quanto il corpo; poiché le stesse [sostanze] che vengono assunte e trasformate in sangue sono poi distribuite per tutte le parti del corpo. (...) le narici. Se esso (...) sono per le narici (...) quello che fu assunto da parte nostra, perché precisamente (...) è la qualità che si trova nei nostri corpi. Ma ciò non accadde perché non percepiamo le qualità con le narici, per cui le qualità stess (...) capitass (...) nel corpo (...) le cause che si sono dette. Su (...) deve essere detta qualche cosa per ciò che riguarda questo (...) attraverso gli stessi, le qualità degli alimenti che si sono assorbiti hanno prodotto (...) della qualità (...) nei corpi (...) per altro (...) che fossero assorbiti, fanno che si spostino e svaniscano [in forma di] gas, ma solo in apparenza; [giacché quello] che produsse di nuovo diviene corporeo e permane (...) questo [è quel che ha fatto in modo che] alcuni provassero a rifiutare (...) in quel modo essere portati fino agli orifizi del naso e alle altre parti del corpo, (...) fino al punto di intorpidire la percezione e di impedire l'assaporare del cibo che fu mangiato; come capita con i conciatori. Essi, per il fatto di avere la percezione alterata, non si sentono assolutamente turbati dalla puzza [delle pelle]; per lo stesso [motivo], un senso che si trova viziato dagli alimenti che si sono assunti non percepisce la proprietà [che si diffonde] a partire da quelli stessi. [Ma questo] non convince neanche coloro che provano ad [affermare] qualche cosa in base a questo assunto.

Noi invece diciamo, contro Asclepiade, che la percezione non apprende le cose [ingerite] che si trovano in noi per il fatto che queste non incidono sulla [capacità di] riconoscimento da parte della stessa [percezione]. Così come quello che si cuoce deve trovarsi nel posto adeguato affinché possa venire cotto e, allo stesso modo, quello che viene trasformato in sangue [deve trovarsi] nel luogo pertinente affinché si trasformi in sangue, così pure quello che viene odorato deve essere nel luogo adatto affinché possa essere odorato; quello che si ospita in noi, per il fatto che non è soggetto alla percezione, a ragione sfugge dalla stessa. È appunto per questa causa che quando si mangia si percepiscono gli aromi [del cibo, ma] la percezione non percepisce le qualità di essi. Pure questi argomenti [si rivolgono] contro Asclepiade.

Ed [essi] affermano



Quello che rimarcano coloro che sono a favore di Asclepiade e di Alessandro Filalete è che (...) le evacuazioni percettibili tramite i sensi sono diverse e (...) a seconda di quello che teoreticamente segue dalla ragione (...) ciò che emana (...) che le [evacuazioni] percettibili tramite i sensi (...) sono (...) diverse, come è chiaro. Cosa bisogna dire ancora? (...) e umide. E le umide (...), da un lato, tramite gli sputi (...) quelle che, dall'altro lato, non (...) tramite l'utero — che nella donn (...) — , coloro che tramite i sudori; tutte queste sono [evacuazioni] diverse (...). E specie in una di queste [evacuazioni] (...). Rispetto all'urina, [bisogna dire] che a volte è densa e a volte acquosa (...) a volte [si dà] con apparenza biliosa, e che a volte in essa ci sono [un tipo] di sedimenti e altre volte [un altro], o assolutamente questi si trovano presenti; e che a volte ha molta schiuma, mentre altre no. Ciò [capita] parimenti in modo simile con gli [escrementi] secchi. Tra le evacuazioni e le altre [escrezioni] (...) se infatti queste evacuazioni percettibili dai sensi sono diverse, è chiaro che quello che dovrebbe emanarsi d'accordo con quello che contempla la ragione, (...) dovrà pure emanarsi. Di conseguenza (...) causa che divergono, e ciò è chiaro per le [evacuazioni] umide e per le secche.

Ciò per quanto riguarda le [evacuazioni] liquide (...) e varie, è chiaro anche che diverg (...) e diverse. E (...) degli (...) si generano pure delle emanazioni (...) dal cervello (...) a partire dai nervi e dalle ossa (...) Se appunto non ci sono più emanazioni a partire dagli stessi (...) no (...) o per mancanza di cibo. In tal caso (...) da una parte la differenza sta nel fatto che l'emanazione (...) in tutte le parti si generano emanazioni (...) per cui è impossibile (...) che fossero prodotte; poiché la propr (...) è (...) esso (...) secondo la sua apparenza (...). Per quanto riguarda il sangue, si produrranno molte emanazioni a partire dagli stessi, sebbene ciò assolutamente non piaccia ad Alessandro

XXXVI.1 ὁπωσοῦν· ο[ἴο]ν γ(άρ), φ(ησί), (έστι) τὸ αἷμα κ(ατὰ) τὴν φαντασίαν, |τοιούτο καὶ κ[(ατὰ) τ]ὴν δύ(ναμίν) (έστιν), ἀπλοῦν τι καὶ |μονοειδέε.

[Νωθρόν δ' (έστιν)· [ο]ὔτοι γ(άρ) ὀρθῶς ἔχει· καὶ γ(άρ) παρὰ τὰς δυνάμεις (έστι) διάφορον τὸ αἷμα καὶ παρὰ τὴν κατ[εργασίαν τῆς] τροφῆς. Ταύτη δὴ διάφορον|[τὸ] τ[(ῶν)] ἀθλ[ητῶν πα]ρὰ τὸ ἐπὶ τ(ῶν) ἰδιωτ(ῶν)· τὸ μ(έν)| γ(άρ) λεπτότερον, τὸ δὲ τ(ῶν) ἐναντίω<v> παχύτερον. | Ἐπει δ' οὖν διά[φορ]όν (έστι) τ(ῶν) ἐν ἡμῖν τὸ προκείμενον,|διάφοροι γένοιτ' ἂν καὶ ἀπ' αὐτοῦ αἱ ἀποφοραί. | 10 Ὅτι δὲ καὶ παρὰ τὴν τῆς τροφῆς κ(ατ)<ε>ργασίαν διά[φορον] ἂν γένοιτο τὸ αἷμα καὶ ἕτεροῖον κατὰ τὰς δυ(νάμεις),| οὐ χρεία| πολυλογίας· ἢ γ(άρ) τροφή ληφθεῖσα πρώτη κατεργασία|τυ[γχ]άνει ἐν στόματι καὶ διαφόρου γε τ[αύ]της. Εἰ μ(έν)| γ(άρ) |μ[ε]τ[ι]<ζόν>ως λεανθε[ί]η εὐοδῆσει μάλλον ἐ[ί]ε π[έ]ψιν τε|15 καὶ [τρι]ψιν, [ε]ἰ [δ'] ἐπὶ [ὀλίγ]ον ἀπολεανθεῖη, κακόχ(υμα)|ἂν κατασκευάσαι [καὶ τ]ὸ αἷμα καὶ τοὺς [χ]υμοὺς|καὶ...ερ.. δι[ὰ] τὸ πολὺ φλέγματῶδ[ε]ς περιέχειν. |[Κ(ατὰ) δὲ το]ῦς Ἐρασιτρ(ατείου)ς τᾶμπαλιν δοκεῖ [ἄλ]λην|

έκεῖ |λέξ[ι]ς[ιν] ὡς παρὰ τὴν ἐν τῷ στόματι κατ[ε]ργασίαν.

|20 Διὰ φόρου <γ(άρ)> ὑ(παρχούσης) διάφορον κατασκευάζεται|

τὸ αἷμα κ(ατὰ) τε δύ(ναμιν) |καὶ [χρῶ]μα. [Ἐπει]δὴ τοιγάρτοι διάφορόν (έστι) [τὸ] αἷμα,|

διάφοροι

|καὶ κ[ατ]ὰ τὸ

λόγῳ θεωρητὸν ἀποφοραὶ ἀπ' αὐτοῦ|αν.[...]ιν[...] καὶ παρὰ τὴν ἐν τῇ κοιλίᾳ δὲ κατεργα[σί]αν διά[φορον] [ἄ]ν γένοιτο τὸ αἷμα· διὰ δὲ τοῦτο καὶ|25 διὰ κ[οιλ]ίαν κένωσιν ποιήσαιο. Καὶ ἐπὶ τ(ῶν) ἄλλων|[δὲ] σ[ω]μάτων ταῦτ' ἄν τις εἴποι|καὶ γ(άρ) παρὰ τὰς δια[θέ]σεις καὶ παρὰ [τ]ὰς [φ]ορὰς καὶ κινήσεις διάφορος|ἢ ἀποφορά. Καὶ ἐπ[ὶ] μ(έν) γ(άρ) ἄλλων σ[ω]μάτων, ἀρτηριῶ(ν)|καὶ φλ[ε]β[ῶν] καὶ ἄλλων, κοινότερον εἰπεῖν, διαφορ(ᾶν)|

καταλ(είπουσιν),

| 3 0 . . . [ ± 6 ] υ τ ( ω ν )

[δ]ιάφορος γενήσεται. Ὅτι δὲ καὶ [κατὰ τὰς κ]ιγήσεις διάφορα γί(νεται) τὰ σώματα|[φανερὸν· Οἱ] γ(άρ) κ[ι]νητικώτερον βιοῦντες|[θερμότερα] ἔχουσ[ι]ν τὰ σώματα καὶ διὰ τοῦτο|πλείονα τὴν ἀποφορὰν, οἱ δὲ ἰδιῶται τοῦναν|35τίον. Ἐπεὶ γ(άρ) παρὰ τὰς ὥρας ταῦτο

κ(ατα)σκευάζο(ουσιν)·|[ὄτι ἐν μ(έν)] τῆι [θ]ερεΐα δι[ὰ] τὴν ὑπέμετρον θερμασ(ίαν)|[εὐρ]υνάμενοι οἱ π[ό]ροι πλείον κενού<ι> τῶι | [λ]επτυνόμενα τὰ παρακείμενα καὶ ρευστικ(ὰ)

[κατα]κ[ε]κευαζόμενα κενούσθαι κατὰ τε τὸ αἰσθητὸ(ν)|40 [καὶ] κ[(ατὰ)] τὸ λόγ[ω θ]εωρητόν.

Κ(ατὰ) μ(έν)τοι γε τὸν|

χειμῶ

| [ ν α

τὸ ἐγαντίον. Ἐ[κ] τ[ούτ](ων) τοιγ(άρ)τοι φανερόν ὥς| γίγνον[ται πολλ]αὶ ἀποφοραὶ κ(ατὰ) τὸ λόγῳ θεωρητόν|>κ[αὶ δ]ιάφο[ροι] αὐται. Ὡ[ς]περ δὲ κ(ατὰ) τὸ λόγῳ[ι]

θε]ωρητόν)

[καὶ] κ(ατὰ) τὸ αἰ[σθητ]ὸν διάφορα καὶ ποι<κί>λα ἀπο|

φ[έρετ]αι

|45 [ἀφ' ἡμ[ῶν], ο(ὕτως) καὶ κατὰ τὸ αἰσθητόν

εἰςκ[ρίνε]ται|

[τινα εἰς] ἡμᾶς καὶ κατὰ τὸ λόγῳ θεωρητόν,

|κ[αὶ θ]αυμ[α]στῶι καὶ Ἡρ(όφιλος) καὶ

Ἀσκληπιάδης|διὰ τ[ι]νος ὑπομνήσεως τοιαύτης·

«Ἡ φύσις, φ(ασίν),|τ[ηρ]ητικὴ κ[α]θέστηκεν

τοῦ τε δικαίου καὶ

|τ[ο]ῦ ἀ[κ]ρο[υ] λούθου».

Ἐπεὶ γ(άρ) ἀπεκρίνετό τινα|

κ(ατὰ) τὸ|

αἰσθητόν, ὥς ἐδείχθη, καὶ κατὰ <τὸ> λόγῳ

θεωρητόν|δὲ ἀπεφέρετο καὶ διάφορα, ὥς καὶ τοῦτο κατεσκευάκαμ(εν),|

τὸν

|αὐτὸν τρόπον καὶ κ(ατὰ) τὸ λόγῳ θεωρητόν καὶ|

κ[α]τὰ τὸ αἰσθητόν διάφορα εἰςκρίθεται εἰς|55ἡμᾶς.

Καὶ ὅτι μ(έν) εἰςκρίθεταιί τινα κατὰ τὸ

λόγῳ| θεωρητόν),

|πρῶτον ἀπὸ (τῶν) δυνάμεων τ(ῶν)| [κατὰ φ]άρμακα

ἔξεστι σκοπεῖν. Καὶ αἰονή[ματα] γ(άρ) καὶ καταπλάσματα ἐπιτιθέμενα||

dato che, infatti, [egli] dice che il sangue tanto nella sua apparenza che nella sua proprietà è proprio ciò, qualche cosa di semplice e uniforme. Ma [una tale spiegazione] è vaga, addirittura non è corretta, poiché [una cosa è] il sangue alla luce delle sue proprietà e un'altra [il sangue] durante il procedimento di cottura del cibo. Perciò il sangue degli atleti [è] diverso rispetto a quello degli uomini comuni perché, mentre quello dei primi è molto leggero, quello degli altri è molto denso. Visto che a volte c'è anche differenza rispetto a quello che si è detto essere in noi, le emanazioni che possono prodursi a partire dal [sangue] potrebbero anche differire. Quindi non bisogna insistire più [sul fatto che] nel corso della digestione del cibo il sangue potrebbe pure essere diverso e di un altro tipo rispetto a quello che dovrebbe essere in accordo con le sue proprietà.

Una volta che il cibo è stato assunto, nella bocca ha già luogo una prima digestione per via dello smembramento dello stesso, per cui, in buona misura, [il cibo] ha avuto già modo di ammorbidirsi, dando [così] luogo a una digestione e un impastamento migliori. Se, per contro, capita che [il cibo] è stato poco smembrato, ciò predisporrà all'apparizione dei succhi malsani e allora tanto il sangue che i succhi e (...) stessi per il fatto che contiene un eccesso di flegma.

Sembra tuttavia, ancora secondo coloro che sono a favore di Erasistrato, che lì [ha luogo] un'altra triturazione, diversa da quella che ha luogo nella bocca; la differenza si radica allora nel fatto che il sangue si dispone [in modo] diverso a seconda della proprietà e del colore. Visto che il sangue è diverso, in accordo con la ragione teoretica, le emanazioni che a partire dal [sangue] [si producono saranno] pure diverse (...) e analogamente, il [sangue] della digestione che [ha origine nello] stomaco potrebbe anche essere diverso. E a questo fine si potrebbe operare uno svuotamento dello stomaco; e si potrebbe dire lo stesso per le altri [parti] del corpo.

L'emanazione, addirittura, [deve essere] diversa tanto a seconda delle disposizioni, che dei comportamenti e dei movimenti. E sugli altri [elementi costitutivi] dei corpi (arterie, vene ed altri) [essi] ammettono ciò che è più comune, una differenza (...) stessi che produssero la differenza. E dunque è chiaro che i corpi diventano diversi a seconda dei movimenti, perché gli [atleti], che

rispettano un tipo di vita più attivo, hanno dei corpi più caldi e perciò le loro emanazioni sono più abbondanti; mentre negli altri uomini [capita] il contrario.

Dato che [gli atleti] si allenano durante [tutte] le stagioni, [è chiaro] che d'estate l'eccesso di temperatura fa che i pori, con l'espandersi, evacuino di più perché i [loro] contenuti, leggeri e fluenti, [hanno una maggiore] disposizione a svuotarsi, stando ciò in accordo con i sensi e la ragione teoretica; mentre d'inverno [la disposizione] è opposta. Da tali cose diventa allora evidente, in accordo con la ragione teoretica, che si producono numerose emanazioni e che esse stesse sono diverse. Dal momento che, in accordo con la ragione teoretica e con la percezione, a partire dai nostri [corpi] si staccano vari e diversi [tipi d'emanazioni], in questo modo, e anche in accordo con la percezione e la ragione teoretica, [varie e diverse addizioni] penetrano in noi.

(...) e ammirati da un tal suggerimento, Erofilo e Asclepiade dicono che: « la natura, vigilante, è stata progettata [a partire dai criteri] del giusto e del coerente ». Visto che fu ammesso, in accordo con la percezione, e come fu dimostrato, che delle emanazioni vengono espulse, e pure che, in accordo con la ragione l'emanazione era diversa, come pure abbiamo disposto, allo stesso modo e in accordo tanto con la ragione teoretica che con la percezione si dovranno ammettere delle differenze in rapporto a noi.

Ed è chiaro che d'accordo con quello che si trova in conformità con la ragione si dovranno ammettere delle differenze. E anzitutto ciò si può osservare a partire dai principi dei farmaci, sia le fomentazioni che i cataplasmi che si applicano

XXXVII.1 τῆι ἐπιφανεί[αι ὅ]τ<ε μ>ὲν διαλύει τὰ ὑποκείμενα,|ὅτὲ δὲ διαφορεῖ, ἄλλοτε δὲ ἐπιπᾶται. Τίνοε γινο|μένου ; Οὐ μόν<ον>τῆε δυνάμει φε τῆε τ(ῶν) φαρμάκ(ων)|τῆι ἐπιφανεί[αι] π(ρο)καθιζού[ση]ε, ἀλ(λά) καὶ εἰε βᾶθος|ἄχρι τοῦ αἰ(τίου) διοδευούσης διὰ τ(ῶν) λόγωι θεωρητ(ῶν)|πόρων τοῦ σώματ[ο]ε· [ἐ]ξ ὧν [φα]νερόν ὡε κατὰ|<τὸ> λόγωι θεωρητὸν εἴκρηε γί(νεται) εἰε ἡμᾶε. Καὶ μὴν

[καὶ κατὰ] τὸ αἰσθη[τὸ]ν εἴκρηε γί(νεται). "Ο γ(άρ)|  
[δ]ύναται τὸ ἐ[λ]α| τήριον εἰκρινόμενον εἰε τ[ὸ] ε[φ]ῶ[μα] ποιεῖν, τὸ|10αὐτὸ καὶ ἔξω[θ]εγ ἐπιθέμεν[ον] ἐργάζετ[α]ι.| Καὶ εἰκρινόμενον μ(έν) καὶ ἄνω καὶ κάτω καθαίρει ὕδατῶδη τε καὶ χολῶδη καὶ πᾶν τὸ παρ' ἄλ(λων).|Διὸ καὶ δοκεῖ ἐνεργέτατογ παντὸε καθαριτικ(όν) (εἶναι)|τὸ ἐλατήριον· ἔ[κ]ακτον μ(έν) γ(άρ) [τῶν] κ[α]θαριτικῶν|15ἔν τι ἀποτελεῖ ἀ[πο]τελεσεμ[ε]ν(όν), τοῦ]το δὲ πάντα|ῶε καὶ τᾶλλα, κ[α]ὶ γ(άρ) ἐλάχιε[τ]ογ α[ὐ]τοῦ ληφθέν|οῖον ἡμιωβέλιον. "Ο μ(έν) [οῦ]ν ἐλλέβοροε χολ[ω]ῶδη καθαίρειν, καὶ ὁ μ(έν) λευκὸε [ἄ]ν[ω] κινεῖν, |ὁ δὲ μέλαε κάτω. "Η τε κκα[μ]ῶνια ὕδα |20τῶδη καθαίρει. "Εκ τοῦτ(ων) τοιγ(άρ)τοι καὶ τ(ῶν) τούτοιε|παραπληρίων φανερόν ὡε τὰ μ(έν) [ἄ]λλα τὰ προκείμενα ἔν τι δύναται, τὸ δὲ ἐ[λ]α|τήριον| πολλά. Ἀλ(λά) γ(άρ) καὶ ἔξωθεν ἐπιτιθ[έ]μενον ταῦ|τὰ δύναται ἀναληφθέν γέ τοι <ἐπι> ρίγ[ω]ν ἢ καὶ ἐπι|25τεθὲν ἐπὶ τοῦε τ(ῶν) νηπίων [ὀ]μοφ[α]λοῦε ὅτὲ μ(έν) ἄνω|καθαίρει, ὅτὲ δὲ κάτω, καὶ νῦν μ(έν) χ[ω]ῶδη, νῦν|δὲ ὕδατῶδη. Τίνοε γινομ[έ]νου ; Δ]ῆλον ὅτι |τῆε δυνάμειε τῆε [το]ιούτου διικνουμένηε |ἄ χ ρ ι τ ( ῶ ν ) ὕ γ ρ ῶ ν τούτ(ων) διὰ [τ(ῶν)] λόγωι θεωρητ(ῶν) |πόρ[ω]ν. | 30Καὶ μὴν καὶ ὁ λευκὸε ἐλλέβοροε [ἀ]ποθυμώμε|νοε γυναιξὶ ἀγωγὸ[ε] γί(νεται) τ(ῶν) καταμηγίων διὰ τὴν|αὐτὴν αἰ(τίαν).| Εἴτα καὶ οἱ εἰλυθ[ο]μενοι καὶ καταλυόμεναε ἔχοντεε [τ]ᾶε δυνάμειε |ρόννυνται ταύταε θέμεγοι π(ρὸε) ἀτμῶι. Κᾶνταῦ|35θᾶ φ(ακιν), ὡε λόγὸε ἔχει, Δημόκριτον [ἀ]ρεῖτησαντα|τέεεραε ἡμέραε π(ρὸε) τῶι ἀναρῆεθαὶ γί(νεε)θ(αι)|καὶ αὐτὸν παρακλ[η]θέντα π(ρὸε) τ[ι]ν(ων) γυναικ(ῶν)|ἐπιμεῖναι ἡμέραε τινᾶε ..[.].αμ.ι ἴνα | μ ἢ γένωνται ἀμύητ[ο]ι, ἔτυχ[εν] γάρ| κ[α]τὰ |40κείνοε τοῦε χρόνο[ε]ε Θε ε[μ]οφόρια ποι]οῦ μένα, φ(ακιν) αὐτὸν ἀπομόσαι κ[α]ὶ κελεῦσαι κο[μ]ίξειν| [αὐτῶ] θ[ε]ρμῶνε| ἄρτοε καὶ τούτοε κατα[ ± 7 ]αιττογ| {γι( )} καὶ ὁ Δ[η]μόκρι]τοε ἐπι |επακάμενοε τὸν ἀπὸ τοῦ ἄ[ρ]του ἀτμὸν|ρῶν|45νυταὶ τε

τὰς δυνάμεις κα[ί] .[.]αβ[.]εἰ λο[ι]πόν. Ἐπεὶ τε ὑδάτιον καὶ τὴν λε[ ± 5 ]ν τροφήν|καὶ οὕτως διεξαρκ[ ±9 ε]ἵποιμ(εν), ὥς |καὶ διὰ τ(ῶν) λόγῳ θεωρητ[ (ῶν) πόρων] ἢ εἰςκρισις|\_\_\_γίνεται εἰς ἡμᾶς. Καὶ ἀπὸ τ(ῶν) [ἐπιφαν]ειῶν δὲ|50τοῖς ἡμετέροις σώμασι π[(ροσ)]ίεται τὸ † προκει[μ]ενο(ν)|†. Καὶ γ(άρ), φ(αίν), τὸ κατόρειον π(ροσ)τιθέμενον τοῖς|μυκτῆρσιν ἐνίστε ῥώγνυει τὰς δυνάμεις|δικνου|μένης τῆς ἀπὸ τοῦ καετορεῖου δυνάμεως διὰ τ(ῶν) λό(γῳ)|θεωρητ(ῶν) πόρ(ων), κατακινούσης τὴν ψυχὴν|55καὶ ἐντεινούσης. Τ ο ύ τ ω ι γ έ τ ρ ι π(ροσ)βάλλων|ὁ Ἀσκληπιάδης κατασκευάζει ὥς οὐ παρὰ τὸ κατατάσσεσθαι τι ἀτιμὸν τὸν ἀπὸ τ(ῶν) ἄρτ(ων)|ταῖς δυνάμει ρώνγ[υ]σθ|αι ταύτας, ἀλ(λά)|παρὰ τὸ διεγείρεσθαι τὴν ψυχὴν. [ῶνπερ]||

sulla superficie [del corpo, poiché] a volte dissolvono quello che c'è in basso, a volte [lo fanno] evaporare, altre volte [quello che c'è in basso] viene assorbito. Cosa capita?

Il principio dei farmaci non solo si assesta presso la superficie ma, per ragioni teoretiche, viaggia anche a grande profondità attraverso i vasi del corpo. A partire da queste cose è evidente che, per una ragione teoretica, si produce una penetrazione in noi e che questa penetrazione, addirittura, si produce in conformità con la percezione. Questo si rende possibile perché quando si applica l'elaterio, una volta che viene introdotto nel corpo, quello stesso agisce verso l'esterno.

Una volta introdotto si espelle verso l'alto e verso il basso<sup>7</sup> un'acqua biliosa assieme a tutto quanto [possa esserci all'interno], per cui l'elaterio sembra essere il più efficace evacuante di tutti. Infatti, visto che ciascuno degli evacuanti sortisce un solo effetto, quello [in particolare ne sortisce] tanti quanti possono esserci e [quelli di] tutti gli altri; e perciò è minima, mezzo obolo, la quantità che si deve prendere dello stesso. L'elleboro fa espellere dell'umore bilioso, il bianco [lo fa] espellere verso l'alto, il nero verso il basso. Le [radici] delle scamonie, dall'altro canto, fanno evacuare delle [materie] acquose.

Quindi da queste cose e dalle altre vicine a esse risulta chiaro che gli altri purganti menzionati prima hanno qualche effetto, mentre l'elaterio ne presenta numerosi. In questo modo, può essere usato anche esternamente, [può] essere somministrato attraverso il naso o ugualmente essere applicato all'ombelico dei neonati, a volte [fa] espellere verso l'alto a volte [purgare] verso il basso, e a volte della [materia] biliosa a volte della [materia] acquosa. Di cosa si tratta? È chiaro che il principio [attivo] in quanto tale penetra attraverso i vasi che [ci sono] per ragioni teoretiche fino [all'interno] di questi umori; e per la stessa causa [il vapore dell]'elleboro bianco quando è inalato induce le donne a mestruare. Di conseguenza, i principi [attivi] si diffondono e si dissolvono avendo questi la capacità di conservarsi nel vapore.

A questo proposito, dicono, secondo la tradizione, che capitò che Democrito, dopo aver digiunato per quattro giorni, essendo sul punto di morire, fu pregato da alcune donne di resistere alcuni giorni affinché non fosse loro vietato l'accesso [ai misteri] — capitava infatti che in quel tempo si celebrassero le Tesmoforie — e dicono che [egli] giurò di non morire. Ordinò di portargli dei pani caldi e questi (...) e Democrito ispirando l'esalazione proveniente dal pane ristabilì le sue forze e (...) rimane.

Allora un po' di liquido e la (...) alimento e in questo modo diciamo che bast (...), potremmo dire che c'è una penetrazione nel nostro [corpo] che ha luogo attraverso i pori che [devono esserci] per una ragione teoretica. Ed è per la superficie che quello che si è detto penetra nei nostri corpi. Si dice, infatti, che a volte il castorio fa che l'animo si recuperi e si ritempri quando si applica sulle narici, giacché le sue proprietà penetrano per il fatto che il principio [attivo] del castorio si scioglie attraverso i vasi che teoreticamente [ci sono nel naso].

<sup>7</sup> Cioè, intendiamo, in forma di vomito o di feci.

Arrivati a questo punto, Asclepiade dimostra che il vapore a partire dai pani ristabilisce le forze non perché questi vengono consumati, ma per il fatto che l'anima si sveglia.

XXXVIII.1 γὰρ τρόπον τὸ κατόρειον π(ροσ)οιθὲν τοῖς μυκτῆρσι|ρώννυσι τὰς δυ(νάμεις) διεγείρον τὴν ψυχὴν καὶ ἐν|τεῖνον, τὸν αὐτὸν καὶ οἱ ἄτμοι{π(ροσ)}. | Ἀ λ ( λ ἄ ) τούναντίον· τὸ μ(έν) κατόρειον, ὡςπερ εἶπον,|ῥώννυσι τὰς δυ(νάμεις) διεγείρον τὴν ψυχ(ήν), οἱ δὲ ἄτμοι|οὐ διεγείροντες τὴν ψυχὴν ὠφελοῦσιν, ἀλ(λὰ) π(ροσ)κατα|—τασσόμενοι τοῖς σώμασιν ο(ὔτως). Γελοῖος δ' (ἐστίν) ἀνήρ·| οὐ γ(άρ), εἰ ἀμφοτέρω τὰ βοηθήματα διεγείρει τὰς δυ(νάμεις),| ταύτη κωλυθήσεται τὸ ἕτερον π(ροσ)κατατάσσεσθ(αι)|10τῷ σώματι. Καὶ γ(άρ) δὴ ὁ τιλμὸς διεγείρει τὰς δυ(νάμεις) καὶ|αἱ πληγαί, ἀλ(λὰ) οὐχ ὁμοίως· διὰ μ(έν) γ(άρ) τ(ῶν) πληγῶν|καὶ τιλμῶν διεγείρονται αἱ δυ(νάμεις) καὶ φυλάσσομεν|τὰ ἐν τῷ σώματι καὶ οὐχὶ ἐδῶσιν ἀφανίζεσθ(αι),|ἀλλὰ πυκνώσεως γινομένης τηρητικαί|15γίνονται τοῦ τε πνεύματος καὶ τῆς θερμότη<το>· ὑπὸ δὲ τοῦ κατορείου καὶ τ(ῶν) ὁμοίων ῥωννύμενα|αἱ δυ(νάμεις) ὡς π(ρὸς) τὴν ὁδμὴν τὸ αὐτὸ ἐνεργοῦσι, ὑπὸ|μέντοι γε τ(ῶν) ἄτμῶν ῥωννύμενα αἱ δυ(νάμεις) καὶ |προστρεφόμενα π(ροσ)ανακλύπτουσιν.

Δῆλον|20τοιγ(άρ)τοι ὡς ἀπὸ τ(ῶν) ἄτμῶν ῥώννυται {ι} αἱ δυ(νάμεις),|ἀφικνουμέν(ων) τ(ῶν) ἄτμῶν διὰ τ(ῶν) λόγῳ θεωρητ(ῶν)|πόρων· ἐξ ὧν ὁμολογουμένως κατασκευάζ(ουσιν)|ὡς καὶ εἰσκρίνεται τινα εἰς ἡμᾶς διὰ τ(ῶν) λόγῳ|—θεωρητ(ῶν) πόρων τῆς σαρκός. Ἄ λ λ ω σ τ ε

ζητεῖται|25πῶς θερμαίνεται ἡμῶν τὰ σώματα· δῆλον γ(άρ)|ὡς τῆς θερμασίας εἰσκρινομένης εἰς τὰ ἡμέτερα|σώματα κα[ι] ἄλεινομέν(ων) π(ρὸς) αὐτῆς. Εἰ δὲ εἰσκρίνεται τις θερμασία εἰς ἡμᾶς, πῶς δῆτα εἰσκρίνεται ;|Cῶμα γ(άρ) αὕτη, cῶμα δὲ διὰ σώματος οὐκ εἰς|30κρίνεται. Οὐκοῦν διὰ τιν(ων) εὐρυχωρῶν ; Εἰ τοῦτο,|πόρουσιν τοιγ(άρ)τοι χρῆν ἀπολιπεῖν λόγῳ θε<ω>ρητούς,|—δι' ὧν εἰσκριθήσεται ἡ θερμασία. Ἐχομένω(c), φ(αίν),|καὶ ἐπὶ τοῦ χειμῶνος ψυχρότερα ἡμῶν (ἐστι) τὰ|σώματα {το} τῷ τὸν ἀέρα, ψυχρὸν ὄντα καὶ|35—εἰσιόντα εἰς ἡμᾶς, κ(ατα)ψύχουσιν ἡμᾶς.

Ταύτη|γέ τοι ἐπὶ τούτ(ων) διαπορεῖται, τί δῆποτε οἱ ἐκ τ(ῶν)|βαλανείων ἐξερχόμενοι καὶ ὑπὸ τῷ ἀέρι γενό(μενοι)|εὐθέως κ(ατα)ψύχονται, οἱ μ(έν)<τοι> γε μετὰ τὸ λουτρὸν|περιχεάμενοι ψυχρῶι ἐν τῷ βαλανείῳ, εἴτα|40ἐν τῇ αἰθρία γενόμενοι ἤττον κ(ατα)ψύχονται ;| Τίνος γενηθέντος ; Δῆλον ὅτι τῆς μ(έν) καταχύ|σεως τοῦ ψυχροῦ πυκνούσης τὴν ἐπιφάνεια(v)|καὶ κωλύουσης ἀφανίζεσθαι τὸ ἐν ἡμῖν θερμ(όν),|τόν τε ἀέρα ψυχρὸν ὄντα μὴ ἐώσης εἰσκρίνεσθ(αι),|45Διὰ δὲ τοῦτο τὸ αἴ(τιον) μὴ ῥαδίως καταψύχεσθαι|τοὺς τοιούτους. Ἐπὰν μ(έν)τοι γε τοῦτο μὴ γένη|ται, ἀλλ' ἡραιωμένοι χωρήσωσι εἰς τὸν ἀέρα,|θᾶττον δέχονται αὐτόν, καὶ δε εἰσιῶν |εἰς τὰ σώματα ψυχρὸς ὢν κ(ατα)ψύχει αὐτά.|50Εἰ δὲ τοῦτο, φανερόν ὡς εἰσκρίνεται τι ἀπὸ τοῦ|—ἀέρος εἰς ἡμᾶς. Διδάσκουσι δὲ καὶ με|τὰ ταῦτα, ὡς εἰς τινας λόγῳ θεωρητοὶ πόροι|ἐν τοῖς ἡμετέροις σώμασιν, ὅπερ δὴ (ἐστι) γελοῖον.|Πρῶτον μ(έν) γ(άρ) ἐχρῆν τοῦτο κ(ατα)σκευάσαι καὶ τοῦ|55το προκ(ατα)ετρεψάμενους λοιπὸν διδάσκειν |ὅτι καὶ ἀποκρίνεται τινα ἀπ' αὐτῶν διάφορα, ὡς|ὁμοίως δὲ καὶ εἰσκρίνεται, ο.[ ± 3]εια(·)| τοῦτο α'. Ἀλ(λὰ) δεύτερον δι' ἦν αἰ(τίαν) .[ | ἄ μ α ρ τ ῆ μ α τ ι παλιν|[ Ἀσκληπιάδης]||

παλιν|[ Ἀσκληπιάδης]||

In questo modo, il castorio che fu applicato agli orifizi del naso fa rinvigorire le forze, ravvivando e ritemperando l'animo, [non] come fanno i vapori, piuttosto al contrario. Il castorio, come dissi, rinvigorisce le forze ravvivando l'animo, mentre i vapori non servono a ravvivare l'animo ma permettono la consumazione a partire dai corpi. Ma quest'uomo è proprio ridicolo. Se entrambi i rimedi [servono a] recuperare le forze, niente impedirà infatti che uno di loro sia applicato sul corpo. L'esfoliante e anche i colpi [servono a] recuperare le forze, ma non allo stesso modo, giacché per via dei colpi e degli esfolianti si recuperano le forze e si preservano quelle che si trovano nel corpo, o non permettono che [esse] svaniscano. Per contro, quando si produce la loro concentrazione essi diventano conservanti dello *pneuma* e del calore. Per causa del castorio e dei [rimedi] simili si recuperano le forze per il fatto che [esse] si mettono in movimento per reazione all'aroma stesso. D'altro canto, le forze si recuperano pure per causa dei vapori poiché, al venire

esse nutritae, riprendono vigore. È chiaro quindi che le forze si recuperano dai vapori perché i vapori le restituiscono attraverso i pori che [devono esserci] per ragioni teoretiche. A partire da queste cose [essi] stabiliscono che ci sono alcune penetrazioni in noi, similmente, attraverso i pori che teoreticamente [devono esserci] nella carne.

Un'altra cosa da esaminare da parte nostra è il modo in cui si riscaldano i corpi. È evidente che il calore si distingue nei nostri corpi e pure che questi si mantengono caldi grazie allo stesso. Se si assume un po' di calore da parte nostra, come si assume? Visto che lo stesso [calore è] un corpo, ma un corpo non penetra un altro [corpo]...[come allora si può assumere calore] se non attraverso alcuni spazi vuoti? Se ciò [è così, è perché] teoreticamente devono esserci dei pori che gli permettono di passare, [pori] attraverso i quali penetra il calore. Di conseguenza dicono anche che d'inverno i nostri corpi sono più freddi per via dell'aria, e essendo [quest'aria] fredda, essa penetra in noi [e riesce a] raffreddarci. Ma a ciò si presenta un problema: perché a volte capita che coloro che escono dai bagni, trovandosi all'esterno, semplicemente si raffreddano; mentre degli altri, dopo il bagno, [ma] avendo spruzzato intorno [al corpo] dell'acqua fredda durante il bagno, si raffreddano di meno quando si trovano all'esterno? Cosa sarà successo?

È chiaro che l'umidità della spruzzatura si condensa sulla superficie [della pelle] e ciò impedisce che si dissipi il calore [che c'è] in noi; a sua volta [ciò fa sì che] l'aria fredda non possa penetrare. Questo è il motivo per cui quelli stessi non si raffreddano facilmente [quando escono dai bagni]. In altro modo, quando ciò non capita, ma [la pelle di coloro] che escono all'aria aperta è resa più porosa, per cui accoglie l'aria più rapidamente; e l'aria che si insinua nel corpo, essendo fredda, li raffredda. Se ciò è così, è chiaro che qualche cosa che procede dall'aria penetra in noi.

Dopo tutte queste cose [essi] professano pure che, teoreticamente, ci sono dei pori nei nostri corpi, il che è ridicolo. In primo luogo perché questo dovrebbe essere stato stabilito e, una volta assunto preliminarmente ciò, si dovrebbe insegnare il resto, cioè che diversi tipi d'emanazioni si disperdono a partire da questi [pori] e pure ciò che [in essi] si insinua (...) Ciò in primo luogo, e dall'altro lato, in secondo luogo, per la ragione che segue (...) per sbaglio di nuovo (...) [Asclepiade]

XXXIX.1 καὶ Ἀλέξανδρος, π(ρο)χρῶνται δε[ ± 6 ἀ]ποκρ[ί]νεταί τινα ἀφ' ἡμῶν καὶ εἰσκρίνεταί τινα εἰς ἡμᾶς πάντως διὰ τιν(ων) λόγῳ θεωρητ(ῶν) πόρων, ἐπειδὴ περ εἶμα διὰ σώματος οὐ λ[έ]γουσι διελεθῆναι. 5 Καὶ ἄλλως φ(α)σί· ὡς ἡ φύσις τηρεῖ τὸ [δίκ]αιον, ἐποίη[σε] [π]άντ(ων) ἀποφοράς τινὰς αἰσθητὰς καὶ λόγῳ θε[ω]ρητ(ῶν) [κ]αὶ διαφορούς ἀποφοράς, κ(ατὰ) τὸ αἰσθητὸν καὶ κ(ατὰ) τὸ [λ]όγῳ θεωρητὸν. Ἐπεὶ οὖν κατὰ τὸ αἰσθητὸν [ἐ]ποίησέν τινὰς πόρους, καὶ κ(ατὰ) τὸ λόγῳ θεωρητὸν 10 [ἐ]ποίησατο. Ὅτι τρέφεται, (φ(α)σί), πᾶν μέρος [ἡ]με[τέ]ρ[ου] σώμ[α]τος καὶ [γ](ὰρ) λόγου εἶνε[κα 4/5] [ ± 8 ] καὶ τὸ χυλ[ω]τὸν καὶ τᾶλλα [.....]ωμ( ) [[ ± 8 ] τῆς τροφῆς διοδευούσης καὶ προ [.....] [.....] [.....] πᾶν μέρος τοῦ σώματος, ... τ(ῶν) 15 [λό]γῳ θεωρητ(ῶν) πόρων ὄντ(ων). Ταύτη λέγεται [ὡς] ὁ Ἐρασίτρ[α]τος θαυμάζει [ἐ]πι.ερ[3/4]τ(ων) [.....] ψηται [.....] τὰ τηλικαῦτα ἀλ(λὰ) τρέφε[ται] [.....] του φύλλου καὶ ἐπὶ μ(ὲν) [.....] [.....] [.....] κ(ατὰ) τ[.....]υτον οὐ θαυμάζει . [.....]εἰς [20]τ[ον] γ[ι] (ἀρ). [.....]ο....το...ηλιονκαιτο[.....]των[τ]ρέφεται [τῆ]ς φύσεως μεμηχανημένης [α]ὐτοῖς λόγ[ω]ι θεωρητοὺς πόρους [δ]ὲ [τρό]πον καὶ ἡ[μ]ῖν Ὡς γ(ὰρ) [κ]αὶ μύρμηξ τρέφεται, οὕτως [κ]αὶ ὁ ἐλέφ[α]ς καὶ αἱ Βακτριαναὶ κ[α]μ[η]λοῖ ἀν[25]τραφεῖεν τ[ῶ]ι τὴν φύσιν καὶ ἐπὶ τούτ(ων) [.....]ου...των πόρους τινὰς καὶ κ(ατὰ) τὸ αἰσθητὸν [καὶ] κατὰ τὸ λόγῳ θεωρητὸν μεμη χ[α]νῆσθαι, ἵνα καὶ τὰ ἐλάχιστα τ(ῶν) μερῶν τρέφ[η]ται [α]τῆς τροφῆς δεικνυμέν(ης) ἐπ' αὐτά. Φ[ανερ]ὸν 30 τοιγ(άρ) τοι ἐκ τούτ(ων) καὶ τ(ῶν) τούτοις παραπ[λ]η[γ]ίων ὡς λόγῳ θεωρητοὶ πόροι (εἰσὶν) ἐν ἡμῖν—καὶ παντὶ ζῳῳι.||

e Alessandro, fanno uso di (...) determinati elementi vengono espulsi da parte nostra, alcuni [altri] penetrano in noi senza dubbio attraverso i passaggi che teoreticamente ci sono; in particolare, [essi] dicono che un corpo non può passare attraverso un corpo. Affermano ancora che dato che la natura si attiene al giusto avrebbe creato, per tutti, alcune emanazioni percettibili dai sensi e conoscibili dalla ragione, e delle emanazioni differenziate in accordo con la percezione e con ciò che è concepibile dalla ragione.

Allora, dato che in accordo con la percezione avrebbe creato dei pori, e li avrebbe creati in accordo con la ragione teoretica per il fatto che dicono che ogni parte del nostro corpo deve nutrirsi, per esempio (...) e quello che è stato trasformato in un succo e gli altri (...) corp (...) il cibo che transita attraverso e (...) ogni parte del corpo (...) i pori che ci sono per una ragione teoretica. Perciò vien detto che Erasistrato non si stupisce (...) degli (...) età così lunga, ma che si nutrono (...) della foglia e di (...) a seconda della pianta [?] Non si stupisce. (...) appunto (...) si occupa della natura (...) e per loro, gli stessi pori che per ragioni teoretiche (...) e per noi.

Così come si nutre una formica, allo stesso modo potrebbero nutrirsi anche l'elefante e i cammelli battriani, poiché la natura ha fabbricato per questi (...) dei pori che, in accordo con la percezione e con la ragione teoretica, sono stati progettati affinché vengano alimentate le parti più piccole, al passare l'alimento attraverso [quegli] stessi pori. Quindi, a partire da queste cose e dalle cose simili ad esse è chiaro che, per definizione, ci sono dei teoretici pori in noi e in tutto l'essere vivente.

## I. 2 *The Opisthographic Writings of the Anonymus Londiniensis*

### Addition I

Written on the back side of cols. XXI – XXIV:

Οἱ γ(άρ) προθυμία γι(νόμενοι) πρὸς τὸ διαχωρῆσαι,|καταλαμβανόμενοι δὲ ἐν ἀγοραῖ ἢ ἐν  
ἀνεπιτηδεύοις, εἶτα συσχόν |τες ἐπὶ πλεῖον, οὐκέτι διαχωροῦσιν) | 5 ἢ  
διαχωροῦσιν ἐλάχιστά τε καὶ ξηρ(ά)· |Τίνος αἰ(τία) γι(νομένης) ; Δῆλον ὅτι ἀποφορᾶς καὶ  
ἐν(τὸς)|ἀπ' αὐτ(ῶν) γεγεννημέν(ης). Ἐξ ὧν φανερόν |ὡς τροφή (ἐστι) καὶ ἢ ἐν ἐντέροις πα|\_\_\_  
ρακειμένη. Ἔστω βλέπ(ε) « τούτ(ων) ο(ὔτως) ἐχό(ντων) »

di conseguenza coloro che vogliono andare di corpo, trovandosi in piazza o in luoghi inappropriati si trattengono al massimo, dopo non defecano nulla o pochissimo e duro. Di quale tipo di causa si tratta? È evidente che [si tratta] di una emanazione, e che si è prodotta all'interno degli [intestini] stessi. Da queste cose è chiaro che c'è dell'alimento e che questo riposa negli intestini. Per quanto riguarda ciò si veda all'interno [del papiro le parole] « È in questo modo quindi »<sup>8</sup>.

### Addition II

Written on the back side of cols. XXI – XXIV:

Τῆς γ(άρ) τροφῆς ἢ μ(έν) (ἐστι) λει[α] καὶ κερ[υλωμένη, ἢ] δὲ|τραχεῖα καὶ στερέμνιος. Κερυλωμένη  
μ(έν) [.]ρ...[.]επι[.]νη καίτοι ὑγρὸν καὶ τὰ οἰκεῖα ημ[± 9].να ἐν στόμ(ατι)| κατεργ( ) ..[±  
7] ἢ στερέ |μνιος ὡς ὁ τυρὸς καὶ τὰ παραπλή[για] κατεργάζεται ἐν|  
ἡμ(ίν). [Δι]ὰ τοῦτο |ἐπὶ τιν(ων) ζώων ..οντοστηγ[...].[....] ἤτρων|  
βειαπενιονδεμετ[.]...[.]εργ[.]ν[.]ε τροφ(ῆς) |κατεργασίαν, τὸν δὲ λό(γον) τοιοῦτον .  
[.]μων |αὐτῶν· ἢ γ(άρ) τροφή. Ἔστω βλέπε « π[ροσε]γεχθεῖς(α) ».

del cibo, una [parte] si trasforma in una pasta ed è trasformata in succo, l'[altra] rimane ruvida e solida. Una volta trasformato in succo (...) umido e gli appropriati si (...). Il cibo solido come il formaggio e simili viene trasformato da noi. Perciò in alcuni animali (...) la digestione del cibo per questo ragionamento (...) di loro stessi: poiché è l'alimento. Si veda all'interno [del papiro il termine] « assunto »<sup>9</sup>.

<sup>8</sup> Cioè il recto del papiro, in particolare l'espressione « Τού[.]των οὔτως ἐχόντ(ων) » nella col. XXV, 46 – 47.

<sup>9</sup> Cioè, di nuovo, il recto del papiro, particolarmente il termine « προσεγεχθεῖς(α) » nella col. XXIV, 20.

*The Medical Prescription on the Verso of the Anonymus Londiniensis Papyrus*

Written in the upper part on the back of cols. XXI – XXII:

Σκαμμωνία di scamonea  
Ἀγαρίκου [ d'agarico  
βδέλλιου [ di bdellio  
Κόμμεωσ [ (?) di gomma [arabica 3 (o 4) oboli?]

*The Letter of the Triumvir Marcus Antonius to the Province of Asia on the Verso of the Anonymus Londiniensis Papyrus.*

Written at the rear of cols. VI – VII:

Μάρκος Ἀντώνιος αὐτοκράτωρ|τριῶν ἀνδρῶν δημοσίων πραγμάτων|ἀποκαταστάσεως τῷ κοινῷ  
τῶν ἀπὸ τῆς Ἀσίας Ἑλλήνων χαίρειν. Καὶ|5 πρότερον ἐντυχόντος μοι ἐν Ἐφέσῳ|  
Μάρκου Ἀντωνίου Ἀρτεμιδώρου, τοῦ|ἐμοῦ φίλου καὶ ἀλείπτου, μετὰ τοῦ ἐπώνυμου τῆς συνόδου  
τῶν ἀπὸ τῆς|οἰκουμένης ἱερωνικῶν καὶ στεφ|10 νιτῶν ἱερέως Χαροπείνου Ἐφεσίου,|περὶ τοῦ <τὰ>  
προϋπάρχοντα τῆς συνόδου|μένειν ἀναφαίρετα, καὶ περὶ τῶν|λοιπῶν ὧν ἠτεῖτο ἀπ' ἐμοῦ τιμίων|καὶ  
φιλανθρώπων τῆς ἀστρατευσίας|15 καὶ ἀλειτουργίας πάσης καὶ ἀνεπι|σταθμείας καὶ τῆς περὶ τὴν  
πανή|γυριν ἐκεχειρίας καὶ ἀσυλίας καὶ|πορφύρας, ἵνα † συνχωρηῆ γράψαι †|παραχρῆμα πρὸς ὑμᾶς  
συνχωρῶν,|20 βουλόμενος καὶ διὰ τὸν ἐμὸν φίλον Ἀρτεμίδωρον καὶ τῷ ἐπώνυ|μῳ αὐτῶν ἱερεῖ εἰς  
τε τὸν κόσμον τῆς|συνόδου καὶ τὴν αὔξησιν αὐτῆς χα|ρίσασθαι. Καὶ τὰ νῦν πάλιν ἐντυ|25 χόντος μοι  
τοῦ Ἀρτεμιδώρου ὅπως|ἔξῃ αὐτοῖς ἀναθεῖναι δέλτον χαλ|κῆν καὶ ἐνχαράξαι εἰς αὐτὴν περὶ|τῶν  
προγεγραμμένων φιλανθρώπων,|ἐγὼ προαιρούμενος ἐν μηδενὶ καθ|30 υστερεῖν τὸν Ἀρτεμίδωρον  
περὶ τῶν|30a < >|ἐντυχόντος ἐπεχώρησα τῆ|ν ἀνά|θησιν τῆς  
δέλτο(υ) ὡς παρακαλεῖ [± 3]·|ὑμῖν δ(ἐ) γέγραφα περὶ τούτων. ||.

Marco Antonio imperatore, triumviro al ristabilimento degli affari dello Estado, saluta la comunità dei greci d'Asia. Ed essendomi prima stato chiesto a Efeso [da] Marco Antonio Artemidoro, mio amico e allenatore, col prete eponimo dell'assemblea dei vincitori nei giochi sacri, venuti da tutto il mondo, e dei vincitori coronati, Caropino di Efeso, che i privilegi precedentemente accordati nell'assemblea rimangano loro irrevocabili, così come il resto degli onori e privilegi che mi venissero richiesti — dispensa dal servizio militare, esenzione da ogni responsabilità pubblica, esenzione dall'ospitare truppe e la potestà sulla tregua durante le feste, asilo e sull'indossare la porpora<sup>10</sup> — da parte mia ve lo concedo immediatamente con animo benevolente, per il mio amico Artemidoro e in favore del suo prete eponimo, per il bene e l'onore della corporazione degli stessi. E, ormai, essendo stato di nuovo sollecitato da Artemidoro affinché gli sia permesso di mettere in alto una targa di bronzo e di incidere nella stessa i suddetti privilegi, ritengo in niente [opportuno] il posporre l'appuntamento con Artemidoro, [per cui] io gli conferisco il diritto ad esporre la targa che [mi] richiede. [È] a proposito di questi [assunti] che vi ho scritto.

<sup>10</sup> Il significato di questo privilegio non è chiaro, potrebbe avere a che fare col diritto di indossare e di esibire in pubblico dei particolari costumi. Cugusi (1979b), p. 291: « hoc beneficium haud perspicuum est ».



## Commentary

### Foreword

Due to their scant philosophical value we have not taken into consideration the fragments of the *Anonymus Londiniensis* in the previous translation nor will they be included in this commentary. However, anyone interested in this aspect will find them outstandingly described, deciphered, and catalogued in the edition of the papyrus by A. Ricciardetto<sup>1</sup>. We have focused instead on the writing on the recto as well as on the two opisthographic additions by the scribe on the verso. The other two extant writings on the verso of the *Londiniensis* that belong to two alien hands are also addressed in the first chapter below titled « *The Opisthographic Writings of the Anonymus Londiniensis Papyrus* ».

As a general remark we should like to underscore that, apart from the *paragraphos* « \_\_\_ » and the *diple obelismene* « † » (or forked *paragraphos*) underlining certain words in the writing<sup>2</sup>, the *Anonymus* does not present any other kind of punctuation mark. By both signs the scribe intended a clear and plain pause (a trait that sometimes is also stressed by a *spatium vacuum*), or else a passage from the opinions of a particular author to another. After the following general scheme of the contents of the papyrus, the commentary is arranged by taking separately each one of the 39 preserved columns. In the first place, under the heading « Description », the reader will find some noticeable details at a papyrological, critical, and grammatical level; afterwards, under the heading « Explanation », some lexical information, divergences of reading or translation, and some clues that supplement the text or might help to better understand the meaning of the writing.

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<sup>1</sup> Ricciardetto (2016), pp. 180 – 184.

<sup>2</sup> Manetti (2013), pp. 161 – 162, 175; Ricciardetto (2014), p. XXIII.

### *General Scheme of the Contents in the Anonymus Londiniensis*<sup>3</sup>

First part. Definitions (cols. I, 1 – IV, 17).

a) Affection (πάθος) in its general sense: διάθεσις. Definition of διάθεσις according to the Ancients and to the Moderns.

b) Affection as a disposition of a faculty whatsoever.

c) Psychological and bodily affections. The psychological affections according to the Ancients and to the Moderns.

d) Bodily affections: πάθος - νόσημα/νόσημα - ἀρρώστημα. Differences and definitions.

e) Criteria for naming the different illnesses; indication that they will be called by their common appellation.

Second part (col. IV, 18 XXI, 8?) Title: « Αἰ[τιολογικός] Νόσος. » (col. IV, 18 – 19).

A) Disagreement on the causes of disease.

1) Review of the theories by 16 authors who put the causes of disease to the residuals of the undigested food (cols. IV, 20 – XIV, 11).

2) Review of the theories by 6 authors — with special emphasis on Plato — who trace the causes of disease to the constitutive elements in us (cols. XIV, 12 – XXI, 8?).

Section mainly devoted to physiological concerns (or third part).

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<sup>3</sup> The scheme basically reproduces D. Manetti's hand out titled « *Schema del contenuto del testo dell'Anonimo Londinese (P.Br.Libr. Inv. 137 = P. Lond.Lit. 165)* » (3. 11. 2016). Manetti (2016b), pp. 1 – 2.

A) The body constitution (cols. XXI, 9 – XXII, 5). There is need to depart from what the senses make manifest. The medical art and its proper scope ( col. XXI, 13 – 18).

B) Economy of the living being, the human body, and the bodies in general. Continuous emission of matter, comparison to the external objects (col. XXII, 5 – 36). To avoid corruption there must be a proportion between emission and consumption (col. XXII, 36 – 41). In light of this purpose nature has created and disposed of the living beings in a certain manner. Matter is said to be mainly constituted of *pneuma* and food (col. XXII, 41 – 50). Some raise arguments against such an assumption (cols. XXII, 51 – XXIII, 8).

C) The *pneuma*: its functioning and administration. Analogy between respiration and sleep, references to Aristotle (cols. XXIII, 12 – XXIV, 9). Explanation for the qualitative transformation in the air we breath.

D) Nourishment.

D. a) Nature of the digestive process. Argument against Asclepiades and Alexander Philalethes. Metaphors and comparisons to underpin the theory whereby bodies can integrate the properties of the places they are or pass by or through (col. XXIV, 20 – 50).

D. b) Food is distributed to the whole body through the vessels in the stomach but also by means of vapor through porosities and interstices in the stomach. The scribe concedes that there is distribution from mere raw food (cols XXV, 9 – 18).

D. b. 1) Study of the distribution of the nourishment in the body. Arguments against Asclepiades and Erasistratus (col. XXIV, 27 ff.).

D. b. 1. 1) Liquids and soft types of food are absorbed through the pores, hard and more solid types of food experience an elaboration in the stomach by virtue of which the food we intake is transformed into blood. Addition II on the verso of the papyrus.

D. b. 1. 2) The food is also distributed by the intestines, through the pores and through the the body vessels. The remnant is transformed into stool or in sperm (by virtue of the property in the spermatic ducts). Addition I on the verso (col. XXV, 35 – 54).

D. b. 1. 3) Refutation of the thesis (probably by Asclepiades) whereby there can be nutrition from the residues (cols. XXV, 54 – XXVI, 19).

The general conclusion seems to be that there is a concoction in the stomach and there is also distribution of unconnected food by virtue of its smoothness (col. XXVI, 20 – 21).

D. b. 2) The majority of the food is distributed in the stomach, in the intestines, and also by means of vapours (col. XXVI, 21 – 31).

D. b. 2. a) Discussion and confutation of the thesis by Erasistratus and his followers that there is no distribution of food through the arteries insofar as the Erasistrateans believed that there was no blood at all in the arteries (cols. XXVI, 31 – XXVIII, 13).

D. b. 2. b) Issue as to whether the distribution of food occurs more in the veins or in the arteries (col. XXVIII, 15 ff.)

D. b. 2. b. 1) Anatomical proof for the majority of the distribution of food in the veins (col. XXVIII, 17 ff.).

D. b. 2. b. 2) Herophilus's counterargument to the assumption above and confutation of Herophilus (cols. XXVIII, 46 – XXIX, 25).

The scribe comes to the conclusion that there is distribution in the both body vessels, veins and arteries, and throughout the whole body due to its porous nature (col. XXIX, 25 – 34).

D. b. 3) Not all the food we take in is distributed, but only a part of it; the rest is expelled through the rectum, the uretra, the sweat, etc.; it naturally follows from the proportion that must exist between what is taken in and what what is expelled (col. XXIX, 34 – 45). Discussion about the

nature and the formation of the urine, dissension of opinions about the tenet (cols. XXIX, 51 – XXX, 40).

E) Demonstration of the existence of continuous emanations from the evidence of secretions of all kind (col. XXX, 40 – 43).

E. a) Arguments for the existence of emanations.

E. a. 1) Aromatic substances (col. XXX, 42).

E. a. 2) Meats (col. XXXI, 6).

E. a. 3) Bread (col. XXXI, 16). Argument by the Empirics apropos of the heavy and the light which is finally rebuked (cols. XXXI, 25 – XXXII, 31).

E. a. 4) Examples drawn from inanimate objects, liquids, and collyria (col. XXXII, 32 – 41).

E. a. 5) Plants (cols. XXXII, 42 – XXXIII, 14).

E. a. 6) Irrational animals. How hounds get with the wild beasts. Erasistratus's experiment on the bird in order to provide evidence of the existence of emissions (col. XXXIII, 14 – 44).

E. a. 7) Man (col. XXXIII, 52 – XXXV, 17). Argument from the assumption of spicy food (with consequent confutation against Asclepiades' thesis in col. XXXIV, 6 – 53). Our body emits heat and humidity (cols. XXXIV, 54 – XXXV, 17).

E. b) The emanations - emissions from our body are not only are factual but can also be viewed (explained) by reason (col. XXXV, 19 ff. ).

E. b. 1) There are different kinds of perceptible secretion (col. XXXV, 22 – 30).

E. b. 2) There are also different varieties of the same kind of secretion (col. XXXV, 31 – 36).

E. b. 3) There are emanations from different parts of the body. Confutation of Alexander's theory of blood as homogeneous principle (col. XXXV, 39 – XXXVI, 25).

E. b. 4) Emanations differ in quantity and quality on account of the movement (col. XXXVI, 25 – 35)

E. b. 5) Emanations differ also depending on the season (col. XXXVI, 35 – 43).

Conclusion: there are continuous and different emanations from the bodies.

F) Since there are continuous emanations there must likewise be accretions (penetrations) of all kind, in their turn perceptible and liable to be observed by reason (col. XXXVI, 43 ff.). Teleological argument drawn from Herophilus and Asclepiades on the purpose. Other kind of demonstrations.

F. 1) From faculties of drugs.

F. 1. a) Poultices and cataplasms.

F. 1. b) From the elaterion which penetrates through the pores on the body. From the hellebore and the scammony which act upon the body by means of fumigations (cols. XXXVI, 55 – XXXVII, 32). Example based on the anecdote by Democritus (col. XXXVII, 32 – 49). Example drawn from the castoreum, difference apropos of Asclepiades' opinion about the issue (cols. XXXVII, 49 – XXXVIII, 24).

F. 2) The question on how bodies are warmed up or cooled down, the effective existence of invisible pores through which these states take place should be presumed (cols. XXXVIII, 24 – 32). Some issues ensuing from the thesis: the body in winter; why some do not get cold despite going outside after having had a bath (col. XXXVIII, 35 – 51).

G) Demonstration of the existence of pores (or channels that can be viewed by reason) in our body. Problem with the order of the premises in the demonstration: the existence of pores should have been demonstrated first, and then the existence of continuous emanations. Asclepiades and Alexander's conformity with the established order in the demonstration. Another teleological argument for the existence of pores, some samples drawn from concrete species. There must be pores susceptible to observation by reason in every kind of animal in order to nourish every part of the body.

## Column I

### Description

The term διάθεσις in l. 7 is in the interlinear space, so « \ διαθεσις / ». In l. 9 the scribe wrote « ζωτικης » by mistake, hence [[ζωτικης]], and by using some of the extant letters he reuses his writing by overlapping « εν τοις κομασι ». In l. 15 there is another interlinear expression « \δει γινωσκειν ως/ ». L. 31 commences with *ekthesis* of one letter, that is, the line does not respect the layout of the margin: the scribe started to write utterly a bit further to the left, so that the letter « δ » in « [δ]εισιδαμονία » can be distinguished insofar as it sticks out from the left margin. However, the most distinctive trait in this first column is the presence of a very long portion of text edited in double square brackets [ [ ] ]. This is actually the way to represent the semicircular line that starting from the end of l. 16 continues all the way down on the right margin of the text up to encounter l. 39<sup>4</sup>. As A. Ricciardetto notes, it is one of the many methods the scribe uses to correct the text that he is writing<sup>5</sup>; this meaning that the passage is canceled by the author himself because he judges it erroneous or it needs to be redrafted. After that indication the scribe undertakes anew the definition of the concept he is studying (i.e. ‘affection’). Ll. 19 – 21 were reconstructed on the basis of fr. 1 edited by F. Kenyon and H. Diels<sup>6</sup>.

### Explanation

I, 1 – 4: [λαμβά]νονταc ἐν τῷ τοῦ π[άθουc ὄρω][διάθεσι]ν πρὸc τ(ῶν) ἀρχαίων<sup>7</sup> κ[ομιζο]μέ[νην τ]ῆν καὶ ἐπίταcιν καὶ ἄνεcιν ἀγα[δεχο]μένην·<sup>8</sup>

<sup>4</sup> Manetti (1990), p. 220; (2016a), p. 525.

<sup>5</sup> Manetti (1994), pp. 52 – 53; Ricciardetto (2014), p. XXVI; Dorandi (2016), p. 202.

<sup>6</sup> In 1900 there arrived at the British Museum 23 small fragments of which the first seven (according to the numeration coined by F. G. Kenyon and H. Diels) were recognised and replaced in the papyrus; the rest of the fragments are unfortunately lost and there is no photographic reproduction of them. Ricciardetto (2016), pp. XV, 62. Ll. 19 – 21 correspond to fr. 1 in Kenyon - Diels (1901), pp. 1320, 1322.

<sup>7</sup> As opposed to οἱ νεώτεροι (i.e. the Stoics). Cfr. Diels (1893a), p. 114. Cfr. infra col. I, 8.

<sup>8</sup> Cfr. Diels (1893a), p. 1.

I, 5: τοῖς ἀρχαίοις<sup>9</sup>

I, 1 – 7: definition of διάθεσις. D. Manetti is of the opinion that the notion of διάθεσις in cols. I, 1 – III, 7 is interchangeable, and in a way synonymous, with κατασκευή in cols. III, 7 – IV, 17. Manetti argues that the reason for “the substitution” of one term by another owes to the different kinds of materials that the scribe consulted<sup>10</sup>.

I, 7 – 10: this passage has been edited and translated into Italian by T. Dorandi<sup>11</sup>.

I, 10 – 11: κατὰ κίνησιν|[ἢ] χέσι]γ': σχέσις should be taken here as ‘contrary to movement’<sup>12</sup>.

I, 14: λήθαργος<sup>13</sup>: the physicians Alexander Philalethes and Asclepiades of Bithynia held identical views on lethargy. The scribe of *Anon. Lond.* affirms that they also had an identical theory of digestion<sup>14</sup>. It is known that the physician Heraclides of Tarent<sup>15</sup> used the *laserpicium* (κύλφιον, *silphium laserpicium*)<sup>16</sup> to treat the lethargy and the tetanus.

I, 15 – III, 12: The scribe puts his effort into defining πάθος and ψυχή.

I, 20: ζωτικὴν<sup>17</sup> δύναμιν[τῆ] ψυχῆι

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<sup>9</sup> Cfr. infra ch. VII § 3. 1.

<sup>10</sup> Manetti (2013), pp. 165 – 166 n. 19.

<sup>11</sup> The translation runs as follows: (« Affezione è) una disposizione di una qualsiasi proprietà vuoi d'un essere vivente vuoi del corpo vuoi dell'anima insita nei corpi, per movement o stasi. Per movimento, tutti i movimenti in noi sono affezioni secondo movimento, per stasi, invece (lo sono) paralisi, letargia, torpore e quelle prossime a queste. »). Dorandi (2016), p. 201.

<sup>12</sup> Beckh - Spät (1896), p. 2: « Hemmung »; Jones (1947), p. 23: « static »; Ricciardetto (2014), p. 1 ; (2016), p. 1: « arrêt ». Manetti uses the expression « in quiete ». Cfr. Manetti (1994), p. 53; Montanari (1995), p. 1960.

<sup>13</sup> Cfr. *Anonymi medici* II 1 (1) – 3 (10) [Garofalo (1997), pp. 10, 15 – 18, 7].

<sup>14</sup> von Staden (1989), p. 533.

<sup>15</sup> Heraclides of Tarent (2<sup>nd</sup> – 1<sup>st</sup> century BC) was an Empiric physician. Galen knew about Heraclides indirectly, through Archigenes. Allbutt (1921), p. 137; Nutton (2004), p. 142.

<sup>16</sup> The silphium was a plant often used in the Antiquity — though extinct by the beginning of the Christian era — because of its strong purgative effects. It is known, for instance, that in the 5<sup>th</sup> century BC the silphium was retailed. Repici (2006), p. 72. The silphium only grew in the Cyrenaica (NE Libya to-day), hence its Greek denomination (ὄπος Κυρηναϊκός).

<sup>17</sup> According to Galen *De puls. differ.* III 2 [VIII pp. 645, 17 – 18 K.] it is the use that Herophilus gave to the term ζῶτικός. Diels (1893a), p. 92.

I, 22 – 23: παρεπαρ|μένη: it could bear relation to the Epicurean psychological doctrines according to which the soul is a finely textured body spread along the whole body aggregate<sup>18</sup>.

I, 24 – 25: ἡ ἐντρέχεια καὶ τῆς μ(έν) ἐντρε[[χ]είας<sup>19</sup>

I, 31: [δ]εισιδαμονία.

I, 36: μανία ὁμοίως : as W. H. S. Jones noted<sup>20</sup>, it is certainly strange to find the madness (μανία) among the bodily affections<sup>21</sup>, unless we assume that — as with fever — madness could either have passed for a physical or for a psychical disorder.

## Column II

### Description

A high resolution photograph of col. II can be consulted in paper format<sup>22</sup>. One of the main issues in col. II is the substantive ἐντρέχεια in l. 9<sup>23</sup>. The papyrus unmistakably reads ἐντρέχεια. Ll. 10 – 17 were partially reconstructed on the basis of fr. 2<sup>24</sup>. Between ll. 38 – 39 there is a *paragraphos* which does not appear in Manetti's edition of *Anon. Lond.* In this particular case, the scribe wants to introduce by means of the *paragraphos* a distinction between the types of affection 'the Ancients' acknowledged and the types admitted by the Stoics.

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<sup>18</sup> Cfr. e.g. Epicurus *Ep. to Herodotus* 63, 3 – 4 [Usener (1963), p. 19]. Cfr. von Staden (1989), pp. 323 – 324 (T. 145B); (2000), p. 90 n. 22.

<sup>19</sup> Cfr. infra ch. III.

<sup>20</sup> Jones (1947), p. 25 n. 36.

<sup>21</sup> In this passage the author is actually addressing the psychic affections, but as it seems the scribe takes the madness as being a physical, not a mental illness.

<sup>22</sup> *CPF* (2002), p. 57.

<sup>23</sup> Cfr. infra ch. III.

<sup>24</sup> Fr. 2 in Kenyon - Diels (1901), pp. 1320, 1322.

## Explanation

II, 3: [ζω]τικῆ[ν]<sup>25</sup>

II, 4 – III, 7: the scribe moves on to examine the affections pertaining to the soul, in the first place according to the Peripatetic views (and his own), then in light of the Stoic doctrine. The Aristotelians conceived the πάθος in terms of a particular psychical διάθεσις (disposition, condition); whereas for the Stoics it was a matter of an excessive impulse<sup>26</sup>.

II, 6: καὶ γ(ὰρ) ἡ ψυχῆ δύναμις (ἐστιν): as regards the concept of δύναμις<sup>27</sup>, in being something like an invisible power, capacity, or susceptibility that served, *inter alia*, to delineate something like causal relations, or at least, to give account for some phenomena, it turns out that the term δύναμις acquired, no doubt, strong ontological and epistemological implications<sup>28</sup>. Present almost from the beginning of Greek scientific literature, it was only in the later 5<sup>th</sup> and early 4<sup>th</sup> century BC, nonetheless, that the notion of δύναμις seems to have started functioning as something resembling a technical term. Incidentally, it assumed this new role more or less simultaneously in three distinct branches of so-called rational inquiry: in philosophy, in medicine, and in mathematics. This noticeable historical coincidence gives rise to the question whether interaction between these three forms of inquiry contributed to the rapid development of δύναμις into an explanatory device of central and enduring significance in Greek science<sup>29</sup>. In philosophy, as in medicine, the concept of δύναμις will play a conspicuous role in the postclassical models of the relation of the soul to the body<sup>30</sup>. In general, it refers to the properties in bodies which either have the power to affect or to be affected. In the Corpus Hippocraticum we find different theories of δύναμις. A qualitative one<sup>31</sup>, by virtue of which things are active because some elemental δυνάμεις operates in them (cold, hot, humid, dry, sweet, bitter etc.) A second theory, of quantitative nature, in which what is underlined is

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<sup>25</sup> Diels (1893a), p. 2.

<sup>26</sup> Manetti (2016a), p. 527.

<sup>27</sup> Beckh - Spät (1896), p. 3: « Kraft » ; Jones (1947), p. 25: « power »; Manetti (1994), p. 53: « facoltà »; Ricciardetto (2014), p. 1; (2016), p. 2: « propriété ».

<sup>28</sup> von Staden (1998), p. 270.

<sup>29</sup> von Staden (1998), p. 263; Prince (2014), pp. 919 – 920.

<sup>30</sup> von Staden (2000), p. 84.

<sup>31</sup> H. von Staden claims that it would be misleading at best to translate δύναμις as ‘quality’ or ‘property’ for that would imply that the former is identical to the latter two, when it is not the case. von Staden (1998), p. 268. For the meaning of δύναμις as a ‘natural quality/ability’ see Jouanna (2012h), p. 276.

the intensity of these δυνάμεις, and in the third place even a substantial sense, whereby the δύναμις inherent to a thing is said to be composed of particular δυνάμεις or active material principles<sup>32</sup>. The pre-Socratic philosophers and the Hippocratic physicians tried to describe scientifically the δυνάμεις by dint of two different arguments: by the elemental quality in a thing (hot, cold, dry, humid etc.), or else by the contraposition between different δυνάμεις (hot – cold, dry – humid and so forth). In Aristotle’s philosophy the term is normally translated as ‘potency’ (as opposed to ‘actuality’)<sup>33</sup>. When referring to a drug, the term δύναμις expresses the efficacy of a remedy<sup>34</sup>.

II, 12 – 14: Τ(ῶν) τε|ψυχ[ι]κῶν παθῶν ἃ μ(έν) (έστι) κ(ατὰ) φύσιν, ἃ δὲ|παρὰ φύσιν: according to P. Podolak this sentence has echoes in Soranus’s doctrine<sup>35</sup>. In origin, the distinction between affections according to nature (κατὰ φύσιν) and contrary to nature (παρὰ φύσιν) lies on the basis of the regularity and frequency that a trait is manifested in the phenomenal world, but in this passage the author is apparently introducing a moral nuance in the expressions, so when it comes to psychic affections those regarded as κατὰ φύσιν are deemed so in a positive way, whereas those called παρὰ φύσιν take a negative sense.

II, 18: [τ(ῶν)] ἀρχαίων οἷς καὶ ἡμεῖς ἐπόμεθα: cols. II, 18 – III, 7 have been edited, translated into Italian, and commented on by D. Manetti<sup>36</sup>. The scribe’s claim is a solid argument for discrediting the author of *Anon. Lond.* as a Methodist physician, for the followers of such a medical school disregarded the opinions of the ancients, while the scribe is precisely affirming the opposite<sup>37</sup>.

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<sup>32</sup> It is the case respectively of Hippocrates *Vict. I; Vet. med.*; and *Nat. puer.* Gómez Tirado (1986), p. 142.

<sup>33</sup> R. Joly considers the notion of δύναμις in Aristotle rather as an epistemological hindrance. Joly (1968), pp. 249 – 250.

<sup>34</sup> Vegetti (1995b), p. 76.

<sup>35</sup> Podolak (2010), p. 101 n. 242.

<sup>36</sup> Cfr. *CPF Stoici 3T*, pp. 786 – 796. The translation in *CPF Stoici 3T*, pp. 788 – 789 is as follows: « Questa è la classificazione degli antichi di cui anche noi siamo seguaci. Esso infatti lasciano sussistere le affezioni (passioni) medie nel saggio e affermano che le affezioni (passioni) medie costituiscono il “nervo” delle azioni. Gli autori recenti invece – cioè gli Stoici – non ammettono nessuna passione dell’anima secondo natura. Infatti dicono che la innaturalità è totalmente indicata dalla formula con cui hanno dato la definizione della passione, « la passione è un impulse eccessivo »: impulso è inteso da loro non nel senso di una tensione eccessiva, ma nel senso che non risponde alla ragione che sceglie. Ma ciò riguarda loro; da parte nostra dobbiamo dire che sono affezioni dell’anima secondo natura il ricordo, il ragionamento e cose simili. Contro natura la dimenticanza, l’incapacità di ragionamento e cose del genere. Vi sono due generi fondamentali di affezioni dell’anima secondo gli antichi: piacere e dolore; le affezioni intermedie si formano per la mescolanza di quelle citate. Secondo gli Stoici invece, sono quattro i generi fondamentali di affezioni (passioni) dell’anima: piacere e desiderio, paura e dolore. Piacere e desiderio si formano per la rappresentazione di un bene: di essi il piacere [...] di un bene [...] è possibile [...] il bene. Dolore e paura si formano per la rappresentazione di un male: la paura si forma per l’aspettativa di un male, infatti abbiamo paura quando ci aspettiamo il male. Il dolore si forma per la presenza di un male, infatti proviamo dolore per i mali presenti; ma di questo basta ».

<sup>37</sup> Van der Eijk (1999c), p. 397.

Since this passage is in the first section, the scribe is still providing definitions of the key terms he will eventually use. This kind of procedure is firmly anchored in both the Academy and the Lyceum<sup>38</sup>. Having started with this tenet from the beginning of the papyrus (or what is left and has been preserved of the *Anonymus*), the author treats now the definition of ‘affection’ (πάθος). The definition and the classification of the affections is based on compilations of manuals with ethical content. The theory of the affections expounded by the scribe is in this sense clearly indebted to Aristotle<sup>39</sup>, although it could be argued that the origin can be traced back to Plato’s *Laws*<sup>40</sup>. In the scribe’s view an affection is a disposition that can be either natural or contrary to nature, as well as belong to the soul or to the body. It is also stated that the soul belongs with the two main genres of affection, pleasure and pain; so that the rest of the extant affections are actually built upon these two. A further distinction between νόσημα and πάθος could be introduced. While the former has namely to do with the subjective or psychological aspect of infirmity (illness), πάθος instead intends the affection as such (disease)<sup>41</sup>.

In the view of almost all the philosophical schools the passions (that is, unregulated desires and exaggerated fears) are mankind’s principal cause of suffering, disorder, and unconsciousness. According to the scribe of the *Londiniensis* the Stoics did not concede the existence of natural affections; yet, in the light of some fragments attributed to the Stoics, Panaetius of Rhodes could have classified the πάθη in terms of ‘natural’ and ‘contrary to nature’<sup>42</sup>. At any rate, the discussion in the *Anonymus* is centered on the opposition between the views the Ancients held on this topic and those of the Moderns (the Stoics), this constituting a kind of *locus communis* in the philosophical debate from the 1<sup>st</sup> century BC to the 2<sup>nd</sup> century CE<sup>43</sup>. From the Ancients the scribe borrows the sense of κρᾶσις as πάθος (which coincides with Herodicus)<sup>44</sup>. The Hippocratic treatise titled *Regimen in Acute Diseases* also makes mention of ‘the Ancients’; thereby they mainly amount to the ancient Cnidian physicians who, as with the author of *Anon. Lond.*, were committed to the taxonomy of diseases and their distinction. There is room to suppose, therefore, that the

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<sup>38</sup> CPF Plato 129T, p. 547.

<sup>39</sup> Aristotle *EN* II 2.

<sup>40</sup> Plato *Lg.* I 636d.

<sup>41</sup> Gourevitch (2009), p. 246.

<sup>42</sup> Cfr. *SVF* III fr. 155 [von Arnim (1964c), p. 37].

<sup>43</sup> CPF Stoici 3T, p. 790.

<sup>44</sup> Cfr. *infra* col. V, 1 – 21.

denomination οἱ ἀρχαῖοι was not a mere generic denomination in opposition to the Stoics, rather a way to make allusion to the Cnidian physicians<sup>45</sup>.

In relation to the opposing views of the Ancients and the Moderns on the affections, there is an evident resemblance between the classification of the affections and their respective definitions in the account provided by the scribe and the classification and definition of the affections in the report on Zenon's philosophy given by Diogenes Laertius<sup>46</sup>. Passion (or also emotion) is defined by Zeno as an irrational and unnatural movement in the soul, as an impulse in excess<sup>47</sup>. The main or most universal emotions according to Hecato and Zeno constitute four great classes (each one subdivided in their turn): grief, fear, desire or craving, and pleasure<sup>48</sup>. Yet, whereas the classification of the passions in the *Anon. Lond.* is said to be clearly indebted to the Stoics, nobody has noted — as far as we know — the resemblance between the classification of the affections and their respective definitions in the account provided by the scribe and the way these very affections and definitions are handled in the *Souda*<sup>49</sup>.

II, 20: με[τ]ριοπαθείας περὶ τ[ὸ]ν σοφὸν<sup>50</sup>: the moderation or the evenness in the affections (μετριοπάθεια) is taken by the scribe precisely as a point of dissension between the Ancients and the Stoics. The sage is someone subject not at all to passions « φοβηθήσεσθαι μὲν γὰρ τὸν σοφὸν οὐδαμῶς, εὐλαβηθήσεσθαι δέ. »<sup>51</sup>, this being his foremost characteristic or attribution in Stoic philosophy. Indifference, *ataraxia*, or the capacity for facing life's setbacks without much distress is in fact a topic currently discussed in the Imperial period. Deeply imbued with Stoicism and practical intention, Hellenistic philosophy could be considered as an effort to find “the way” to get rid of passions in order to make life as pleasant as possible; which is what the sage reaches.

<sup>45</sup> Gómez Tirado (1986), p. 144. For a more detailed treatment of this expression cfr. infra ch. VII § 3. 1.

<sup>46</sup> *Vitae philosophorum* VII 110 – 116. [Marcovich (1999a), pp. 508, 19 – 512, 8].

<sup>47</sup> πάθος is defined as « ἡ ἄλογος καὶ παρὰ φύσιν ψυχῆς κίνησις ἢ ὁρμὴ πλεονάζουσα » s.v. Πάθος [27] in *Souda* 110 [Marcovich (1999b), p. 52, 24 – 25].

<sup>48</sup> « Τῶν παθῶν τὰ ἀνωτάτω γένη τέσσαρα: λύπη, φόβος, ἐπιθυμία, ἡδονή ». s.v. Πάθος [27] in *Souda* 110 [Marcovich (1999b), p. 53, 25].

<sup>49</sup> *Souda* 110 – 116 [Marcovich (1999b), pp. 52, 20 – 55, 20]. Thus, φόβος is defined as « προσδοκία κακοῦ » s.v. Φόβος [559] in *Souda* 112 [Marcovich (1999b), p. 53, 23]; λύπη is defined as « Συστολή ἄλογος ψυχῆς » s.v. Λύπη [843] in *Souda* 111 [Marcovich (1999b), p. 53, 19]; φιλαργυρία is defined as « ὑπόληψις τοῦ τὸ ἀργύριον καλὸν εἶναι » s.v. Φιλαργυρία [304] in *Souda* 111 [Marcovich (1999b), p. 53, 16 – 17]; ἐπιθυμία as « ἄλογος ὄρεξις » s.v. Ἐπιθυμία [2341] in *Souda* 113 [Marcovich (1999b), p. 54, 6]; this latter therefore a notion radically opposed to a rational will (βούλησις) « τῇ δ' ἐπιθυμία ἐναντίαν φασὶν εἶναι τὴν βούλησιν, οὖσαν εὐλογον ὄρεξιν. » s.v. Εὐπάθεια [3633] in *Souda* 116 [Marcovich (1999b), p. 55, 15 – 16]; and ἡδονή as « ἄλογος ἔπαρσις ἐφ' αἰρετῶ δοκοῦντι ὑπάρχειν » s.v. Ἡδοναί [97] in *Souda* 114 [Marcovich (1999b), p. 54, 19 – 20].

<sup>50</sup> Diels (1893a), p. 98: « Dicunt esse Peripatetici ».

<sup>51</sup> s.v. Εὐπάθεια [3633] in *Souda* 116 [Marcovich (1999b), p. 55, 14 – 15].

II, 20 – 22: καί φ(ασι)|τὰς μ[ε]τριοπαθείας νεῦ[ρ]α (εἶναι) τῶν πρά|ξεων<sup>52</sup>: conceiving the νεῦρα as ‘strength, force, or vigor’ is not new, but in fact lies in an ancient metaphor<sup>53</sup>; but when applied to the concern of the μετριοπάθεια, as it is on this occasion, it constitutes a novelty which is, furthermore, only witnessed in the *Anonymus*<sup>54</sup>. The expression, no doubt, is connoted and enriched by the technical sense that the term νεῦρα gets in the Hellenistic period, for it was at that time (purportedly after Erasistratus’s theories and investigations in the field of medical anatomy) that from meaning ‘tendon’ or ‘sinew’<sup>55</sup> the word νεῦρα would go on to acquire the meaning of ‘nerve’.

In the treatise *On Breath*<sup>56</sup> the nerves are deemed to be the channels through which the *pneuma* is conveyed. According to the author of the treatise, sensation and movement are transmitted to/through the body by means of the blood vessels, in particular by the *pneuma* they contain. In this view the veins are said to convey blood and the arteries only air (πνεύματος)<sup>57</sup>. Being hollow inside, and thereby liable to transport “elements” through, the nerves are considered to be of the same nature than veins and arteries.

II, 22: [ο]ἱ δὲ νεώτεροι, τ[οῦ]τ’ (ἔστιν) οἱ Στωικοί<sup>58</sup>

II, 24: ἐμφ[αίν]εσθαι<sup>59</sup> : this is the reading suggested by G. Striker, which seems to fit better with the intended meaning than Diels’s (i.e. ἐμφέρεσθαι); thus, the verb takes the sense of ‘to be indicated’ or ‘to be implied’.

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<sup>52</sup> Beckh - Spät (1896), p. 3: « die Triebfeder der Handlungen ist »; Jones (1947), p. 27: « the sinews of actions »; Ricciardetto (2014), p. 2; (2016), p. 3: « les nerfs des actions »; Dorandi (2016), p. 203: « il ‘nerbo’ delle azioni ». Cfr. infra col. XVI, 9.

<sup>53</sup> Consisting of comparing the body to a kind of puppet moved by a higher divine instance. Plato *Lg.* I 644d 9; *R.* III 411b. Ricciardetto (2014), p. 43; Dorandi (2016), p. 203 n. 24.

<sup>54</sup> *CPF Stoici* 3T, p. 791.

<sup>55</sup> A proof for this is the use of the term νεῦρον (in the neuter) by Plato at *Ti.* 74b. Burgess (1998), pp. 23 – 24.

<sup>56</sup> Pseudo - Aristotle *Spir.* 483b 13; 484a 33 – 37. In Aristotle’s treatises on biology one is not to find this distinction.

<sup>57</sup> In *De plenit.* XI [VII 573 K.] Galen claims that such a distinction can be traced back to Nicarchus, Praxagoras’s father. Longrigg (1995), p. 442.

<sup>58</sup> Cfr. col. II 30, 39.

<sup>59</sup> Diels (1893a), p. 90: « Inferri notionem (ad animae) ».

II, 26 – 30: ἀ[π]έδοσαν<sup>60</sup>: the passage exhibits resemblances to Diogenes Laertius’s report on Zeno<sup>61</sup>, but on account of the difficulty in explaining the likeness of the irrational to the excess, this excessive impulsivity seems definitely to be more in connection to Chrysippus<sup>62</sup>.

II, 27: Besides sensibility (αἴσθησις) and impressibility (φαντασία), in Erasistatus the impulse (ὄρμη) is one of the capabilities rendered by the *psychic pneuma*<sup>63</sup>.

II, 28 – 29: ὑπερ|τάεω[c]: as substantive it is only attested in Marcus Aurelius’s *Communings with Himself*<sup>64</sup>.

II, 31 – 34: as regards the concept διαλογισμός, this is a synonymous word for λογισμός, that is to say, “deliberative activity, the exercise of the faculty of reasoning” and so forth<sup>65</sup>. Touching on the definitions of ‘memory’ and ‘reasoning’, since they are conceived of as the soul’s natural affections, their definitions could have been drawn from Aristotle<sup>66</sup>. In this sense, in an earlier stage of its usage πάθος was perfectly applicable to λογισμός, for the four modalities of intellectual activity in Plato (νόησις, διάνοια, πίστις, εἰκασία) were actually conceived as παθήματα ἐν τῇ ψυχῇ. But, as the time wore on, and above all from a medical point of view<sup>67</sup>, the term πάθος would no longer take that sense, and would progressively assume instead a new meaning: in plain opposition to λογισμός, it would refer to the failures and dysfunctions concerning mental faculties such as memory or sane rationality.

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<sup>60</sup> Diels (1893a), p. 84: « Definere ».

<sup>61</sup> Diogenes Laertium *Vitae philosophorum* VII 110 – 114 [Marcovich (1999a), pp. 509, 19 – 511, 9]. Cfr. *CPF Stoici* 3T, p. 792.

<sup>62</sup> *SVF* III fr. 462 [von Arnim (1964c), pp. 113 – 115].

<sup>63</sup> von Staden (2000), p. 103.

<sup>64</sup> X 8, 19 – 20: « τὴν ὑπέρτασιν » [Dalfen (1979), p. 96]. Cfr. *CPF Stoici* 3T, p. 793.

<sup>65</sup> *CPF* Plato 129T, p. 555.

<sup>66</sup> Aristotle *Mem.* I 449b 5 – 25; *GC* II 6, 334a 13; *de An.* I 5, 409b 15.

<sup>67</sup> *CPF* Stoici 3T, p. 794.

II, 33 – 34: τὰ ὅμοι[α].<sup>68</sup> Παρ[ὰ] φύειν δὲ ἀμνημοσύνην, ἀλο[γικ]τίαν,<sup>69</sup> τὰ ἐοικότ[α].<sup>70</sup>:

As regards forgetfulness or loss of memory (ἀμνημοσύνη), it is an affection that the author of the Hippocratic treatise *The Sacred Disease* attributes to the excessive (contrary to nature) chilling of the brain produced by the superabundance of phlegm.

II, 34 – 37: Τ(ῶν) τε|παθῶν τ(ῶν) περὶ τῆν ψυχὴν [δ]ύο (ἐστὶ) τὰ|γενικώτατα κ(ατὰ) τοῦς ἀρχ[αί]ους· ἡδο|νή<sup>71</sup> τε γ(ὰρ) [κ]αὶ ὄχλησις,· literally ‘pleasure and disturbance’; that is to say, inhibition/excitation, or calm/agitation.

II, 38: τ(ῶν) εἰρ[η]μένων<sup>72</sup>

II, 42 ff.: φαντασία: the representation (*scil.* of a good or a bad thing). This is the reason why the Stoics submitted the two major pairs of affections — desire/fear and pleasure/pain — to the general categories of προσδοκία and παροῦσία (i.e. expectation and presence respectively)<sup>73</sup>. So a pain is an affection resulting from something which is actually present, while a fear is an affection following something we credit to be evil, pernicious, or dangerous but, in reality, such a thing is not actually there.

### Column III

#### Description

A high resolution photograph of col. III is available in paper format<sup>74</sup>. In l. 2 the author originally wrote « παρουσιαν »; afterwards, in realizing that he made a mistake, he cancelled

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<sup>68</sup> Diels (1893a), p. 100: « ut enumeratio claudatur ».

<sup>69</sup> Beckh - Spät (1896), p. 4: « Urteilslosigkeit »; Jones (1947), p. 27: « irrationality »; Ricciardetto (2014), p. 2; (2016), p. 3: « mépris ».

<sup>70</sup> Diels (1893a), p. 90: « Enumerationem claudens ».

<sup>71</sup> As opposite to ὄχλησις. Diels (1893a), p. 92.

<sup>72</sup> Diels (1893a), p. 97: « Eorum quae modo memoravimus ».

<sup>73</sup> CPF Stoici 3T, p. 795.

<sup>74</sup> CPF (2002), p. 57.



III, 13 – 35: definition of the term νόσημα<sup>80</sup>. So far as the use of the term νόσημα — and the derivative sequence νοῦσος - νοσέω - νόσημα; it is found in an earlier stage of development of the Greek language if compared, for example, with ἄλγημα<sup>81</sup> — or the derivative sequence ἄλγος - ἀλγέω - ἄλγημα, which is barely attested in the three main tragedians<sup>82</sup>.

III, 18: κ(ατα)κευὰς<sup>83</sup>

III, 20: τῆς λύσεως<sup>84</sup>

III, 22: ἐννενοοσευκέναι<sup>85</sup>

III, 28: [ᾧ]στε νόσημά (ἐξτιν) εἰρημένον. : the account is now brought to an end and brings back what has been said in col. III, 12. In short, the author of the *Anonymus* is resuming the reason why ‘the few’ and ‘the more’ are deemed as ἄτακτα. Since the so-called ‘irregular affections’ cannot be known because of the impossibility of drawing more further distinctions between them, the scribe sees the classificatory exercise he undertook as finished.

III, 17: ἃ δὲ ἀρρωτήματα<sup>86</sup>

III, 18: at this point the scribe uses for the first time the term κ(ατα)κευὰς as a synonym of διάθεσις; this substitution is believed to be reflecting a change in the textual source used by the scribe<sup>87</sup>.

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<sup>80</sup> Again, the coincidence between the definition in the *Londiniensis* and the description in the *Souda* is interesting s.v. [3997] Ἀρρώστημα *Souda* 115 [Marcovich (1999b), p. 55, 4 – 6]: « ἀρρώστημα νοσήματος διαφέρει ‘νόσημα μετὰ ἀσθενείας, τὸ δὲ νόσημα οἷσις σφόδρα δοκοῦντος αἰρετοῦ’ ».

<sup>81</sup> In col. IX, 23 we find the form ἀλγηδόνος.

<sup>82</sup> Cfr. Jouanna (1989), pp. 72 – 73.

<sup>83</sup> Diels (1893a), p. 95: « Constitutio morbis ».

<sup>84</sup> Diels (1893a), p. 97: « Sanatio ». In a narrow sense, λύσις (*solutio*) means the total remission or the end of a pathological affection. Cfr. Andorlini (2014), p. 225.

<sup>85</sup> Platonic metaphor. Plato *R.* IX, 573e. Cfr. Diels (1893a), p. 90. The literal meaning of the verb is ‘to nest’, hence Manetti’s translation « annidate ». Manetti (2016a), p. 526.

<sup>86</sup> Beckh - Spät (1896), p. 5: « Schwähungen »; Jones (1947), p. 29: « infirmities »; Ricciardetto (2014), p. 2; (2016), p. 4: « infirmités »; Liddell - Scott (1996), p. 247. Among the Stoics the term is used to describe the kinds of state accompanying different ailments.

<sup>87</sup> Galen recalls this very synonymic character, but he prefers κατασκευή to διάθεσις as the meaning of the latter is older and more neutral in comparison with the former. Galen *De sympt. diff.* [VII p. 43, 6 – 9 K.]; *De differ. morb.* [VI pp. 837, 15 – 838, 1 K.]. Cfr. Manetti (2016a), p. 530.

III, 29: the definition of ἀρρώστια seems to dwell on the way the Stoics used the term; in the terminology of the Stoics ἀρρώστια described the kind of states accompanying ailment, hence its translation as ‘infirmity’<sup>88</sup>.

III, 30: παρηρησθαι<sup>89</sup>

III, 33 – IV, 8: this passage has been edited and translated into Italian by T. Dorandi<sup>90</sup>.

III, 36 – 44: definition of νόσος.

III, 39 Λέγεται τε νόσος διχῶς<sup>91</sup>

## Column IV

### Description

In l. 8 the two first letters of the word συμβέβηκεν start with *ekthesis*, also the first letter in l. 20; neither are described in Manetti’s edition. In l. 15 the papyrus neatly reads « ουχι », so Manetti’s suggested reading « ἦτοι » does not work. In l. 26 we find another correction by means of overcharging the letters written by mistake. Having formerly written « δια » the scribe converted « δι » into π (i.e. [δι]) adding afterwards « ρα » in the interlinear space (i.e. \ρα/) to get to the intended word, the preposition παρὰ.

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<sup>88</sup> Beckh - Spät (1896), p. 5: « Schwähungen »; Jones (1947), p. 29: « infirmity »; Ricciardetto (2014), p. 2: « infirmité » but (2016), p. 5: « faiblesse ». Cfr. Liddell - Scott (1996), p. 247.

<sup>89</sup> Neoatticism instead of παρηρησθαι. Cfr. Diels (1893a), p. 5.

<sup>90</sup> The translation runs as follows: ( « Malattia si dice in due sensi, nel linguaggio comune e in quello specialistico. Nel linguaggio comune, (indica) ogni affezione contro natura, significato secondo cui la febbre sarebbe ugualmente detta una malattia. Nel linguaggio specialistico, una costituzione persistente nei corpi con tempi di remissione opinabili. E debolezza in maniera simile. Si dice infatti nel linguaggio comune e in quello specialistico. Nel linguaggio comune di nuovo, ogni affezione contro natura, significato secondo cui chi ha la febbre sarà chiamato debole. Nel linguaggio specialistico, una costituzione persistente nei corpi con tempi di remissione opinabili con perdita con perdita della forza dei corpi » ). Dorandi (2016), pp. 204 – 205.

<sup>91</sup> Cfr. infra ch. III § 3. 2.

The most noticeable trait in this column is that the change from the first section of the papyrus to the second<sup>92</sup> is not only advertised by means of a title, but also by a double paragraph in combination with a considerable space (amounting to five lines)<sup>93</sup> that the scribe willingly put in between both sections. In addition, the reviews of the opinions belonging to the physicians reported in this second section tend to be individualized by some of the two aforementioned punctuation marks. What really is at issue in this column is the expression « Αἰ[τιο]λογικὸς.[Νόσος.] » in ll. 18 – 19. With this title the second of the three main sections into which the papyrus is deemed to be divided starts<sup>94</sup>.

## Explanation

### IV, 5: λύξεως<sup>95</sup>

IV, 7 – IV, 17: the author explains that the way the different diseases are named mainly depends on the symptoms or the consequences derived (l. 8: « [ἀπὸ] παρακολουθοῦντος ») or on the affected place (l. 9: « ἀπὸ τόπου »). One of the leading assumptions of Hellenistical medicine is the conviction that illnesses are morbid states always equatable with some part of the body. Thus, regardless of not being directly observable, an internal part still remains knowable through inference<sup>96</sup>. The end of the first section of the *Londiniensis* papyrus therefore places stress on the importance of inquiring into the concrete physical location of nosological affection. The name and the particular part of the body that is affected (*a parte corporis quae patitur nomen accepit*) were two important aspects that Methodist physicians took into consideration to catalogue and define an illness<sup>97</sup>. As to the distinction consisting in individualising or classifying an affection in virtue of the part of the body that is affected, this is a trait that features in the first redactional layer of the *Anonymus Parisinus*<sup>98</sup>, a medical writing — almost contemporary to the *Anonymus Londiniensis* —

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<sup>92</sup> Col. IV, 17 – 20.

<sup>93</sup> Ricciardetto (2014), p. 46.

<sup>94</sup> For a full account of the subject see *infra* ch. I § 6. 3.

<sup>95</sup> Diels (1893a), p. 97: « Sanatio ».

<sup>96</sup> Giannantoni (1984), p. 67.

<sup>97</sup> Gourevitch (1993), pp. 134, 164 n. 28.

<sup>98</sup> Cfr. *infra* ch. I § 7. 1.

which is believed to pertain to a doxographical tradition specially focused on inquiring into the affected parts<sup>99</sup>. The Methodist physicians used to include some sections referring to the role of the affected places in their writings<sup>100</sup>.

IV, 12: paralysis (παράλυσις) is ranked in the 21<sup>st</sup> position among the illnesses described in the *Anonymus Parisinus*<sup>101</sup>, where it is classified as a chronic illness. It is known that paralysis as well as other shivering disorders, like spasms and bulimia, were treated with the euphorbia (εὐφορβία).

IV, 13 – 17: as regards the expression « τὸν τόνον » in l. 13 it is worth noting that among the Pneumatist<sup>102</sup> physicians, like Aretaios of Cappadocia, the condition of the *pneuma* in health is termed ‘tension’ (τόνος), whereas the loss of tension arising from internal or external causes is the upsetting of the equilibrium in the body<sup>103</sup>.

Now, touching on the illness called φρενίτις in l. 14, according to Podolak the report given by the scribe on the φρενίτις might be dwelling on Soranus<sup>104</sup>. It is evident that the meaning of the expression « οὐχὶ τὸ διάφραγμα[α] » in ll. 15 – 16 is that when someone is gripped by the phrenitis<sup>105</sup> it is his φρήν and not the diaphragm that is affected. The remark the scribe introduces is likely due to the fact that in some ancient medical and philosophical views (for instance in Aristotle) the will, and in general, the conscious life was believed to be located in the medial part of the body. We find such a view in Plato<sup>106</sup> also, where the φρήν is conceived of as the seat of the highest faculties; this assumption will later be widespread<sup>107</sup>. In this way Galen, for instance, mentions that the delirious episodes the phrenitis brings about once were once believed to be the result of the inflammation of

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<sup>99</sup> Van der Eijk (1999b), p. 322.

<sup>100</sup> Debru (1999), p. 471.

<sup>101</sup> *Anonymi medici XXI* 1 (1) – 3 (12) [Garofalo (1997), pp. 122, 17 – 130, 18].

<sup>102</sup> The Pneumatists regarded themselves as partisans of Dogmatist tradition. Van der Eijk (1999b), pp. 328 – 331.

<sup>103</sup> Oberhelman (1994), p. 962.

<sup>104</sup> Podolak (2010), p. 101 n. 242.

<sup>105</sup> W. H. S. Jones adds the remark ‘brain-fever’. Jones (1947), p. 31. For a consideration of this disease in the *Anonymus Parisinus* see *Anonymi medici I* 1 (1) – 3 (13) [Garofalo (1997), pp. 2, 1 – 10, 13].

<sup>106</sup> Plato *Ti.* 70a, 84d.

<sup>107</sup> Aristotle *PA* III 10, 672b 14 – 19; Galen *De loc. aff.* V 4 [VIII pp. 327 – 328 K.]

the diaphragm, the place where the ancients put the rational part of the soul<sup>108</sup>. Besides this location, the φρήνες were also placed in relation to the brain<sup>109</sup>.

Whatever it might be, the case is that φρήν is doubtlessly a term not easy to translate because it can refer either to some part of the body or to some psychic function that medical science abandoned a long time ago — this situation applies whenever a Greek word alludes to a psychological function or physiological organ which does not exist anymore in modern science as a function or part subject to study or treatment. In fact some Greek concepts do not have an exact corresponding term in our contemporary anatomical views<sup>110</sup>, so that the identification of phrenitis with encephalitis, meningitis, or with a type of malaria<sup>111</sup> is just a partial solution: phrenitis does not mirror any particular disease in contemporary pathology. As M. Grmek pointed out it is almost impossible to give a non presentist account of the facts, since it is almost impossible to leave behind completely the time where one lives or all that one knows<sup>112</sup>. At the very least, it seems that by ‘phrenitis’ an acute psychiatric perturbation accompanied with delirium was meant; but it yields another problem which mainly consists in finding a modern pathological pattern for phrenitis. The word with which a disease is named must be a *terminus technicus*, that is, a term that denotes precisely the specific condition to which it is applied (either a particular way to get sick or of being sick with a concrete illness). In addition to this condition, the meaning of this term should be univocally understood by all medical professionals, insofar as technicians, who use that word. All

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<sup>108</sup> Galen *De loc. aff.* [VIII p. 327 K.].

<sup>109</sup> Hippocrates *Morb. Sacr.* XVII. Cfr. Ricciardetto (2014), pp. 45 – 46.

<sup>110</sup> Jouanna (1988), p. 20.

<sup>111</sup> As W. H. S. Jones suggests the reason perhaps lies in the fact that diseases were classified by ancient physicians according to their symptoms; while they are now classified according to the microorganisms that cause them. Jones (1984a), p. LV. The same argument seems also applicable to the term καῦσος that Aristotle takes by example to explain what the medical art is said to consist. Aristotle *Metaph.* I 1, 981a 12. καῦσος is not a mere fever but an acute fever specially related to bilious and phlegmatic people, a kind of dehydration syndrome of toxic and infectious origin accompanied with high fever peaks that leave the surface of the body cold, insomnia, intense thirst, swelling of the spleen, bleeding through the nose etc. Cfr. Spoerri (1996), p. 202; Jouanna - Grmek (2000), p. 195 n. 10. According to Jones καῦσος was almost certainly a form of remittent malaria. The feverish episodes that come along with pneumonia are termed in this way at *Anonymi medici* IX 3 (12) [Garofalo (1997), p. 68, 25]. Aretaios of Cappadocia classified the καῦσος as an acute affection and gives the following symptoms: acute fire that consumes the whole body, especially the internal organs, burning breath, long and intense breath with the need of fresh air, dry tongue, lips, and skin; intense thirst; cold in the extremities, bilious urines, insomnia, frequent and feeble pulse, bright reddish eyes, faded visage. Cfr. Aretaios of Cappadocia *De causis et signis acutorum* II 4 [CMG II pp. 23, 13 – 24, 14 Hude]; Grmek (2000), pp. 47 – 49.

<sup>112</sup> Grmek (1993), p. XXVI.

that fails any one of these premises will never constitute a true diagnostic<sup>113</sup>. According to the catalogue DSM IIR, phrenitis might correspond to an organic deliriant syndrome<sup>114</sup>.

Phrenitis is the first disease we find expounded in the *Anonymus Parisinus*<sup>115</sup>, where it is catalogued as an acute affection<sup>116</sup>. The alleged causes for the phrenitis vary depending on the author. From the author of the *Anonymus Parisinus* we learn that Erasistratus puts the cause of phrenitis down to an affection of the activity of the meninx; Praxagoras to an inflammation of the heart; Diocles to an inflammation of the diaphragm; and Hippocrates to the corruption of the brain (the seat of the mind) when it gets nourishment corrupted by the agency of the bile from the chorioid meninx. In relation to the symptomatology, the patient suffering from phrenitis shows continuous deliriant episodes (παράληρος) accompanied by an acute and continuous fever (συνεχῆς πυρετός)<sup>117</sup>. In this sense, it is the presence of fever (πυρετός) that permits us to tell the φρενιτικός apart from the μανιατικός — that is to say, the person affected by madness (μανία); for the latter behaves deliriously, but gets no fever<sup>118</sup>. In the Corpus Hippocraticum (where the occurrences amount to 25) phrenitis is described as a feverish delirium<sup>119</sup>. The φρενιτικός also suffers from insomnia, continuous sweat, nausea, vomit, adipsia (i.e. lacks of thirst or intakes few liquids), convulsions, and in some cases also from deafness. His urine in addition is scarcer and transparent, since it is in the wintertime when the φρενιτικός gets worse<sup>120</sup>.

Dictionaries currently point to some place in the middle part of the body, around the heart and the ribbons; this is the reason why we opt for translating φρήνας as ‘ipocondrio’, for it is mainly located between<sup>121</sup> one and the other. Yet the difficulty is to make the exact location of the φρένες clear, since apart from knowing from the scribe that the φρένες do not bear relation to the diaphragm, the tradition (both scientific and literary) has placed this part in different bodily places<sup>122</sup>.

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<sup>113</sup> Laín Entralgo (1981), p. 6.

<sup>114</sup> Cfr. Byl (2011a), p. 216.

<sup>115</sup> *Anonymi medici* I 1 (1) – 3 (13) [Garofalo (1997), pp. 2, 3 – 10, 13].

<sup>116</sup> For a distinction between acute and chronic see Van der Eijk (1999b), pp. 304 – 307.

<sup>117</sup> As opposed to the intermittent fevers (διαλείποντες πυρετοί), the phrenitis (like the fever, the lethargy, or the typhus) is classified as a remittent fever. Jones (1984a), p. LVII.

<sup>118</sup> Byl (2011a), pp. 203 – 204.

<sup>119</sup> Cfr. e.g. Hippocrates *Epid.* VII 79 [V p. 434, 20 – 21 Li.]. Jouanna - Grmek (2000), pp. 154 – 155 n. 8.

<sup>120</sup> Byl (2011a), pp. 208 – 209, 211.

<sup>121</sup> Liddell - Scott (1996), p. 1954.

<sup>122</sup> Van der Eijk (2005), p. 120.

IV, 18 – 19: Ἀι[τιο]λογικὸς. Νόσος.]: the adjective Αἰ[τιο]λογικός and terms of the kind are unwitnessed in the Corpus Aristotelicum<sup>123</sup>. In medicine, as in philosophy<sup>124</sup>, the leading premise is about knowing the causes; hence Galen often went over the investigation of the causes of symptoms, the pulse, the affections, etc.

In the frame of the medical science of the 5<sup>th</sup> century BC the notion of cause is defined in Hippocrates' *On Ancient Medicine* in quite an exceptional way: « Δεῖ δὲ δήπου ταῦτα αἷτια ἐκάστου ἡγέεσθαι, ὧν παρεόντων μὲν τοιοῦτον τρόπον ἀνάγκη γίνεσθαι, μεταβαλλόντων δὲ ἐς ἄλλην κρῆσιν παύεσθαι.»<sup>125</sup>, (« we must surely consider the cause of each complaint to be those things the presence of which of necessity produces a complaint of a specific kind, which ceases when they change into another combination »)<sup>126</sup>. Perhaps one of the most noticeable achievements by Hippocratic physicians was to set the pillars of determinism: everything that happens must have a cause, a reason for it (διὰ τί)<sup>127</sup>. So much for Aristotle<sup>128</sup>, to whom the distinctive trait of an art was precisely the knowledge of the reasons accounting for the particular results it produced. Accordingly, science is causal or is not. The two kinds of cause described in the second section are obscure causes (*latentibus*), in the sense that both — the residuals and the elements in us — cannot be immediately perceived by the senses (contrary to what occurs with the evident causes which precede or provoke the ailments)<sup>129</sup>.

IV, 20 – 25: the scribe recalls that the terms νόσος and πάθος will be used hereafter according to their common meaning (κοινῶς)<sup>130</sup>. It looks like a kind of scholastic resource which could obey a current recommendation in the debates on terminology featuring the medicine of the Imperial period<sup>131</sup>.

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<sup>123</sup> Cfr. infra ch. I § 6. 3.

<sup>124</sup> Plato *Phd.* 96a: « εἰδέναί τας αἰτίας ἐκάστου, διὰ τί γίγνεται ἕκαστον καὶ διὰ τί ἀπόλλυται καὶ διὰ τί ἔστι », (« to know the causes of everything, why each thing comes into being and why it perishes and why it exists »). Trans. Fowler (1960), p. 331.

<sup>125</sup> Hippocrates *Vet. med.* XIX [I pp. 616, 17 – 618, 1 Li.]. Cfr. Vegetti (1993), p. 108; (1995c), p. 61.

<sup>126</sup> Trans. Jones (1984b), p. 49.

<sup>127</sup> Hippocrates *de Arte* VI; *Flat.* I. Cfr. Jouanna (1993), pp. 37 – 39.

<sup>128</sup> Aristotle *Metaph.* I 1, 981a 28 – 30.

<sup>129</sup> Gourevitch (1993), pp. 125 – 126.

<sup>130</sup> Cfr. supra cols. III, 39 – 40; IV, 1.

<sup>131</sup> Manetti (2016a), p. 530.

IV, 20: τοῦ προκειμένου: the meaning of the participles προκειμένου, ἐκκειμένου (l. 25), and προκείμενα (l. 40) are intimately related to the immediate context in which they occur. Thus, προκειμένου makes reference to the subject treated in the papyrus while ἐκκειμένου to the opinions held by the φυσιολόγοι. From a linguistic point of view, it is interesting to note that προκειμένου is almost always followed by verbs in the first person and in the present tense, whereas ἐκκειμένου by a distributive coordination whose verbal core is in the third person aorist<sup>132</sup>.

IV, 25: the scribe opens the second section in the *Anon. Lond.* by stating that there has been a considerable dissent among physicians about the causation of disease<sup>133</sup>. It is doubtlessly a turning point in the exposition, for the term στάσις<sup>134</sup> in l. 25 divides the contents in the second section of the *Londiniensis* into two clear cut subsections. The dissension touching on the causes of disease to which the scribe makes allusion should be understood in a dyadic and exclusive way: the ancient physicians assigned the causes of disease to the residues of the undigested food or to the constitutive elements in us.

The emphasis on the disagreement (στάσις) is a kind of “heuristic tool” of the rhetorical genre present in many similar ancient lists of philosophical and medical doctrines. This is one of the reasons why the reader of doxographical accounts comes across dissension and division (διαφωνία) quite often amid the opinions of the authorities<sup>135</sup>. As has been seen previously, the scribe of the *Anon. Lond.* has somehow made use of such a discursive strategy in order to manifest his preference for the views of the Ancients rather than for the Moderns<sup>136</sup>.

IV 20 – 25: the scribe’s remark on the nomenclature serves to establish that even if the author is diligently working on the task of drawing up the introductory part on definitions (as required by the isagogic genre) he will subsequently restrict himself to common language, by talking of diseases<sup>137</sup>.

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<sup>132</sup> Gómez Tirado (1986), p. 145.

<sup>133</sup> Van der Eijk (1999b), p. 314; Nutton (2004), p. 72.

<sup>134</sup> Col. IV, 25 – 28: « Στάσις δὲ περὶ τοῦ ἐκκειμένου·οἱ μὲν γὰρ εἶπον γίνεσθαι νόσου παρὰ τὰ περιεσώματα τὰ γινόμενα ἀπὸ τῆς τροφῆς,οἱ δὲ παρὰ τὰ στοιχεῖα. », (« But as to the subject before us there is much difference of opinion. For while some have said that diseases arise because of the residues from nutriment, others hold that they are due to the elements »). Trans. Jones (1947), p. 33. In Vegetti (1995c), p. XII στάσις takes the meaning of ‘rivolta’.

<sup>135</sup> Cfr. Van der Eijk (2009), p. 109.

<sup>136</sup> It is interesting to note that while the *Anonymus Londiniensis* puts the stress on the dissension among the ancient physicians the *Anonymus Parisinus*, contrastingly, tends to remark on the occasions on which they come to an agreement with regard to the cause of a particular disease. Nutton (2004), p. 124.

<sup>137</sup> Manetti (2013), p. 173.

IV, 25 – 28: the whole of the etiological doctrines reported in the *Londiniensis* are neatly falling into two major criteria. The opinions of those who posited the *περισσώματα* as the cause of disease are reviewed from this point up to col. XIV, 3, where, starting with Plato, the scribe will address the opinions of the physicians and philosophers who, conversely, posited the *στοιχεῖα*<sup>138</sup> as the agents of disease.

It is also this passage where the key term *περίττωμα* occurs for the first time in the papyrus. The scribe underlines that a group of physicians believed that residues (*περιττώματα*) are produced in the body as a result of having got some food. These residuals — mainly divided into excrements and certain liquids — then circulate in the body and turn into a cause of disease. In Egyptian medical lore overeating is a general principle that accounts for a primary cause of disease, yet it does not mean that the theory of the *περίττωμα* is actually a matter of a borrowing from ancient Egyptian medicine<sup>139</sup>. Unlike what happens with the term *πλήθος*<sup>140</sup>, *περίττωμα* is a concept that was doubtlessly coined by Aristotle<sup>141</sup>. Given that the notion *περίττωμα* is not attested in the *Corpus Hippocraticum*, the fact that the term *περίττωμα* is used in the papyrus bears strong evidence enough of the fact that the opinions recounted in the first part of the second section of the *Anonymus* are gathered according to a telling Aristotelian influence. In the terminology used by Aristotle *περίττωμα* is a technical term by which is intended “residue, leftover, what remains of nutritious in the blood after having nourished all the parts of the body”<sup>142</sup>.

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<sup>138</sup> It is worth noting that *στοιχεῖα*, the key concept that characterises the theories of the authors who belong to the second group, is only used in connection with the last three physicians reported in the second subsection of the second section of the *Londiniensis* (i.e. Polybus, Menecrates, and Petron). In light of this remark, in a narrow sense only these three authors actually constitute the group of physicians who hold that the constitutive elements in the body are the source of disease. In addition, it is worthy of consideration also to stress that the word *στοιχεῖον* occurs only one time in the whole Hippocratic collection, concretely in Hippocrates *Mul.* III 230 [VIII p. 444, 4 – 5 Li.]: « *στοιχεῖα δέ σοι ταῦτα ἔστιν* ». Cfr. Kühn - Fleischer - Alpers (1989), p. 749. There, term called into question does not have any ontological signification at all, rather it takes on the meaning of “means, tools, remedies, cures at hand” (*scil.* to treat barrenness due to the neck of the uterus is either harshened or too oblique so as to allow conception). The content in book *De mulierum affectibus* III (also known as *De sterilitate*) is leant towards the Coan school, and it is believed to have been written by an independent author. Jouanna (1992), pp. 547 – 548. It is further important to stress that in the majority of treatises comprised in the Hippocratic collection those principles which Aristotle would describe as *στοιχεῖα* are called by means of other concepts or periphrastic forms. Thus, for example, in the *Nat. hom.* we find concepts like *ἐν, ἐνέοντα, ἐνεόν, ἐόντα, τῶν συγγεγονότων* (and demonstrative pronouns for them like *ταῦτα, τούτων, τὰ αὐτὰ* etc.). In Hippocrates *Vict.* I 2, 3, 7 we see instead *ἀρχή, δοσῖν, μέρη*, [VI pp. 468, 8 – 9; 472, 13; 480, 11; Li.]. In *Vict.* I 28 the author makes reference to the generative material by the term *τὰ σώματα* [VI p. 502, 5 Li.]. In Hippocrates *Hum.* 1 [V p. 476, 1 Li.] the term used is *χυμοὺς, χυμῶν*, etc.

<sup>139</sup> von Staden (1989), p. 14 n. 47; Jouanna (2012a), pp. 6 – 7.

<sup>140</sup> Cfr *infra* col. V, 39.

<sup>141</sup> Nelson (1909), p. 105; Jouanna (2012a), p. 7. Cfr. *infra* ch. II § 5.

<sup>142</sup> Nutton (2004), p. 73.

IV, 28: the notion of στοιχεῖα can be traced back to Empedocles, whose theories were definitely known at the Lyceum<sup>143</sup>. Empedocles posited four eternal and unchanging material components or roots (ρίζώματα πάντων) which would eventually constitute the basis of Greek physical speculation. According to Empedocles, all kinds of body (this including the human) were a mixture, an aggregation of these four elements.

IV, 31 – 40: Εὐρυφῶν γ(άρ) τοι ὁ Κνίδιος<sup>144</sup>

Euryphon of Cnidos (c. 450 BC) is the first author mentioned in the papyrus<sup>145</sup>, hence perhaps also the first in positing the theory of the περιττώματα. According to *Anon. Lond.* Euryphon maintained that diseases are caused when the belly does not discharge the nutriment that has been taken, which yields residues. These residues then rise to the regions about the head and cause diseases<sup>146</sup>. Euryphon of Cnidos is also generally credited as the first physician to distinguish the veins from the arteries; however, it should be noted that almost a century earlier Alcmaeon of Croton told apart the φλέβες (filled with air) from the φλέβες αἱμόρροι (filled with blood)<sup>147</sup>. The distinction between veins and arteries stands as a distinctive feature of the Cnidian school of medicine. As to this crucial distinction, although it is generally admitted that it was Praxagoras who first properly distinguished the veins from the arteries, it could well be that Diocles was acquainted with this distinction, for Alcmaeon of Croton and Euryphon of Cnidos had already put in motion the basis for the hypothesis, and both physicians were known in the Lyceum.

IV, 40 – V, 34: the scribes deals with the opinions of Herodicus of Cnidos (Ἡρόδικος δὲ ὁ Κν[ί]δ[ι]ο[ς])<sup>148</sup>.

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<sup>143</sup> Cfr. Aristotle *Metaph.* I 3, 984a 8 – 11; 4, 985a 21 – 985b 3; *Xen.* II 976b 22 – 27; *GC* I 8, 324b 26 – 35; 6, 334a 5 – 7; 7, 334a 26 – 31; *Ph.* IX 1, 250b 26 – 29; *Resp.* VII 473a 15 – 474a 7; *GA* IV 1, 764a 1 – 6; *PA* I 1, 640a 19 – 25; *Po.* 1, 1447b 17 – 20; 21, 1457b 22 – 25. Pseudo - Aristotle *Cael.* II 13, 295a 17 – 20; III 2, 300b 29 – 31; 6, 305a 3 – 4.

<sup>144</sup> Ricciardetto (2014), p. XXXV. Herodicus of Cnidos was somewhat in agreement with him, but the Hippocratic Alcamenes will be against. Euryphon of Cnidos is attested in Galen *In Hipp. Epid. VI comment.* [XVII, 1 p. 886, 5 K.]. Diels (1893a), pp. 114 – 115.

<sup>145</sup> According to J. Jouanna Euryphon was for Cnidos what Hippocrates was for Cos. Jouanna (1993), p. 12. As for the report in the *Londiniensis* on Euryphon, as well as for other textual witnesses about this physician, they have been collected in Grensemann (1975), pp. 11 – 12 fr. 8.

<sup>146</sup> Nutton (2004), p. 73.

<sup>147</sup> Bidez - Leboucq (1944), p. 16.

<sup>148</sup> Diels (1893a), p. 115. The report on Herodicus of Cnidos in the *Londiniensis* is severally collected in Grensemann (1975), pp. 12 – 13 fr. 8. Cfr. Ricciardetto (2014), p. XXXV.

## Column V

### Description

A high resolution picture of col. V is available in paper format<sup>149</sup>. In l. 4 « μή » should be redirected to col. IV, 38 – 39, therefore it is understood « δέοντως γίνεται τὴν πέψιν ». In l. 22 the philologic crosses (double obelus) for « † τόπους † » do not seem necessary, as the author moves forward by treating, precisely, the affections depending on the places where the humours are present<sup>150</sup>. Ll. 28 – 29 read « αὐ|τους [[την] γ' \ τους / ». The term « αὐ|τους » is fixed on the basis of an original « αὐ|την », and the scribe wrote by mistake the particle γὰρ (in its abbreviated form « γ' = γ(ὰρ) ») two times unnecessarily, that is why « { γ(ὰρ) } » is eliminated.

### Explanation

V, 4: καθαρὰν<sup>151</sup>

V, 10 – 14: Ἐκ μ(έν)τοι γε|τῶν περισσωμάτ(ων) ἀποτελεῖσθαι δις|càc ὑγρότητας, μίαν μ(έν) ὀξεῖαν, τὴν δὲ|έτεραν πικράν, καὶ παρὰ τὴν ἑκατέρας| ἐπικράτειαν διάφορα γ(ίνεσ)θ(αι) τὰ πάθη.

The scribe finishes the description of the theory upheld by Herodicus of Cnidos by claiming that from the residuals in the body arise two major kinds of humour (ὑγρότητας), one acidic (ὀξεῖαν)<sup>152</sup> and one bitter (πικράν); the dominance (ἐπικράτειαν) of one upon the other is the factor that actually determines the nature of a disease. The seats of these two basic forms of humour — corresponding to bile and phlegm — are deemed to be the liver and the spleen<sup>153</sup>. In clear contrast with the notion of ἰσονομία (i.e. balance), ἐπικρατεία resembles and acts as μοναρχία (i.e. faulty preponderance of one bodily element in respect of the others), which, as it seems, can be traced

<sup>149</sup> CPF (2002), plate 57; CPF (2008), plate 44.

<sup>150</sup> Ricciardetto (2014), p. 47.

<sup>151</sup> Since G. Marengi strongly recommends the translation into Italian of καθαρός and kindred terms in medical jargon as 'evacuare' we follow his suggestion. Marengi (1965), p. 61 n. 57.

<sup>152</sup> Beckh - Spät (1896), p. 8: « sauer »; Jones (1947), p. 35: « acid »; Ricciardetto (2014), p. 4; (2016), p. 7: « piquante ».

<sup>153</sup> Thivel (1965), p. 278.

back and is indebted to Alcmaeon of Croton<sup>154</sup>. This kind of thinking pattern is also present in the description of Menecrates' views<sup>155</sup>. In this theoretical framework, with evident political echoes, illness is deemed to be an unbalance (δυσκρασία) of these elements, and the medical art an *imitatur naturam*, a reasoned and experimental scheme for taking those elements back to their natural proportions<sup>156</sup>.

V, 21: καὶ τὰ πάθη κατὰ τὰς τ(ῶν) ὑγροτή(ων) κράσεις.]: besides the humoral physiology, the notion of κράσις constituted one of the fundamental Hippocratic innovations to explain the constitution of health and disease<sup>157</sup>.

V, 32: the spleen (σπλήνα) is an organ of parenchymatic nature which is present in the majority of vertebrates. The foremost function of the spleen is the destruction of the old erythrocytes, the generation of new ones and maintaining some reserves of blood. The spleen also belongs to the lymphatic system and is the core of immunological activity. The spleen is located in the left upper quadrant of abdominal cavity; it has to do with the pancreas, the hemidiaphragm and the left kidney. Though varying in size, the spleen of an adult tends to be 12 cm length, 8 cm width and around 200 gr. of weight.

V, 34: this first time the scribe uses the substantive δόξα to qualify the opinion of a philosopher or a physician<sup>158</sup>. The Ἡροδίκου in the sentence is Herodicus of Cnidos in col. IV, 40 – 41<sup>159</sup>.

V, 35 – VI, 43: while cols. V, 35 – VI, 17 were translated into French by M. -H. Marganne<sup>160</sup>, col. V, 36 – 37 was translated into Italian and commented by D. Manetti<sup>161</sup>. The scribe addresses

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<sup>154</sup> Both terms were introduced by the pre-Socratic physiologist Alcmaeon of Croton. Cfr. DK Alcmaeon 24[14]B 4 [Diels (1951), pp. 215 – 216]; Jones (1984a), pp. XI n. 4, XLVII; Jouanna (1988), p. 32; (2012b), pp. 23 – 24 n. 6; Vegetti (1995c), p. 27 n. 24; Camassa (2006), p. 23. The way Aristotle conceived the sound condition and the health looks to be in reliance with Alcmaeon's categories. Cfr. Diels (1893b) p. 418, (1903), p. 107.

<sup>155</sup> Infra col. XIX, 27 – 29: « Τούτ(ων) (scil. στοιχείων) μ(έν) δὴ μὴ στασιαζόντ(ων), ἀλλ' εὐκρά|τως διακειμέν(ων), ὑγιαίνει τὸ ζῶιον,|δυσκράτως δὲ ἐχόντων νο[σεῖ] ». Cfr. also Gourevitch (1989), p. 247.

<sup>156</sup> Horstmanshoff (1990), p. 179; Tacchini (1996b), p. 91.

<sup>157</sup> Jouanna (1988), p. 33.

<sup>158</sup> Cfr. cols. XII, 36; XVIII, 8; XXVIII, 12. The term δόγμα is in this particular sense attested only once in the *Anonymus*.

<sup>159</sup> Diels (1893a), p. 115.

<sup>160</sup> Marganne (2004), pp. 67 – 68.

<sup>161</sup> The translation that D. Manetti provides in *CPF Aristoteles 37T*, p. 346 reads as follows: « (Ippocrate dice [...]), secondo quanto pensa di lui Aristotele. ». Cfr. Diels (1893b), p. 430.

Hippocrates' theory of disease in cols. V, 35 – VII, 40<sup>162</sup>. Nevertheless, it is the fragment contained between cols. V, 35 – VI, 43 that deserves most attention; firstly because it provides good proof of the fact that the Hippocratic writings were known at the Lyceum<sup>163</sup>, and secondly because the Peripatetics might have maintained a “heterodox interpretation” of Hippocrates' theories. The double apices are needed in this case. The humoral theory the tradition attributes to Hippocrates is a late forgery (basically due to Galen) built up on what one might read in some of the treatises in the Corpus Hippocraticum and developed overall from the 16<sup>th</sup> century onwards. The Hippocratic collection, in the form we know it today, goes back only to 1526, when the Aldine press in Venice printed the first edition of the complete works of Hippocrates in Greek<sup>164</sup>. Before Galenic Hippocratism dominated medical science, the writings that were progressively added to the Corpus Hippocraticum were subject to different interpretation. In the centuries that preceded Galen there was no agreement either about which the important humours were, or on whether they were the causes or the products of diseases<sup>165</sup>. Thus, for instance, the theory of the four humours elaborated in the Hippocratic treatise *The Nature of Man* was, in its time, just one humoral theory amongst others. There is another treatise where a theory of four humours is expounded with great clarity; in *Diseases IV* it is said that women and men have four kinds of moistness (ὕγροῦ τέσσερα εἶδεα) in their bodies: phlegm, blood, bile and water<sup>166</sup>. As a matter of fact, leaving to one side Polybus, none of the physicians mentioned in the *Anon. Lond.* actually did reduce the fundamental elements in the human body to the straight four humoral pattern of the classical Hippocratism<sup>167</sup>. The humoral theory was very much a minority view, even within the Corpus, and was fiercely disputed by many later writers. There is no such thing as ‘Hippocratic doctrine’, rather only the assembly of around 60 treatises in Ionic dialect which were the work of a great variety of authors from different periods (mainly during the 5<sup>th</sup> and the 4<sup>th</sup> century BC), and possibly belonging to different medical schools, that came to be compiled in Alexandria by the end of the 3<sup>rd</sup> century BC; hence the diversity of styles, methods, and doctrines in the Hippocratic collection<sup>168</sup>. However, we could assume that, in

<sup>162</sup> Diels (1893b), p. 421; Ricciardetto (2014), pp. XXXVI – XXXVII. For a detailed description of the whole passage cfr. *infra* ch. II § 5.

<sup>163</sup> Van der Eijk (2005) p. 270. Hippocratic treatises like *Airs, Waters, Places* or *Aphorisms* were known in the Lyceum as show the several references to these ones in the first book of the Προβλήματα. Cfr. Van der Eijk (2014), p. 351 n. 18.

<sup>164</sup> Nutton (1989), pp. 421, 433; (2004), pp. 59 – 60; Jouanna (1993), p. 52.

<sup>165</sup> Lloyd (2003), p. 204.

<sup>166</sup> Hippocrates *Nat. Puer.* [VII p. 542, 6 – 9 Li.]. For an overview of this subject cfr. Jouanna (2012j), pp. 336 – 337.

<sup>167</sup> Thivel (1965), p. 266.

<sup>168</sup> Jones (1984a), pp. XXII, XXVIII; Van der Eijk (1999d), p. 498; Manetti (2014), pp. 238 – 245.

general terms, ancient medicine was grounded on the 4 corporeal humours posited by Hippocrates/Polybus (phlegm, black bile, yellow bile, and blood) in combination with the 4 Empedoclean elements (water, fire, earth, and air), with the two pairs of opposed qualities (cold-hot/wet-dry) introduced by Philistion of Locris, and finally, with the four seasons of the year<sup>169</sup>. The humoral theory prevailed and shaped medical thought from its origin until 1858, when in experimenting on phlebitis R. L. K. Virchow dismantled it as theoretical construct<sup>170</sup>.

V, 36: διείληφεν<sup>171</sup>

V, 39: πλήθος: this is the first occurrence of this key term<sup>172</sup>. Other kindred terms are πληθώρα, πλησμονή, or πλεῖον. Below in col. VII, 35 the scribe will report that the πλήθος might yield fever, pleuritis, and epilepsy<sup>173</sup>. According to the testimony of Galen<sup>174</sup>, who devoted a treatise titled Περὶ πλήθους βιβλίον to this issue, Erasistratus explained the disease upon the basis of his theory of nutrition. Erasistratus considered the πληθώρα as a superfluity of blood engendered by an excessive intake of food, and consequently, also as a general pathological principle. Erasistratus maintained that morbid conditions were attributable either to an excess of blood (hyperaemia) or to a flooding of the veins which, in turn, produced a blood overflow from the veins to the arteries through the synanastomoseis — the fine capillaries that in normal conditions are closed; with it impeding, for compression, the regular conveyance of *pneuma* through the arteries<sup>175</sup>.

V, 45: κατακρατ[ο]υμένη<sup>176</sup>

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<sup>169</sup> Giannantoni (1984), p. 48.

<sup>170</sup> Marengi (1965), p. 19 n. 31.

<sup>171</sup> Diels (1893a), p. 87: « Exponere ».

<sup>172</sup> Cols. VII, 27, 34; VIII, 39; IX, 15; XII, 14; XIII, 22, 23, 25, 45; XIV, 4. Cfr. Thivel (1965), p. 268.

<sup>173</sup> Cfr. Manetti (1996a), pp. 307 – 308.

<sup>174</sup> Galen *De usu part.* VII 8 [III pp. 537 – 539 K.]. The abundance of nutriment was for Plato an essential factor in the perturbations of the intellect. Jouanna (2012g), p. 223.

<sup>175</sup> Cfr. von Staden (1989), p. 304; Longrigg (1993), p. 217.

<sup>176</sup> It admits the technical meaning ‘to digest, to concoct the aliment’ etc. (as it happens in Aristotle’s *Metereologica*).

## Column VI

### Description

A high resolution picture of col. VI can be consulted in paper format.<sup>177</sup> In l. 8 K. Deichgräber proposes an omission by the scribe « <μη> ἐλάχιστα ». To do so he refers to col. V, 41 – 44 where it is said that the residuals in the body are produced because of the excess of the ingested food. Though plausible Deichgräber's proposal remains uncertain<sup>178</sup>. In l. 13 the expression « Ταῦτα δὲ ἔφηεν ἀνήρ » is noted as a marginal addition; « \ταυτα δε εφηεν ανηρ/». In l. 32 « αναθυμ(ιαθειαι) » is written by means of an abbreviation consisting in superposing the letter μ on the υ, the whole word is to be found as a marginal note on the right part of the column: « \αναθυμ/». Ll. 34 – 35 offer another example of correction by the scribe. Having formerly written « φουσαι » but intending in reality « vocoi », he expunged the first syllable (i.e. [[φυ]]) and converted it into « vo », afterwards he wrote « coi » on the right of l. 34 (i.e. « \coi/»), finally canceling the group « και » heading l. 35. Consequently, P. reads « [[φυ]vo\coi/[[και] ]». In l. 40 the particle « ἄν » is in the margin, therefore « \αν/». The name « Ἰπποκράτους » in l. 43 is, according to Ricciardetto's reading, by far more clearer than Diels or Manetti believed; thereby, while in their respective editions the core of the name is reconstructed, in Ricciardetto's the central letters in the name of the Coan physician are slightly more legible.

### Explanation

VI, 1 – 7: the term θερμότης in l. 1 is the typical case of a substantive that stems from an adjective, that is to say, a substantived adjective obtained by the addition of the suffix -της to the stem (the same rule of derivation occurs with the suffix -τητος)<sup>179</sup>. Apropos of the term προζαρμάτ(ων) (i.e. nourishment) in l. 2, it is likely that cols. V, 43 – VI, 2 were shaped on Hippocrates' *Aphorisms* I 14 – 15<sup>180</sup>.

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<sup>177</sup> *CPF* (2002), plate 57; *CPF* (2008), plates 44 – 45.

<sup>178</sup> Ricciardetto (2014), p. 48.

<sup>179</sup> Cfr. Rousseau (2014), p. 166.

<sup>180</sup> Hippocrates *Aph.* I 14 – 15 [IV p. 466 Li.]. Cfr. Manetti (1996a), p. 295 n. 2; (1999), pp. 105 – 106; (2014), p. 233; Ricciardetto (2014), p. XXXVI n. 198. The same concept can also be found in Hippocrates *Hum.* VI [V p. 484, 11 Li.]; *Dec. hab.* XIV [IX p. 240, 13 Li.]. Cfr. infra ch. II § 5 n. 299.

The scribe tackles for the first time the topic concerning food and diet as a cause of disease, a tenet that will be taken up in more detail a short while later in col. VII, 21 – 35, where the scribe assesses the second of the main causes of disease (i.e. « ἡ [ἀπὸ τῶν διαίτημάτων] ») that Hippocrates apparently upheld. As such the topic is believed to hinge upon the Hippocratic writing titled *Nutrimet* (especially ch. XLII). It is supposed that the *Nutrimet* (Περὶ τροφῆς) was composed in midst of the 1<sup>st</sup> century CE<sup>181</sup>. H. Diller claims the *Nutrimet* fits much better with the natural speculation and reflection on dietetics that grew throughout the Hellenistic period than with the Heraclitean imprint; Diller therefore is of the opinion that the text of *Nutrimet* should not be attributed to Hippocrates, but rather it is more likely that the *Nutrimet* was composed by some author akin to the principles of medical Pneumatism<sup>182</sup>.

As regards the concept μεταβολή in l. 7, which will be used repeatedly from now onward, it plays an important role in both groups into which the scribe has split the doctrines of the ancient physicians on the causation of disease. The idea of mutation, change, or transformation (all the more if produced exaggeratedly) is considered the main factor when it comes to giving an account of a disease<sup>183</sup>.

VI, 13: this line constitutes a transitional addition, since the scribe is at this point summing up what he is expounding<sup>184</sup>. By the term ἀνὴρ, as in col. VII, 35, the scribe means ‘Hippocrates’.

VI, 14: κί[ν]ηθεῖς: it is a very polysemic verb; W. H. S. Jones translated it as ‘to adopt’ while Ricciardetto as ‘animé par’<sup>185</sup>.

VI, 14 – 16: τὸ γ(ὰρ) πνεῦμ(α)|ἀναγκαϊότατον καὶ κυριώτατον ἀπολείπει τ(ῶν) ἐν ἡμῖν,<sup>186</sup>

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<sup>181</sup> Jouanna (1992), p. 529.

<sup>182</sup> Diller (1936), pp. 178 – 179, 190.

<sup>183</sup> Camassa (2006), p. 19; Jouanna (2012b), p. 31.

<sup>184</sup> Ricciardetto (2014), p. XXIV.

<sup>185</sup> Jones (1947), p. 37; Ricciardetto (2014), p. 5.

<sup>186</sup> Aretaios of Cappadocia *De causis et signis acutorum* II 1 [CMG II p. 15, 4 – 5 Hude] apropos of pneumonia: « Δυοῖσι τοῖσι πρώτοισι, τροφῆ καὶ πνεύματι, τὰ ζῶα ζῆ, τουτέων δὲ πολλὸν ἐπικαιροτέρη ἢ ἀναπνοή· », « It is in virtue of two main principles that animals live, food and air, being the air by far the more necessary ». Cfr. Grmek (2000), p. 33.

VI, 18 – 23: ἐπέχειν: this passage was first translated into French by A. Debru<sup>187</sup>. It seems almost true that the content of the passage — that is to say, the vivid comparison (ἐοικέναι)<sup>188</sup> between the water lettuce and the description of mankind as rooted in air, carried hither and thither like that plant — does not mirror any treatise in the Corpus Hippocraticum; therefore perhaps it is a matter of an addition that the scribe found elsewhere, or even an interpolation of his own that he willingly adjoined. Since the dominant structure in the majority of vegetation is almost the opposite to the human, the scribe might have found the water lettuce a suitable example, for its structure looks to be the closest to human anatomy and its main function<sup>189</sup>.

The water lettuce (*Pistia Stratiotes*) is an aquatic herb that grows in the riversides and the meadows of Africa. From Pliny we learn that the *Pistia* only grew in Egypt, by the banks of the Nile when the river flooded the surrounding fields<sup>190</sup>. The water lettuce has refreshing properties and the power of healing the wounds, hence the name it takes: ‘soldier’ (στρατιῶται|καλοῦνται). Prepared as a beverage, it stopped renal haemorrhages.

VI, 31 – 38: At Pseudo - Aristotle *HA* X 3, 635b 5 – 10 the φῦσας (i.e. the air which is not breathed in but generated in the body)<sup>191</sup> can either grow in the stomach or in the womb. The opposite terms πολλὰι/ἐλάχισται in ll. 35 – 36 should be taken in a quantitative sense. In the *Anonymus Parisinus*, Praxagoras attributes the illness called ‘fanaticism’ (ἐνθραστικῶν) to the rising of the bubbles about the heart and the thick artery<sup>192</sup>. The situation described in the *Anonymus Londiniensis* looks in fact much more akin to the theories held by Praxagoras than the classical theory attributed to Hippocrates. As to the origin of certain diseases like epilepsy, madness, paranoia, or apoplexy, Praxagoras adduced a causal explanation very similar to what we find in the *Londiniensis*, a

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<sup>187</sup> Debru (1996), p. 2.

<sup>188</sup> Diels (1893a), pp. 90 – 91: « similem esse ».

<sup>189</sup> Aristotle *PA* IV 10, 686b 32 – 687a 2. At *Juv.* I 468a 4 – 13 Aristotle affirms that plants are contrary to animals — especially to man — because in being immovable and taking food from the soil the former must have the part through which the aliment is taken always down below (roots = mouth).

<sup>190</sup> Pliny the Elder *HN* XXIV (18/105) 169 [Mayhoff (1967), p. 110, 11 – 16]; Dioscorides *Mat. med.* IV 101 [Wellmann (1958b), pp. 256, 5 – 257, 5]. Cfr. Diels (1893a), p. 9; (1893b), p. 424 n. 1.

<sup>191</sup> It actually fits with the given definition of φῦσα in the anonymous treatise titled Περὶ ὀνομασίας τῶν τοῦ ἀνθρώπου μοριῶν 223, 8 – 9 : « Φῦσα δὲ τὸ ἐν ἐντέροις περισσὸν πνεῦμα ». Cfr. Daremberg – Ruelle (1879), p. 165.

<sup>192</sup> Cfr. *Anonymi medici* XX 1 (1) [Garofalo (1997), p. 120, 13 – 17].

causation which is also linked to the Cnidian treatises of the Corpus Hippocraticum<sup>193</sup>. The verb ἀναθυμ(ιαθεῖται) in l. 32 is another concept that has roots in the Lyceum<sup>194</sup>.

VI, 38 – 40: διχῶς δὲ μεταβάλ|λουσιν ἢ ἐπὶ τὸ ὑπέμετρον θερμὸν|ἢ ἐπὶ τὸ ὑπέμετρον ψυχρόν.<sup>195</sup>

VI, 42 – 43: Καὶ ὥς μ(έν) ὁ Ἀριστοτέλης οἶεται|>περὶ Ἱπποκράτους, ταῦτα: D. Manetti edited, translated into Italian and commented on this line<sup>196</sup>. The scribe reacted sharply to the alternative Aristotelian view of Hippocrates by inserting his own quotation<sup>197</sup> from the text as proof of what Hippocrates had really believed<sup>198</sup>.

VI, 43<sup>199</sup> – VII, 15: it has been postulated that the *Anon. Lond.* is mainly referring to two different Hippocratic writings: *Diseases I 2*, and *The Nature of Man II 5 – 6*<sup>200</sup>. Yet it is unclear whether the corrupted lines in cols. VI, 45 – VII, 1 are in fact a quotation of the title ‘*The Nature of Man*’<sup>201</sup>. The reader can find a full development of this issue below in ch. II § 5.

This blurred passage in the papyrus is doubtlessly of interest because it presents the views of the constitutive elements of the body as these appear in *The Nature of Man*. Polybus puts the stress on the number (4) and difference among the constitutive elements of the body<sup>202</sup>. The στοιχεῖα/ιδέαι

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<sup>193</sup> Thivel (2001), pp. 207 – 208.

<sup>194</sup> Beckh - Spät (1896), p. 10: « emporsteigen »; Jones (1947), p. 39: « which rising as vapour »; Ricciardetto (2014), p. 5; (2016), p. 8: « en s’ élevant ». Cfr. infra ch. VII § 2.

<sup>195</sup> Aristotle regarded both, cold and hot, as active qualities (ποιητικά). Cfr. Aristotle *Met.* IV 3, 378b 12 – 13.

<sup>196</sup> Col. VI, 42 – 43 was translated into Italian by D. Manetti in *CPF Aristoteles 37T*, p. 346: « E questo è come la pensa Aristotele a proposito di Ippocrate ».

<sup>197</sup> Cfr. col. VI, 42 – 44 ff.

<sup>198</sup> Nutton (2004) p. 207.

<sup>199</sup> Prior to her complete edition of the *Anon. Lond.* in 2011, D. Manetti edited the fragment covering cols. VI, 43 – VII, 40 in Manetti (1996a), pp. 296 – 298.

<sup>200</sup> Cfr. *Morb.* I 2 [VI p. 142 Li.]; *Nat. Hom.* [VI pp. 36, 42 Li.] respectively. Hippocrates is, by far, the medical author most represented on papyrus. Cfr. Marganne (2002), pp. 370.

<sup>201</sup> Hippocrates *Nat. Hom.* IX [VI pp. 52 – 55 Li.]. Cfr. Manetti (1986), p. 66. The *Nat. Hom.* is attested twice in the *Anonymus*. According to Diogenes Laertius’s *Vitae philosophorum* V 59 [Marcovich (1999a), p. 350, 14], the Aristotelian scholar Strato of Lampsacus (335 – 269 BC) wrote a treatise titled Περὶ φύσεως ἀνθρωπίνης. Van der Eijk - Francis (2009), p. 223.

<sup>202</sup> Jouanna (1993), p. 43. The referential text in this case is *Nat. hom.* IV. The purpose is twofold, on the one hand Polybus wants to take distance from the monistic accounts on the human body, but probably from other possible current explanations of the time, for instance, the binary theory based on the bile and the phlegm (as in Hippocrates *Morb.* I). Cfr. Jones (1984a), p. XXVI; Manetti (1996a), pp. 299, 301.

(blood, phlegm, yellow bile,<sup>203</sup> and black bile) are described in the treatise as being congenital<sup>204</sup> and invariable.

## Column VII

### Description

A high resolution picture of col. VII can be consulted in paper format<sup>205</sup>. One of the most noticeable traits in col. VII is the fact that the last letters in ll. 3, 6 – 7, 9, 11 – 13, 18, 20 – 21, and 23 are in fact on the left margin of the next table, the table III, which contains cols. VIII – XI; therefore, a gap of variable dimension is to be found between the final letters in the lines above and the beginning of the next column. The papyrus at this point has suffered a strong abrasion, so that the writing is very feeble<sup>206</sup>. In l. 7 the epsilon in « εἰλ[.]ϛτι.τοϛ[.]α.[ » overcharges another letter which cannot be deciphered, the third letter of the compound could be either a lambda or a delta. D. Manetti thinks that the last letters of the group could be restituted as « τὸ c[ῶ]μα »<sup>207</sup>. In l. 9 « [ύ]γρῶν » has been read almost in two other different ways: [ια]τρῶν and [ψυχ]ρῶν. The restitutions by Manetti « [αἱ(τια) λεκ]τέον » in ll. 22 – 23 and « τ[ὸ πάθος τίκται] » in l. 29 prove to make much more sense than those by H. Diels. In l. 31 the scribe forgot writing the last sigma in the word « vococ », hence « νόco<c> ».

### Explanation

VII, 1 – 5: the first five lines are almost illegible. In agreement with the translators into German of the *Londiniensis*<sup>208</sup>, Manetti affirms that ll. 3 – 15 are actually mirroring the Hippocratic treatise *Diseases I*. Accordingly, there have been attempts of reconstruction on the basis of that treatise.

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<sup>203</sup> Yellow (ξανθός) is the colour of the bile that the liver secretes according to Hippocrates *Nat. Hom.* VII. Erasistratus confessed not to be able to give an origin to the yellow bile, as that humour could be either endogenous or exogenous. Galen *De nat. fac.* II 8 [II pp. 108 – 109 K.]. Cfr. Viano (1984), p. 331.

<sup>204</sup> *Nat. hom.* V [VI p. 42, 18 – 19 Li.]: « συγγεγονότων ». Manetti (1996a), pp. 302 – 303.

<sup>205</sup> *CPF* (2002), plate 59.

<sup>206</sup> Manetti (1996a), p. 298.

<sup>207</sup> Ricciardetto (2014), p. 50.

<sup>208</sup> Beckh - Spät (1896), p. 10.

VII, 10: the expression « τ[(ῶν)] ἐν ἡμῖν »<sup>209</sup>, which refers to the constitutive elements in us, reflects a very current expression in *Morb. I*: « τὰ ἐν τῷ σώματι ἐνεόντα ».

VII, 11: φλέγματος for φλεγμασία<sup>210</sup>.

VII, 13 – 14: rather than a concessive meaning, the particle τε in combination with the adverb πάλι confers on the whole construction an accumulative sense that can be also found in cols. VI, 36; XVII, 20; XVIII, 5<sup>211</sup>.

VII, 15 – 21: the papyrus seemingly makes reference to the theories expounded in *The Nature of Man*<sup>212</sup>. The interpolation « Ἀλλ(λὰ) γ(ὰρ) ἔτι φ(ησὶν) Ἴπποκράτης [γί(νεσ)θ(αι) τὰς] νόσους ἢ ἀπὸ τοῦ πνεύματος ἢ [ἀπὸ τ(ῶν) διαί]τημάτων »<sup>213</sup> in ll. 15 – 17 is regarded by D. Manetti as a clear hint of a remark made by the scribe<sup>214</sup>, which certainly accords with the conclusion at which the scribe arrives below in VII, 36. This topic is developed below in ch. II § 5.

VII, 24: ἐπιχείρησιν.<sup>215</sup>

VII, 20 – 21: παρὰ [γ(ὰρ) πᾶσιν ἐ]κ|\_\_\_τούτ[ο]υ ἤπται αὐτὴ νόσος.<sup>216</sup>

VII, 27 – 28: πλευ[ρίτι]δος: in the Corpus Hippocraticum the pleurisy is classed as an acute disease generally accompanied by acute pain in the side<sup>217</sup>, cough, and a continuous fever. In view of these

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<sup>209</sup> Beckh - Spät (1896), p. 11: « körpern Stoffen? »; Jones (1947), p. 39: « elemental components »; Ricciardetto (2014), p. 5; (2016), p. 9: « ce qui est en nous ».

<sup>210</sup> Manetti (1986), p. 66.

<sup>211</sup> Manetti (1996a), p. 302 n. 17.

<sup>212</sup> Hippocrates *Nat. Hom.* IX.

<sup>213</sup> Beckh - Spät (1896), p. 11: « pneuma/Ernährungsweise »; Jones (1947), p. 41: « air /regimen »; Ricciardetto (2014), p. 6; (2016), p. 9: « souffle/ régimes ».

<sup>214</sup> Manetti (1996a), pp. 298 – 299.

<sup>215</sup> Diels (1893a), p. 91: « Ratiocinatio, syllogismus ».

<sup>216</sup> Hippocrates *Nat. hom.* IX [VI p. 54, 6 Li.].

<sup>217</sup> Jouanna (2012f), p. 182. Originally the name of this disease meant ‘prick in the side’ and not ‘affection of the pleura’, namely because the Hippocratic physicians ignored the membrane that covers the thoracic cavity. Grmek (2000), p. 28 n. 97. Aretaios of Cappadocia considered the pleurisy as an acute affection too. Cfr. Aretaios of Cappadocia *De causis et signis acutorum* I 10 [CMG II p. 12, 11 – 14, 6 Hude]; Grmek (2000), pp. 28 – 31.

symptoms, apart from the modern meaning given to this affection<sup>218</sup>, the pleurisy quoted in the *Anonymus papyrus* could also embrace some kinds of pneumonia as well as other affections of the lungs. In the *Anonymus Parisinus*<sup>219</sup> it is said that patients suffering from pleurisy have the hypochondria pulled up and the feeling of being pierced by a sharp point, they feel severe pain of the pleura and experience also difficulty in breathing; pleurisy is also accompanied by expectoration of sputa of every kind.

VII, 28: D. Manetti notes that the term *κύστασις* is the predominant one in the doxography and in the first part of the section on physiology<sup>220</sup>, while the notion of *κύγκρισις* is attested in the subsequent part, more particularly, in relation to the polemic launched first against Erasistratus and later against Asclepiades<sup>221</sup>. Manetti attributes this variation to the fact that the author of *Anon. Lond.* borrows the vocabulary he finds in the written sources he has at hand and consults while composing his writing<sup>222</sup>.

Regards to epilepsy (*ἐπιληψία*), this disease has an extensive literature, perhaps due to its evident and spectacular symptoms<sup>223</sup>, where science, religion, and popular lore converge and intermingle. The Hippocratic treatise titled *The Sacred Disease* is in this sense probably the first attempt to give a scientific explanation (i.e non-religious) for the origin of epilepsy<sup>224</sup>. In this particular case, beside other affections like fever or pleurisy<sup>225</sup>, the scribe of the *Londiniensis* puts the causation of the epilepsy not directly or uniquely in relation to the excess (*πλῆθος*), but rather he claims that the presence of alimentary excesses in the body is a factor of predisposition that prompts the apparition of these affections. In a way, this could be indebted to the view that Aristotle upheld in this particular regard. Thus, for example, in *On Sleep and Waking*<sup>226</sup> sleep is actually equated

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<sup>218</sup> Jouanna - Grmek (2000), pp. 120 – 121 n. 5.

<sup>219</sup> *Anonymi medici* VIII 2 (1) – 2 (3) [Garofalo (1997), pp. 59, 17 – 60, 9].

<sup>220</sup> Cfr. cols. VII, 28; XIV, 10; XVIII, 28 and XXII, 4, 8 respectively.

<sup>221</sup> Cols. XXVII, 43; XXXIV 3, 9, 10.

<sup>222</sup> Manetti (2013), p. 165.

<sup>223</sup> For a thorough description of an epileptic stroke see Hippocrates *Morb. Sacr.* X [VI pp. 372, 4 – 374, 20 Li.]; Aretaios of Cappadocia *De causis et signis acutorum* I 5 [CMG II p. 3, 4 – 5, 13 Hude]; Grmek (2000), pp. 13 – 17. Cfr. also Stover (2005), p. 358.

<sup>224</sup> Perilli (2006), p. 28. However, we do not find the word ‘epilepsy’ in *The Sacred Disease*; this affection is named by means of other periphrastic denominations. It suffices to assume that *The Sacred Disease* is prior to other treatises of the Hippocratic collection in which the concept is attested (e.g. *Airs, Waters, Places*). Thereby, *The Sacred Disease* was written in the 2<sup>nd</sup> half of the 5<sup>th</sup> century BC. Cfr. Abel (1957), p. 100; Jouanna (1992), p. 549; Nickel (2005), p. 321.

<sup>225</sup> Galen *De plen.* [VII p. 560, 9 K.]. Cfr. Manetti (1996a), p. 307.

<sup>226</sup> Aristotle *Somn. Vig.* III 457a 7 – 10.

with a kind of epileptic fit. The sleep mostly occurs after having food and heavy meals because the evaporation that takes place during digestion is greater, and as a result the draw of heat and matter upwards to the head (and its consequent shift downwards) is also more important. At an anecdotal level, in Antiquity it was widely believed that goats suffered from epilepsy, maybe because they are often seized by staggers, a symptom that resembles an epileptic fit<sup>227</sup>.

VII, 34 – 37: the scribe is trying to make clear the unsoundness in Hippocrates' attribution to a single cause (air) when many people are affected by the same illness, and to another a single cause (regimens) in the event of the rest of different illnesses that may occur<sup>228</sup>. The criticism that the scribe puts forward is one more among the several anti-Hippocratic hints that we find through the *Londiniensis*. The scribe's objection is based either on the fact that a single cause could be the origin of different diseases, or that different causes may lead to the same illness; the Hippocratic etiology seems to be false because it is too restrictive, or fallible when it comes to giving an account of the extreme variety of illnesses. The fact of ascribing the same consequence to several different causes is in the eyes of the scribe a clear proof of their falsity (this being a typical Empiric point of view)<sup>229</sup>.

The term δριμυτης in l. 35 is a substantive stemming from an adjective, a nominalised adjective obtained by adding the suffix -της. Moreover, the adjective ψευδός in l. 36 is a hapax in the whole treatise, which doubtlessly reinforces the scribe's contempt for Hippocrates<sup>230</sup>.

VII, 34: πλῆθος<sup>231</sup>:

VII, 37 – 40: Ἐ[κεῖνο] μὲντοι γε ῥητέον διότι [ἄλ]λως Ἀ[ριστο-]|τέλης περι τοῦ Ἱπποκράτους λέγε[ι καὶ]|40 <ἄλλως αὐτός φ(ησι) γί(νεσ)θ(αι) τὰς ὑ[ό]κου[c].

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<sup>227</sup> Nutton (2004), p. 77.

<sup>228</sup> We understand that this is what the expression « ψευδός ἐστιν τοῦ[το] » in col. VII, 36 intends. It gives another argument to believe that the scribe was not merely copying or taking notes but reflecting and concerned with what he was composing.

<sup>229</sup> Celsus *De Medicina Praef.* 18 – 21 [Daremborg (1891), pp. 5, 18 – 6, 13].

<sup>230</sup> Jouanna (2016), p. 8.

<sup>231</sup> Beckh - Spät (1896), p. 12: « Ueberfüllung »; Jones (1947), p. 43: « surfeit »; Ricciardetto (2014), p. 6; (2016), p. 10 : « pléthore ». Manetti (1996a), p. 307 n. 30 translates as « pletora ».

These three lines were edited, translated into Italian, and commented on by D. Manetti<sup>232</sup>. The scribe is taking back up the remark he made in col. VI, 42 – 44; so that now, once he considers that the “true” theory held by Hippocrates has been sufficiently expounded (he is no longer lingering on the Coan physician, but passes to consider Alcamenes’ opinions), the author of *Anon. Lond.* insists one more time on the necessity of differentiating the doctrine on the causation of disease that Aristotle (or Meno) put to Hippocrates and the theory that Hippocrates himself maintained about this concern, this being purportedly expounded on between cols. VI, 42 – 44 and VII, 37 – 40.

VII, 40 – 43: Οἷς ἐπό||μενος ὁ <A>βυδηγὸς Ἀλκαμέν[ης]<sup>233</sup> λέγει γί(νεσ)θ(αι) τὰς νόσου, ὡς φ(ησι) π[ερί]||αὐτοῦ Ἀριστοτέλης,

The passage where the scribe is concerned with Alcamenes of Abidos comprises cols. VII, 40 – VIII, 10<sup>234</sup>. The sentence « ὡς φ(ησι) π[ερί]||αὐτοῦ Ἀριστοτέλης » is presumptive evidence that the scribe is handling an Aristotelian source on which he draws to give his report on the opinions of Alcamenes (and previously on Hippocrates). The presumption lies in the fact that below in col. VIII, 11 ‘Aristotle/Meno’ is understood in the expression « ὁ αὐτὸς φιλόσοφος ». To this detail we should add the fact that the subject of the verb φησι in col. XII, 8 is, according to Ricciardetto, Aristotle.

## Column VIII

### Description

A high resolution picture of col. VIII can be consulted in paper format<sup>235</sup>. Ll. 14 – 17 are the most problematic. F. Kenyon and H. Diels deemed the juxtaposition of the adjectives καθαρά as a

<sup>232</sup> *CPF* Aristoteles 37T, p. 346: « Ma tuttavia bisogna dire che Aristotele parla di Ippocrate in un certo modo e in un modo diverso Ippocrate stesso dice che hanno origine le malattie ».

<sup>233</sup> Cols. VII, 41; VIII, 6. There were two cities called Abidos, one in the Hellespont and the other in Egypt.

<sup>234</sup> The whole passage in the *Londiniensis* concerning Alcamenes was severally collected in Grensemann (1975), pp. 11 – 12 fr. 8, and afterwards ll. 42 – 43 were reedited, translated into Italian, and commented on by D. Manetti in *CPF* Aristoteles 37T, pp. 346 – 347: « (Alcamene di Abide sostiene [...]), come dice di lui Aristotele ». For more information about this physician one might consult also Ricciardetto (2014), p. XXXVIII.

<sup>235</sup> *CPF* (2002), plate 58.

dittography, hence the elimination in the former edition: « {καθαρά} ». But this emendation does not work, in the sense that it involves a syntactical failure<sup>236</sup>. According to Manetti, the second καθαρά is not a dittography; rather, Manetti presumes a comma between the two apparently repeated adjectives, so that the first καθαρά refers to the head while the second to the food. It remains unclear, anyway, why the scribe expunged the expression « [καὶ οὐτω] » at the end of l. 16. L. 34 is a bit shorter than the rest in the column and finishes with a *spatium vacuum* to indicate the end of the sentence, the same case occurs below in col. XXXVI, 9. Although the shortness of the name, the last three letters in ‘Abas’ in l. 35 « Ἄβας » are barely legible; this makes room for other possibilities, for instance, « Aias »<sup>237</sup>. Given that A. Ricciardetto finds in the third letter the trace of a beta (β) instead of a iota (ι), we follow his reading<sup>238</sup>. In l. 35 the group « δ.ι...c » after the name « Abas » has been taken as the possible ethnicity of that physician, for example the island of Ἰ[κιο]c or Κ[νίδιο]c or indeed Π[όδιο]c. However, it is a mere conjecture as some other physicians quoted along the papyrus are never named by their ethnicities<sup>239</sup>. In l. 39 there is an abbreviated marginal note: « \του πληθου<sup>c</sup>/ ».

#### Explanation

VIII, 5: the adverb ἀπλῶς could be a reference to *Topics*<sup>240</sup>, where it takes the meaning of ‘speaking in absolute sense’ (as opposite to the expression « κατά τι »).

VIII, 11 – 34: is devoted to the etiological opinions held by Timotheus of Metapontus<sup>241</sup>. Since Timotheus is the only case of a physician associated with that city, Metapontus should not have been a relevant medical center at that time<sup>242</sup>. In this sense, an inscription dating back to 250 BC attests the existence of a modest educational medical establishment (ἐργαστήριον) in

<sup>236</sup> First of all the conjunction ὅταν is used with the subjunctive mood. Depending on the sentence with which we combine προκτιθεται the ensuing sentence demands either the maintenance of the καὶ in l. 16 or the change of προκτιθεται in the present into the subjunctive προκτιθεται. In the papyrus the scribe deleted καὶ in l. 16.

<sup>237</sup> Α[ι]αc. Ricciardetto (2014), p. XXXVIII. This is in fact Jones’ reading. Cfr. Jones (1947), p. 47.

<sup>238</sup> Ricciardetto (2014), p. 30.

<sup>239</sup> This being the case for Hippocrates, Plato and Philistion. Manetti (2014), p. 234.

<sup>240</sup> Aristotle *Top.* II 11, 115b 11 – 16.

<sup>241</sup> Ricciardetto (2014), p. XXXVIII.

<sup>242</sup> Nutton (1995), p. 16.

Metapontum<sup>243</sup>. Timotheus of Metapontus is only attested in the *Anonymus*<sup>244</sup>. Hippo of Croton<sup>245</sup> and Timotheus of Metapontus are two physicians from south Italy<sup>246</sup>, both equally putting the cause of disease down to the περιττώματα.

VIII, 6 – 10: in being quite similar, the scribe feels the need to underline the extant differences between the doctrines of Euryphon and Alcamenes. To do so, the author of the *Anonymus* quotes literally<sup>247</sup> a passage about which it is impossible to determine, anyhow, whether it was drawn from an original work by Alcamenes to which he had access, from a quotation he might have found in Alexander Philalethes' <sup>248</sup>, from Aristotle's (Meno) lost work, or if it were an addition of his own that he learned by heart.

VIII, 10 – 12: Ὁ δὲ| Μεταποντῖνος Τιμόθεος, καθὼς|φησι περὶ αὐτοῦ ὁ αὐτὸς φιλόσοφος,|λέγει:  
these two lines were edited, translated into Italian, and commented on by D. Manetti<sup>249</sup>.

VIII, 14 – 17: ὅταν μ(έν) γ(άρ) ἡ κεφαλή ὑγιήσῃ|καὶ κ[α]θαρά, καθαρὰ καὶ ἡ τροφή ἀπ' αὐ|τῆς  
π(ροσ)τίθεται τῷ ὄλωι νόματι, καὶ ο(ὕτως)|ὑγιαίνει τὸ ζῶιον·

H. Diels considered the substantive κεφαλή to be a mistake for κοιλία, which certainly seems to make sense. There seems to be a misreading between head and belly, another reason that prompted Diels to think that the author of the *Londiniensis* was a mediocre student of medicine<sup>250</sup>. Conversely, D. Gourevitch argues for the consistence of the argument expounded in the *Anonymus* by saying that it is not a confusion, but rather that Timotheus stated that it was the nutritive power of the aliment (and not the aliment itself, of course, as it had first been processed in the belly) that was distributed from the head to the rest of the body. According to Timotheus, the source of the illnesses consists in the blockage or in the retention of the nutritive power of the food in the brain,

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<sup>243</sup> Nutton (1995), pp. 14 – 16.

<sup>244</sup> Gourevitch (1989), p. 238; Manetti (1999), p. 109 n. 34.

<sup>245</sup> Cfr. infra col. XI, 22 – 41.

<sup>246</sup> Gourevitch (1989), p. 238.

<sup>247</sup> It is known that the *Anonymus* is made of a free usage of the consulted sources in combination with almost literal quotations. Manetti (1996a), p. 296.

<sup>248</sup> Cfr. infra ch. II § 4 n. 266 – 268.

<sup>249</sup> *CPF* Aristotele 37T, pp. 346 – 347: (« Timoteo di Metaponto afferma, secondo quanto dice di lui lo stesso filosofo, [...] »).

<sup>250</sup> Diels (1893a), p. XV: « caput et ventrem confundere ».

or in the fact that the nutritive power does not find a proper outlet from the head<sup>251</sup>, as it is this part of the body on which the discussion is centered<sup>252</sup>. In addition to this remark, given the important role played by the head in the causation of illness — for instance in the theories of Euryphon, Herodicus, Alcamenes, or Abas — there is no apparent need to substitute one word for the other<sup>253</sup>. It has yet to be investigated whether there is a correlation between the etiology based on the residuals and the encephalocentric body view; or in other words, whether there are hints allowing us to pose that encephalocentrism is the dominant slant among the physicians that belong to the first group reported in the second section of the *Anonymus* papyrus.

It is also important to note a slight variation in the translation of the adjective καθαρά, which in the majority of the extant editions has been translated as ‘pure’<sup>254</sup>. Insight into the medical, and more concretely, the pharmacological usage of this adjective suggests that the intended meaning, though close, could be somewhat different. Therefore, when the adjective καθαρά is applied either to a drug or to a therapeutical substance it means that it has the quality of expelling or making out from the body through an excretory via a matter whatsoever which is regarded as alien or pernicious<sup>255</sup>. This is the reason why we translate this passage as ‘[duly] evacuated’.

VIII, 18: διεξόδου<sup>256</sup>

VIII, 19: ἀποφράσσειν: this notion heads the rest of the concepts (περίσσωμα, μὴ ἔχειν διέξοδον, μεταβάλλει, ἐμμεῖναν) by virtue of which Timotheus explains the causation of illness<sup>257</sup>.

VIII, 29 – 32: this passage brings up another recurrent issue when it comes to the taxonomy of the anatomical parts in ancient medicine, in this case the discussion is about the concept of the ‘larynx’. The scribe is willing to stress the fact that by « τὴν τραχεῖαν ἀρτηρίαν » Timotheus of Metapontus intended the larynx. This denomination bears evidence of the original and former meaning of the

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<sup>251</sup> At *Met.* IV 2, 380a 1 – 2 Aristotle emphasises that a clear sign of health in regard to the whole body (not only to head) is the presence of all kinds of residual (urines, excrements, catarrhs etc.)

<sup>252</sup> Gourevitch (1989), p. 240.

<sup>253</sup> Ricciardetto (2014), p. 51.

<sup>254</sup> Cfr. Beckh - Spät (1896), p. 13: « sauber »; Jones (1947), p. 45: « clean »; Ricciardetto (2014), p. 6; (2016), p. 11: « pure ».

<sup>255</sup> Marengi (1965), p. 61 n. 57; Tarrant (1998), p. 234.

<sup>256</sup> Diels (1893a), p. 88: « Corporis ». Allegedly the “ways out” in the head.

<sup>257</sup> Gourevitch (1989), p. 238.

term ἀρτερία in Greek (reprinted later below in col. XXIII, 14). Originally a duct was meant by ἀρτηρία. What might have triggered the remark by the scribe is the fact that the Greek term for ‘artery’ once also meant ‘trachea’<sup>258</sup>. This meaning is also attested in Aristotle<sup>259</sup>. Thus, the apposition in l. 30 « λάρυγγ δὲ αὕτη »<sup>260</sup> reflects the will by the author of the *Londiniensis* to render a clearer idea of the tenet than the one he might have found in the source he was consulting, that is to say, that by τραχεῖαν ἀρτηρίαν he is namely meaning the larynx, or the upper extremity of the trachea<sup>261</sup>. The semantic ambivalence of the term τραχεῖα gives place precisely to the chapter in Aulus Gellius’s *Attic Nights* titled *That Plutarch in his Symposiacs Defended the Opinion of Plato about the Structure and Nature of the Stomach, and of the Tube Which Is Called τραχεῖα, against the Physician Erasistratus, Urging the Authority of the Ancient Physician Hippocrates*<sup>262</sup>.

On the other hand, the expression « ἐξαγωγή ἐκ τοῦ ζῆν » can mean either ‘the fact of dying’ or ‘death’. It is said to lie clearly afield of the medical domain, in actual fact only attested in two other texts of ethical content by Epicurus<sup>263</sup> and Arius Didymus. It suggests that the scribe’s philosophical knowledge was neither so poor nor risible as H. Diels thought.

VIII, 34: πληγήν<sup>264</sup>: the scribe recounts that Timotheus considered that illnesses might begin in three possible ways: an excessive heat, an excessive cold, or by a blow. The term ‘blow’ (the last cause mentioned) is how W. H. S. Jones translated the term πληγήν<sup>265</sup>. By this term it is seemingly intended something like “suffocation”. In the 1<sup>st</sup> century CE Aretaios of Cappadocia coined the term συγκοπή in the sense of ‘sudden and complete strike in virtue of which one loses the consciousness’ or ‘mortal collapse’. As such, and in this particular and narrow meaning, συγκοπή is neither attested in the Corpus Hippocraticum nor in any other ancient physician preceding Aretaios<sup>266</sup>. The

<sup>258</sup> Diels (1893a), pp. 85, 97; Allbutt (1921), p. 151; Jouanna (1993), p. 48; Longrigg (1993), p. 167; French (2000), p. 90.

<sup>259</sup> Aristotle *Aud.* 800a 21.

<sup>260</sup> Manetti (1990), p. 221 n. 10.

<sup>261</sup> This very intention will be found again below, in cols. XI, 34–35; XIII, 38; XVIII, 14. Manetti (2013), p. 166.

<sup>262</sup> Aulus Gellius *Attic Nights* XVII 11, 1 – 6 [Hosius (1903), pp. 211, 18 – 213, 18]. Cfr. infra ch. VII § 3.

<sup>263</sup> Epicure *Sent.* XX, 145, 19 [Usener (1963), p. 75]; *Sent. Vat.* XXXVIII; Diogenes Laertius *Vitae philosophorum* X 145 [Marcovich (1999a), p. 807, 12]. Cfr. Manetti (1986), p. 67; (2013), p. 167.

<sup>264</sup> In col. XXXVIII, 11 the term occurs anew (i.e. πληγαί), but taking the sense of a particular technique of body massage.

<sup>265</sup> Jones (1947), p. 45. Cfr. Beckh - Spät (1896), p. 13: « Verletzung »; Jones (1947), p. 45: « blow »; Ricciardetto (2014), p. 7; (2016), p. 11: « coup ».

<sup>266</sup> Cfr. Aretaios of Cappadocia *De causis et signis acutorum* II 3 [CMG II pp. 21, 27 – 23, 12 Hude]; Grmek (2000), pp. 44 – 47.

*Anonymus Parisinus*<sup>267</sup> includes the description of an acute disease precisely named ‘syncope’, though the author of the *Parisinus* does not concede to the συγκοπή the mortal irreversibility that Aretaios attributes to the syncope.

VIII, 35 – IX, 4: the scribe goes ahead by expounding Abas’s theory<sup>268</sup>. Abas lived at the end of the 5<sup>th</sup> century BC, and is a physician we know only through this witness in the *Anonymus*. As Alcmaeon of Croton first, Abas also thought that the head was the *punctum saliens* of illnesses, since they deemed that it was in the head where the excess of nutriment tended to get stored and from there then distributed to the rest of the body. In the *Londiniensis*, Abas’s theory of purgation of the excessive nutrients through the different extant outlets in the head looks to be in connection with the five different arterial ducts posited in the Hippocratic treatise *Places in Man*<sup>269</sup>. In this writing the number of fluxes (ρόοι) issuing from the head are seven in number, but only three are observable (those coming out through the nose, the ears, and the eyes)<sup>270</sup>.

The word κάθαρις in l. 36 is a typical abstractive substantive obtained by the addition of the suffix -σις. This and other syntactic constructions alike were the way the ancient Greek language built up a wide range of technical terminology. On this occasion the materialization of an action is intended<sup>271</sup>. The term κατάρροια in l. 44 amounts to saying ‘humours, humoral fluxes’. The absence or the weakness of bodily fluxes is also considered pathological, for it might bring about affections like sciatica or arthritis. For Abas the first and foremost part of the body is not the head but its content, the brain (ἐγκέφαλος), for the body’s general health actually depends on the evacuations of the brain (κάθαρισις). In view of the fact that they shared this same theory, Timotheus, Abas, and Alcamenes could be testifying the membership of a particular medical trend where such a view took particular import<sup>272</sup>.

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<sup>267</sup> Cfr. *Anonymi medici* X 1 (1) – 3 (25) [Garofalo (1997), pp. 72, 1 – 80, 20].

<sup>268</sup> Wellmann (1903a), p. 2.

<sup>269</sup> In light of the preface of Hippocrates *Loc. Hom.* [VI p. 294, 1 Li.]. Cfr. Ricciardetto (2014), p. 52. H. Diels put Abas’s theory of catarrhs in relation with Hippocrates *Loc. Hom.* I [VI p. 276, 12 Li.]; *Gland.* XI [VIII p. 564, 18 Li.]. Cfr. Diels (1893a), p. 13; Wellmann (1903a), p. 2.

<sup>270</sup> At *De san. tuenda* I 13 [VI p. 73, 3 – 7 K.] Galen states that the sutures of the calvarium are the in third place of importance as far as the purgation of the brain is concerned, adding that it is not unlikely that there is some drainage from the brain into the eyes. But it is in the last part of this book where Galen is mainly concerned with disorders of the head — due to the large amount of excrements it produces — and the lesions that affect the lower organs inasmuch as to them pass the catarrhs from the head to them. Galen *De san. tuenda* VI 9 [VI pp. 420, 11 – 423, 1 K.]; VI 13 [VI p. 440, 11 – 13 K.]. At *De san. tuenda* VI 12 [VI p. 439, 2 K.] Galen minds a certain Hippocratic procedure called παροχέτευσις which mainly consisted in diverting the catarrhs from the head to the nose by means of antiphlegmatic drugs.

<sup>271</sup> Cfr. Rousseau (2014), p. 162 n. 7.

<sup>272</sup> Gourevitch (1989), p. 241.

## Column IX

### Description

The first line in col. IX is lost and only a few traces of the second remain. The entire right part of the column is also lost. A review of the opinions held by some physician starts in l. 5. Because of the incompleteness, the readings for the remaining group « [...]κλεοδω[ »<sup>274</sup> in l. 5 are multiple. It could be read either as « Κλεόδω[ρος » or « [Ἡρ]ακλεόδω[ρος » (which was the restitution by Diels) or « Κλεοδό[της » or even as « Κλεόδα[ιος ». Problems of the same nature also arise when identifying the ethnicity of Herodicus in l. 20. In l. 37 this very problem reappears, but in a converse way; while the ethnicity (Egyptian) is clearly legible it is the name, supposedly ‘Ninyas’, that constitutes the hindrance this time. A. Ricciardetto reads « Νινυ[ » (like H. Diels<sup>275</sup> and D. Manetti), M. -H. Marganne reads « Νινυ[ » instead<sup>276</sup>. In l. 15 the preposition εἰς is in the interlinear space (i.e. \εἰς/), as is also the case for the expression « ἡ θερμό[της]» in l. 43: « \η θερμο/[της] ».

### Explanation

IX, 5 – 19: the passage has to do with the opinions of a certain physician whose purported name was Heracleodorus<sup>277</sup>, an author unattested elsewhere.

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<sup>273</sup> Beckh - Spät (1896), p. 13: « Ueberschuss »; Jones (1947), p. 45: « residue »; Ricciardetto (2014), p. 6; (2016), p. 11: « résidu ».

<sup>274</sup> Beckh - Spät (1896), p. 14: « Heracleodoros »; Ricciardetto (2014), p. 7; (2016), p. 12: « Héraclédore ». W. H. S. Jones (1947), p. 47 speaks about a long blank space in the papyrus in which one is to find the name « Heracleodorus ».

<sup>275</sup> Diels (1893a), p. 15: « Nomen plane incertum, Aegyptium tamen esse negant periti ».

<sup>276</sup> Ricciardetto (2014), p. 54.

<sup>277</sup> Ricciardetto (2014), p. XXXVIII. ‘Heracleodorus’ is in fact how the translators of *Anon. Lond.* have taken the group « [...]κλεοδω[ » in l. 5. Cfr. Beckh - Spät (1896), p.14; Jones (1947), p. 47; Ricciardetto (2014), p.7; (2016), p. 12.

IX, 37 – X, ? : the scribe is now concerned to expound the theories of a certain Niny[...] <sup>278</sup>. The papyrus is very deteriorated at this point, so that it is impossible to decipher the name. By comparison to other papyrus and ancient documents, there are several evidence of ‘Niny’ as current proper name in the Egypt at the time <sup>279</sup>. Following the way this name has been read in the Londiniensis’ previous editions, we limit ourselves to calling him « Ninyas the Egyptian ».

IX, 32: ια[τρικῆν] <sup>280</sup>

## Column X

### Description

Almost an entire column is lost between cols. IX and X <sup>281</sup>. Col. X is very lacunar. The first 26 lines are entirely lost, and in the fragment that extends from ll. 27 – 45 just the endings of the lines remain, sometimes only a few letters and sometimes almost the whole line, as in l. 39.

## Column XI

### Description

A high resolution picture of col. XI can be consulted in paper format <sup>282</sup>. As in the preceding column, the first five lines are illegible, and the next two lines have not been successfully deciphered. Between ll. 23 – 24 one might distinguish the traces of a *diple obelismene* which was not included in Diels’s edition, nor the *ekthesis* with which the first letter in l. 24 is written. The expression « καὶ[[ζ]ῶμ(εν)· » in ll. 25 – 26 results from a correction by the scribe of « καὶ [[υγια] γομ[ε]ν] ζῶμ' ». In l. 34 the first letter starts with *ekthesis*. The expression « Καὶ τοιούτωσ

<sup>278</sup> Diels (1893a), p. 15: « Nomen plane incertum, Aegyptium tamen esse negant periti. ».

<sup>279</sup> Ricciardetto (2014), p. XXXIX.

<sup>280</sup> Plato *Lg.* II 673a. Diels (1893a), p. 15.

<sup>281</sup> Ricciardetto (2014), p. XVI.

<sup>282</sup> *CPF* (2002), plate 59.

vocol(ογεῖ) » at the end of l. 41 is written in the interlinear space: « \και τοιου|τωσ voco<sup>λ</sup>/ ». The last two letters of ‘Θρασύμαχ[ο]ς’ in l. 43 are almost unreadable. Finally in l. 45 the expression « τή[v <τού>το]υ » apparently points to the fact that the scribe passed over the writing of a few letters for space reasons.

## Explanation

XI, 16 – 21<sup>283</sup>: since the adjectives πυρρά, πρασο[ειδή], and μέλαι[να] appear in a row it seems that the scribe is concerned with the different kinds of bile. H. Diels thought that this passage relied on the treatise by Rufus of Ephesus titled Περὶ ὀνομασίας τῶν τοῦ ἀνθρώπου μοριῶν 221 – 223<sup>284</sup>. Perhaps the most interesting is the wide array of colours the bile might have. Notwithstanding a slight variation called ὑποπύρρος, the red colour (πυρρά) is one of the 13 colours attested in the Corpus Hippocraticum<sup>285</sup>. Other red-like chromatic nuances are the ἐρυθρός and the φοινίκους. Apart from red, we find in the papyrus the occurrence of two other chromatic variants: πρασοειδής, which amounts to a leek-like colour or green, and black (μέλαινα).

XI, 21: the concept ‘hypostasis’ (ὑπόστασις) takes on a completely different meaning depending on the discursive regime or the jargon where it is used. Therefore, in Plotinus’s metaphysical system ‘hypostasis’ refers to each one of the three ultimate ontological instances (One, Nous, and Soul) of which Reality is said to be constituted; while in a medical treatise, as in this case, the remnant solid posits or sediments observable in the bottom of the urines are called ‘hypostasis’<sup>286</sup>. The fact that the term ὑπόστασις occurs mostly in the *Epidemics* (and kindred books of the Hippocratic collection) shows the existence of a prognostic trend bent on drawing conclusions from the assessment of the ailing person’s urine<sup>287</sup>.

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<sup>283</sup> Cfr. Manetti (1999), p. 110 n. 40; Ricciardetto (2016), p. 97.

<sup>284</sup> Daremberg - Ruelle (1879), p. 165.

<sup>285</sup> Byl (2011a), pp. 237 – 238. Empedocles, and later on Gorgias the sophist, maintained that colours were emanations (ἀπορροαί) from the objects perceived through some alleged corporeal channels (πόροι), a view that would exert an important imprint on Plato’s theory of colours in the *Timaeus*. Cfr. Vegetti (1995c), p. 52 n. 3. As regards the chromatic spectrum in Aristotle, the philosopher admitted 7 different types: black, white, grey, red, purple, green, and blue. Cfr. *Sens.* IV 442a 21 – 26.

<sup>286</sup> Cfr. *infra Comment.* on col. XXXV. In Hippocrates *Nat. hom.* XII [VI p. 62, 1 Li.]; XIV [VI p. 64, 19 Li.] this phenomenon is termed ὑφίσταται. Cfr. López Eire (1996), pp. 388 – 389. In the Corpus Hippocraticum one finds even two major adjectives to qualify such sediments: ἀνατατραγμμένα in the case they remain compacted in the bottom of the urines, and δασέαι if they are thick. Jouanna - Grmek (2000), pp. 261 – 262 n. 4.

<sup>287</sup> Cfr. Jouanna (1989), pp. 71, 78 (table III).

XI, 23 – 43: the scribe expounds Hippon of Croton's<sup>288</sup> opinions on the causation of disease. This passage was severally edited, translated into Italian, and commented on by D. Manetti<sup>289</sup>. The full and real name of the personage was Hipponax (Ἰππῶναξ), but he will be known by means of the hypochoresis form Ἰππων<sup>290</sup>. It is from the *Anon. Lond.* papyrus that we come to know the medical theories of this author who previously had mainly been considered a philosopher<sup>291</sup>. Originally from Samos, Hippon lived in South Italy, in Croton, and in Metapontus. In light of ancient textual witnesses, Hippon's impact among his contemporaries was rather little. He is derided in Cratinos's comedy titled *Panoptai* (a kind of *ante litteram* Aristophanes' *Clouds*), and his philosophy is defined by Aristotle as mediocre, and in fact Aristotle belittles him as a philosopher<sup>292</sup>.

In considering that humidity is the primordial substance in the universe, Hippon in a way takes up the principle posited by Thales of Miletus. From this initial hypothesis Hippon explains the disease: it is on account of the alteration, either by excess or defect, in this natural humidity that ailments arise. Consequently, Hippon sees death as amounting to a total loss of such a humidity or to dehydration<sup>293</sup>. As we shall see, Hippon's theory is actually the opposite of Philolaos of Croton's<sup>294</sup>. Whereas Hippon states that life and sensibility are possible by virtue of the humidity in us (ὕγρότητα), Philolaos claims instead that it is the heat that in fact makes them possible.

XI, 26: ὅταν μ(ὲν) οὖν οικείως ἔχη<sup>295</sup>

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<sup>288</sup> Diels (1893b), p. 420; Ricciardetto (2014), p. XL. Thivel affirms that this physician was also known as 'Hippo of Samos'. Thivel (2001), p. 203.

<sup>289</sup> *CPF* Hippo Crotoniates 1T, pp. 455 – 461. The translation of the passage into Italian by D. Manetti in *CPF* Hippo Crotoniates 1T, pp. 456 – 457 is as follows: « Ippone Crotoniate ritiene che in noi vi sia un'umidità propria, in relazione alla quale sentiamo e viviamo: quando un'umidità siffatta è nella sua condizione propria, l'essere vivente è sano, quando si disseca, l'essere vivente non ha sensazioni e muore. Ecco anche perché i vecchi sono 'secchi' e non hanno sensazioni, appunto perché hanno carenza di umidità, e analogamente le piante dei piedi sono insensibili perché prive di umidità. Espone tali argomenti fino a questo punto. In un altro libro lo stesso autore dice che quella che viene detta 'umidità' muta per eccesso del calore o del freddo e produce le malattie. E dice che essa muta in una maggiore umidità o aridità o in una maggiore densità o sottigliezza o in altro modo. E così spiega la malattia, ma non specifica le malattie che si producono ».

<sup>290</sup> Diels (1893a), p. 115.

<sup>291</sup> This applies to Philolaos of Croton too.

<sup>292</sup> Aristotle *Metaph.* I 3, 984a 8 – 11; *de An.* I 2, 405b 2.

<sup>293</sup> Jouanna (1992), pp. 376 – 377.

<sup>294</sup> *Cols.* XVIII, 8 – XIX, 1.

<sup>295</sup> Diels (1893a), p. 99: « suam naturam servare ».

XI, 29 – 31: Διὰ δὴ τοῦτ(ο)|[κ]αὶ οἱ [γέ]ροντες ξηροὶ<sup>296</sup> καὶ ἀναίθητοι, ὅτι|χωρὶς ὑγρότητος<sup>297</sup>: on this criterion, it was a common belief that in infants and young children the moist quality prevailed physiologically just as old people were dry by nature, for from his birth every animal daily becomes drier, and is not equally warmer or cooler at all ages<sup>298</sup>.

XI, 33 – 34: Ἐν ἄλλω|δὲ βυβλίῳ ἀύ[τ]ῶς ἀνὴρ λέγει<sup>299</sup>

XI, 34 – 35: the participle κα|τωνομασ[μ]έ[ν]η<sup>300</sup> is, according to D. Manetti, a clear hint that the author of the papyrus is citing a particular text that he had at his disposition<sup>301</sup>.

XI, 42 – 43: τὰς δὲ νόσους τὰς γινομένας|—οὐχ ὑπαγορεύει: this slight complaint owes to the fact that, according to the rhetorical scheme he might have found for the previous authors, at this point the scribe was expecting the description of different kinds of disease<sup>302</sup>; this means that the scribe tries to respect or follow the same expositive order of the source he is perusing.

XI, 42 – XII, 8: Thrasymachus of Sardis (Θρασύμαχ[ο]ς δὲ ὁ Σαρδιανός)<sup>303</sup> is another physician solely attested in the *Anonymus*<sup>304</sup>.

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<sup>296</sup> Since ‘are dry’, which is the solution adopted in the three extant translations of the *Anonymus* papyrus, is not really idiomatic in Italian, we propose the variant ‘appassicono’, as it seems also to fit with the original Greek.

<sup>297</sup> Aristotle *Long.* V 466a 18 – 21. Cfr. Joly (1968), p. 235.

<sup>298</sup> Cfr. Galen *De san. tuenda* I 5 [VI p. 26, 1 – 2 K.]; I 12 [VI p. 60, 1 – 4 K.]; V 3 [VI p. 319, 6 K.]; V 8 [VI p. 351, 1 – 2 K.]. In Hippocrates *Aph.* I 14 [IV p. 466, 9 – 12 Li.] it is stated that old men have little innate heat, this being also the reason why their fevers are less acute than others, for their body is also colder. In Hippocrates *Vict.* I 33 [VI p. 512, 11 – 12 Li.] we see a variation in the argument, since it is stated there that old men are cold and moist because fire retreats and there is an onset of water.

<sup>299</sup> This remark has been taken by D. Manetti as more proof for the autographical nature of *Anon. Lond.* Cfr. Manetti (1996a), p. 300.

<sup>300</sup> Diels (1893a), p. 95: « Qui supra dictus est ».

<sup>301</sup> The same explanation applies to the expression « διὰ τ(ῶν) κατωνομασ|μέν(ων) ἀποκρίσεων » in col. XIII, 38 – 39. Manetti (2013), p. 166.

<sup>302</sup> Manetti (1990), p. 223 n. 13. The same observation can be found in col. XX, 14 – 16 with regard to Petron of Aegina.

<sup>303</sup> Cfr. Nutton (2004), p. 80.

<sup>304</sup> Ricciardetto (2014), p. XL.

## Column XII

### Description

The expression « Με]ταβάλλ[ε]ιν δὲ » in the first line corresponds to an interlinear addition « \[.]ταβαλλ[.]ιν δε/». In l. 7, apart from the unnecessary letter ν in the verb ἐπιφέρει{ν}, the *lapsus* by the scribe is interesting, who forgot to change « χολή » to the accusative in the expression « τὸ μ(έν) αἶμα ἀπλοῦν [(έστιν)], ἡ δὲ χολή καὶ τὸ φλέγμα ». This means that he changed the syntactic structure of the sentence while writing; the origin of the mistake is probably due to the fact that in being *casus rectus* the other two words did not require any modification, hence why « χολή » remains in the nominative when in reality it should be in the accusative. In ll. 8 – 9 the proper name « Δέξιπ|πος ὁ Κῶιος » is written on the basis of a correction; it is a significant addition by means of which the scribe manifests the intention of specifying the ethnic of the personage: « δεξιπ|[π]πος\ο κῶιος/ ». In l. 13 the term in the interlinear space « \πολᾶc/» (instead of the right form « πολῶc ») shows the simplification of two identical consecutive consonants into one, a trait that is also witnessed in other places in the *Anonymus*<sup>305</sup>. The shred in the fibers of the papyrus renders the reading of l. 20 very difficult, apparently such shred is due to a manufacturing defect. The adjective « Περιττό|{το}τερον » in ll. 20 – 21 bears evidence of a dittography: the letter tau in the dittography is written with *ekthesis*. Between ll. 28 – 29 there is an unedited *paragraphos* that appears in neither of the earlier editions of the *Londiniensis*. In l. 31 the passive participle ἐπιμειχθέ(ντος) has the preposition in the interlinear space and the suffix of the genitive is severely abbreviated; thus P. reads « \επι/μειχθ<sup>e</sup> »<sup>306</sup>. As regards the name ‘Φακίτας’ in l. 36, it has not been deciphered unanimously. H. Diels, for instance, was of the opinion that Φακίλαc was preferable to Φακίτας, Φακίδαc, or Φακείδαc; W. H. S. Jones does follow Diels’s reading<sup>307</sup>. The expression in l. 41 « ἀποχωρ<ημάτων> αὐτ(ῶν) » corresponds to « αποχωραντ’ », and thus D. Manetti believes that it consists in a mistake that she puts down to the scribe’s fast writing style<sup>308</sup>. Lastly in l. 43 the article « τὰc » is repeated by mistake (thereby « {τὰc}»), for the ending of the next word in the sentence « [[υ]ροτη]]ταc » renders the former definite article unnecessary.

<sup>305</sup> Cols. I, 19 – 20: « αντιδιατε|[.]μενοι » for ἀντιδιατελ|[λό]μενοι; XVII, 42: « ενηλαγμε[» for ἐνηλλαγμέ. ; XXIX, 3 – 4: « συτελον|ται » for συτέλλον|ταί; XXXIV, 44 – 45: « πεc|όμε[.]ον » for πεccό|με[ν]ον etc.

<sup>306</sup> Maybe ἀπολευκανθέντος or ἐξυγρανθέντος. Cfr. Diels (1893a), p. 18. For an attempt of reconstruction on the grounds of M. Wellmann’s reading see Ricciardetto (2016), p. 100.

<sup>307</sup> Cfr. Manetti (1994), pp. 54 – 55 n. 29; Ricciardetto (2016), p. 101.

<sup>308</sup> Manetti (1994), p. 55.

## Explanation

XII, 8 – 36: the passage actually deals with the opinions maintained by Dexippus the Coan (Δέξιππος ὁ Κῶιος)<sup>309</sup>, a disciple of Hippocrates<sup>310</sup>. His activity is placed at the end of the 5<sup>th</sup> and the beginning of the 4<sup>th</sup> century BC. According to the *Souda*, Dexippus wrote a Ἱατρικὸν βιβλίον in one volume, and another treatise, in two volumes, titled Περὶ προγνώσεων<sup>311</sup>.

XII, 8 – 11: ὁ Δέξιππος ὁ Κῶιος οἴεται συν[ίτασθαι] τὰς νόσους ἀπὸ τῶν τῆς τροφῆς π[ε]ριττωμάτων, τοῦτ' ἔστιν ἀπὸ τε χολῆς καὶ φλέγματος,:

We should add that Aristotle held a very similar position in regards to phlegm<sup>312</sup>. Akin to those of Philistion of Locris and opposed to those of Erasistratus, it is precisely by means of the *Londiniensis* that we know about Dexippus's view on the constitution of the illnesses. Dexippus maintained a cardiocentric physiological stance<sup>313</sup>. Dexippus's opinion on the origin of the sweat is almost the same as one finds expounded in the Hippocratic treatise *Diseases*<sup>314</sup>. Apropos of this similarity, H. Grensemann<sup>315</sup> addressed some moot points in relation to Dexippus's doctrine with some treatises in the Hippocratic collection. M. Wellmann, and after him W. H. S. Jones, pointed out the similarities between Dexippus's etiological principles as they come in the *Londiniensis* and those in Hippocrates *Diseases* I or *Affections*<sup>316</sup>. Grensemann was mainly concerned with explaining where and why the doctrines of a Coan physician ended up featuring treatises which are generally ascribed to the Cnidian school<sup>317</sup>. To get to the point of the issue that Grensemann undertook, the discussion is centered on explaining the reason why a Coan physician like Dexippus

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<sup>309</sup> Wellmann (1903b), pp. 294 – 295.

<sup>310</sup> Diels (1893a), p. 114; Grensemann (1975), p. 210; Ricciardetto (2014), p. XLI; (2016), pp. LXXXIV – LXXXV.

<sup>311</sup> *Suidae Lexicon* (238) [Adler (1931), p. 23, 23].

<sup>312</sup> Aristotle *Somn. Vig.* III 458a 2 – 5.

<sup>313</sup> Cfr. Wellmann (1903b), pp. 294 – 295; Debru (1996), p. 188.

<sup>314</sup> Hippocrates *Morb.* I 25 [VI pp. 190 – 192 Li.]. Cfr. Debru (1996), p. 188 n. 38.

<sup>315</sup> As a matter of fact Grensemann shifts attention to this passage in the *Londiniensis* by giving a translation into German of col. XII, 8 – 36. Cfr. Grensemann (1975), pp. 210 – 211.

<sup>316</sup> Hippocrates *Aff.* I. [VI p. 208, 7 – 15 Li.].

<sup>317</sup> Grensemann (1975), p. 209.

was believed to have held that liquids and soft nourishment went into the lungs<sup>318</sup>, that is, why Dexippus maintained a doctrine downright ascribable to the Cnidian school<sup>319</sup>.

XII, 11: |τοῦτ' (ἔστιν) ἀπό τε χολῆς καὶ φλέγματος, δυ(νάμεων)<sup>320</sup> γ[ι(νομένων)] περὶ μέρος καὶ περὶ ὅλον,

We should like to move onto the consideration of a main point concerning Dexippus's theory of causation of disease. The difficulty arises from the apposition in l. 11 « |τοῦτ' (ἔστιν) ἀπό τε χολῆς καὶ φλέγματος, » which, to our mind, introduces a remarkable and distinctive characteristic in respect to the previous statement. No doubt, Dexippus of Cos believes that diseases are produced from the residues of nutriment, but the apposition introduced by the scribe gives the impression that the author of the papyrus wants to emphasise that bile and phlegm result from food residues, and consequently, that to Dexippus neither are held as constituents of the body. If our interpretation is right — which seems quite feasible considering that Dexippus is reviewed in the group of physicians who put the cause of disease down to the residues — it would certainly be cause for surprise, since Dexippus's position would be in conflict not only with the fourfold humoral theory, but also with its acknowledged binary variant whereby some physicians reduced the bodily humours to two (bile and phlegm) and accounted likewise for disease only on the grounds of those two<sup>321</sup>. On that very view, it turns out that in light of the report in the *Londiniensis* Dexippus would be, in a way, an extended version of the doctrine posited by Petron of Aegina<sup>322</sup>, for whom bile is a non constitutive humour, but originated *παρὰ φύσιν*; the difference lying in the fact — if we have understood correctly — that Dexippus applies this nosological attribution also to phlegm. The consideration of the bile as a “nosological outcome” can also be found in Aristotle.

XII, 36 – XIII, 9: the scribe shifts the attention this time to Phasitas of Tenedos<sup>323</sup>, another physician unknown if not for the *Anonymus* papyrus<sup>324</sup>.

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<sup>318</sup> Grensemann (1975), p. 210.

<sup>319</sup> Hippocrates *Morb.* I 12.

<sup>320</sup> Beckh - Spät (1896), p. 17: « kräfte »; Jones (1947), p. 55: « powers »; Ricciardetto (2014), p. 9; (2016), p. 15: « propriétés ».

<sup>321</sup> Hippocrates *Morb.* I 2 (VI 142, 13 – 20 Li). Cfr. Grensemann (1975), p. 212.

<sup>322</sup> Petron's etiological views are expounded in col. XX, 1 – 24.

<sup>323</sup> W. H. S. Jones read 'Phasilas' instead. Jones (1947), p. 55.

<sup>324</sup> Ricciardetto (2014), p. XLI.

### Column XIII

#### Description

In l. 13 the expression « καὶ δια[τι]θειςῶ(v) [τὸ ὄ]λον [c]ῶμ(α) » is a matter of a note on the right margin. P. actually reads « \ και δια[.]θειςῶ |(v) [...]λον | [.]ωμ̄ / ». In l. 15 before « αἴ  
εἴπεται » the group « θαικαπο\ » was canceled (i.e. [θαικαπο\]). Ll. 15 – 24 were partially reconstructed in connection with fr. 3<sup>326</sup>. In ll. 17 – 18 « ωc » was written twice, the dittography {ωc} probably owes to the fact that the previous word « διαθεσεωc » finishes in « ωc ». Also in l. 18 the disjunction « ἢ ὑγ[ιαί]νε(ι) » is expressed in the papyrus by means of a deletion and an interlinear addition « η [vo[.]ι] \ υ γ[... ]νε/ », that is to say, « ἢ [vocêĩ] ὑγ[ιαί]νε(ι) ». In l. 20 preceding the word ‘δυσκράτωc’ there is a *spatium vacuum*, signalled neither by H. Diels nor by D. Manetti, which makes the whole line a bit shorter with respect to the rest of the lines in the column. In l. 21 the verb « γί(νεc)θ(αι) » is abbreviated as « Γ<sup>10</sup> ». Apropos of this abbreviation, in l. 23 we find an interesting case of correction. Originally intending « Γινόμενον » the scribe realises that he has written « Γ<sup>10</sup> » by mistake; then he writes the verb in full but forgets to expunge the θ in the abbreviation which remains superscripted. He continues deleting the superfluous letters and finally adds the suffix betwixt the lines; consequently P. reads at this point « Γ<sup>10</sup>v[ε]o[cθαι]\μενον/ ». In l. 40 « αυξις » instead of « αὔξ<ηc>ιc » consists in a mistake that D. Manetti assigns to the scribe’s fast writing style<sup>327</sup>.

#### Explanation

XIII, 9 – 10: this should have corresponded to the introduction of a new author whose name is lost.

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<sup>325</sup> Diels (1893a), p. 84: « evaporatio, exhalatio » as opposite to ὑπομονή. Beckh - Spät (1896), p. 18: « Ablagerung »; Jones (1947), p. 55: « emanations » ; Ricciardetto (2014), p. 9; (2016), p. 16 : « émanation ».

<sup>326</sup> Fr. 3 in Kenyon - Diels (1901), pp. 1320, 1322.

<sup>327</sup> Manetti (1994), p. 55.

XIII, 19: εὐκράτως<sup>328</sup>

XIII, 21 – XIV, 3 [?]: after having dealt with Phasitas the scribe goes on to report the causes of disease according to Aegimius of Elis<sup>329</sup>.

D. Manetti has paid particular attention to the terminology the scribe uses in this passage (e.g. σύντηξις<sup>330</sup>, κατὰ τὸ λόγῳ θεωρητόν, κατὰ τὸ αἰσθητόν, ἀποφορᾶς, εὐλογον, ἀνάδοσις<sup>331</sup>, πρόσθεσις etc.) to singularise Aegimius's opinions; the Italian philologist has underscored that the majority of these notions will eventually be used next in the physiological section of the papyrus.

XIII, 27 – 28: κατὰ τὸ λόγῳ|θεωρητόν: this is the first occurrence of this expression in the papyrus, the scribe uses it to explain the gradual growth of the body according to the theory of Aegimius. « κατὰ τὸ λόγῳ θεωρητόν » and expressions like mean “a theoretical possibility of observation (*possibilité théorique d'observation*)”, while D. Sedley suggests “viewed by reason”<sup>332</sup>. In fact, as H. Diels noted, the expression was drawn from the Epicureans<sup>333</sup>; Asclepiades of Bithynia and Alexander Philalethes will make eventual use of this expression. Galen attributed it to Erasistratus, but as such it is not attested in Erasistratus's extant fragments<sup>334</sup>.

XIII, 29: μῦξι[ῶ]ν should be understood and rendered as meaning μῦκτῆρων

XIII, 30: ἀποκρίσεων<sup>335</sup>

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<sup>328</sup> Diels (1893a), p. 92: « Corpus concinne se habere ». Without the preverb -εῖ, the term κρᾶσις takes also the meaning of ‘good individual constitution’. Cfr. Pseudo - Aristotle *Pr.* I 3, 859a 16.

<sup>329</sup> Ricciardetto (2014), pp. XLI – XLII; (2016), pp. LXXXVI – LXXXVII. In the *De san. tuenda* II 12 [VI p. 160, 1 K.] Galen quotes the way to proceed with massage by a certain Aegimius, but it cannot be determined if he is the physician reviewed in the *Anon. Lond.*

<sup>330</sup> σύντηξις has been translated into English either as ‘colliquescence’ or ‘liquefaction’, and as ‘dissolution’ into French. Cfr. Jones (1947), p. 57; Manetti (2013), pp. 167 – 168; Ricciardetto (2014), p. 10. Cfr. Liddell - Scott (2006), pp. 1726 – 1727. Cfr. infra ch. II § 5.

<sup>331</sup> This very tenet could be found in the physician of the 4<sup>th</sup> century Dieuches. Cfr. Manetti (2013), p. 160 n. 28.

<sup>332</sup> Cfr. Vegetti (1995a), p. 462 n. 4.

<sup>333</sup> Diels (1893a), p. 93: « Terminus Epicureus ». Epicure *Ep. to Herodotus* XLVII, 7; LXII, 11; *Sent.* I 139, 5 – 6 [Usener (1963), pp. 10, 19, 71 respectively]. In Hippocrates *Flat.* III [VI p. 94, 8 – 9 Li.] = [CMG I 1 p. 93, 5 Heiberg] in combination with the expression ‘invisible to the eye’ we find the expression ‘visible to reason (τῷ δὲ λογισμῷ φανερός)’. Jouanna (2012c), p. 53.

<sup>334</sup> Cfr. von Staden (1989), p. 534; Vegetti (1993), p. 119 n. 79.

<sup>335</sup> Diels (1893a), p. 84: « secretio ». Cfr. cols. XXVII, 34; XIX, 43.

**Column XIV**

## Description

D. Manetti is of the opinion that between ll. 7 – 8 there could have been either a *paragraphos* or a forked *paragraphos*. In the intercolumnar space on the left of col. XIV, in correspondence to ll. 7 – 8, one may distinguish the feeble traces of something like “ /Λ./ ”. There is a strong likelihood that these traces stand for the lower part of a *coronis* with which the scribe indicated the passage from the former subgroup in the second section to the second subgroup reviewed<sup>337</sup>. The reconstruction of the expression « [κα]τὰ [c]ύ[μφοθ]αρσιν » in l. 14 hinges upon fr. 5 « \ [..]τὰ [..]ύ[... ]αρσιν / »<sup>338</sup>. In l. 20 the scribe wrote first « μίξινδε/σταν » instead of « μίξιν δέ (εἶναι) ὅταν »; he then decided to change the syntactic structure and transformed the ν in « μίξιν » into c, and the abridged infinitive « (εἶναι) » into the singular ἐστιν, afterwards also canceling « σταν » ; but apparently by mistake, for he wrote it again<sup>339</sup>. Between ll. 20 – 21 there is a *paragraphos* that H. Diels had not noted<sup>340</sup>. Diels’s integration « Δ[ιάκ]ρασις » in l. 23 seems to Manetti the most plausible. On the right margin in l. 29 one finds the addition « \καθ’ / » that stands for « καθ’ ἐ(ν) ». In ll. 31 – 32 after the word κύμφοθαρσιν in the sentence « κύμφοθαρσιν αὐτῶν τὰ ζῶια ἀπο[τελεῖσθαι] » there are many crossings-out and supralinear additions, some of them illegible. In l. 39 the expression « γί(νεται) καὶ αὐτὰ διάφορα εἶναι(ῶν) » is written in the interlinear space: « \Γ.<sup>1</sup> καὶ αὐτὰ διαφορὰ εἶναι / ». The first letter in l. 40 starts with *ekthesis*.

## Explanation

XIV, 6 – XVIII, 8: these columns were severally edited, translated into Italian, and commented on by D. Manetti<sup>341</sup>. We have devoted chapter V below to the study of this long passage dealing with

<sup>336</sup> Diels (1893a), p. 82: « Digestio ciborum ».

<sup>337</sup> Ricciardetto (2016), p. 104.

<sup>338</sup> Cfr. Manetti (1997), p. 144; (2011a), p. 27; *CPF* Plato 129T, p. 550.

<sup>339</sup> Manetti (1986), p. 59; Ricciardetto (2016), p. 110.

<sup>340</sup> Cfr. Manetti (2011a), p. 27.

<sup>341</sup> *CPF* Plato 129T, pp. 531 – 545.

Plato's medical views. Manetti's translation is as follows: (« Vediamo poi anche gli autori che fanno derivare le cause delle malattie dalla natura e dalla condizione dei corpi e coloro che ritengono che i nostri corpi si formino dalla composizione degli elementi. E cominciamo da Platone. Questo afferma che i nostri corpi si formano dai quattro elementi per distruzione simultanea perché anche gli oggetti nel cosmo si formano [allo stesso modo (?)]. C'è differenza fra queste tre cose: distruzione simultanea, mescolanza, crasi. Distruzione simultanea, cioè (con-)fusione, si ha, quando i corpi attraversandosi reciprocamente per intero producano una sola qualità superiore, come nel tetrafarmaco. Mescolanza si ha quando alcuni corpi si affianchino per giustapposizione e non si attraversino reciprocamente, come un mucchio di frumento, di orzo. Crasi si ha quando alcuni corpi convergendo nello stesso luogo si affianchino gli uni agli altri, come vediamo nel vino mielato. È dunque a partire dalla differenza di queste nozioni che Platone afferma che i nostri corpi si formano dai quattro elementi per distruzione simultanea: e in questo modo non appaiono singolarmente in noi fuoco o aria o terra o acqua, per il fatto che gli esseri viventi sono prodotti per distruzione simultanea di questi. Peraltro, egli dice che alcune delle nostre parti hanno una differente composizione, anch'esse nascono diverse l'una dall'altra. Dice poi che il midollo osseo è formato dai quattro elementi ed è la più importante di tutte le nostre parti, servendosi di questi argomenti plausibili: al midollo è connessa l'anima che governa tutto il corpo || [...] importante [...] degli elementi [...] e insieme [rotondi] [...] come si deve [...] dice [...] degli elementi [...] è formato (opp. sono formati) [...] e lisci [...Così] stando le cose divide [il midollo in] alcune parti e assegna per ciascuna parte una differente figura: infatti la figura del cervello [dice che] è liscia (?) e rotonda e circolare, del resto del midollo [la parte spinale] è lasciata nelle ossa [che lo contengono?]. E dal momento che dice che dell'anima stessa ci sono [parti (o specie, tipi)] assegna la [parte divina (oppure di essa)] razionale al servile, invece la parte [mortale oppure irrazionale] di essa al [resto del] midollo. Dice che le ossa sono formate dallo scambio di terra pura e midollo e per l'azione del fuoco [che li ha saldati] per fissazione. La carne è formata da terra e acqua e fuoco e una specie di lievito in un liquido salato e acido. Ed è diffuso nella carne anche un liquido fatto di calorie. Questo nei riscaldamenti eccessivi, fondendo rinfresca il corpo, nei raffreddamenti eccessivi vi si oppone e mantiene il corpo caldo. La maggiore quantità di carne si trova intorno alle ossa meno animate: intorno alle cosce e alle gambe e ai glutei c'è infatti molta carne, dal momento che le loro ossa sono meno animate. Invece intorno alla testa || ce n'è poca, perché le ossa della testa sono più animate. È ovvio che si dica che ciò che è grosso è inerte: c'è infatti il detto « ventre grosso non fa mente sottile ». E dice che le ossa sono state rese dure per fare da sostegno. Ad esse sono state fatte le articolazioni per permettere contrazione e piegamento. Al loro esterno, i nervi [legano?] la rigidità

delle ossa per produrre i movimenti volontari. Le carni hanno lo scopo di proteggere dal freddo e dal calore. E i nervi sono formati da carne senza lievito e ossa in una composizione peculiare. Così anche per le vene: ne presenta due, l'una verso destra, l'altra verso sinistra: di esse le ramificazioni della destra intrecciano le parti sinistre, le ramificazioni della sinistra le parti destre. E ci sono due cavità, di cui l'una in alto, l'altra in basso. La cavità in basso esiste per ricevere i residui di digestione. In questa sede è nato un intestino lungo e sinuoso, affinché il cibo, quando viene ingerito, non sia portato in basso facilmente ma vi rimanga per un certo tempo. Come infatti le correnti dei fiumi che hanno un corso diritto sono inarrestabili, mentre quelle dei fiumi dal corso curvilineo sono più miti perché sono ostacolate, così se l'intestino che si trova nella cavità inferiore fosse breve e diritto, il cibo sarebbe trasportato facilmente. Poiché invece è tortuoso e molto lungo, il cibo vi si ferma per molto tempo. E per ciò che riguarda il corpo questo è tutto. Dice anche che l'anima è tripartita e che una delle sue parti è razionale, l'altra emotiva e l'altra appetitiva. E assegna la parte razionale ai luoghi della testa: essi sono infatti naturalmente adatti ad accogliere il principio direttivo. La parte emotiva l'ha disposta nel cuore, in una sede non lontana dalla parte razionale, ma posta al di sotto di essa, appunto perché le sia sottoposta. Infine ha disposto la parte appetitiva nella regione fra diaframma e ombelico. Ha posto il fegato a contenere il desiderio affinché || i desideri [...] e il polmone vicino al cuore [...] la natura [...] molle. Il cuore, dice, avendo un frequente [movimento] saltando non [...] dice 'spugna' [...] dal momento che (ammalato) [...] anch'esso(a) si ammala e [...] se è sano(a) anch'esso(a) è sano(a) [...] verso il suo stato naturale. E riguardo all'[anima] basti questo. Dice che le malattie sorgono in tre modi: o a causa degli elementi o a causa della generazione dei corpi o a causa dei [loro] residui. A causa degli elementi le malattie sorgono quando essi divengano troppi o cambino forma o si collochino in luoghi inopportuni: se aumentano più del dovuto questi elementi producono malattie per la quantità. E poi anche quando escano dalla propria forma, ancora producono [le malattie]. Peraltro, allo stesso modo anche quando siano disposti in luoghi non appropriati producono malattie proprio per questo motivo: il trovarsi appunto in luogo inappropriato è morbifico. Così si formano le malattie a causa della disposizione degli elementi. A causa della genesi dei corpi le malattie sorgono in questo modo: per esempio la carne nasce da sangue solidificato e rappreso, i nervi dalle 'fibrine' del sangue. In questo modo se sono tolte le fibrine del sangue il sangue rimane per il resto non rappreso. Ma in definitiva bisogna dire che (*oppure* non rappreso, eccetto che [...]; poiché) la carne trae la genesi del sangue, i nervi dalle fibrine del sangue. In questo modo, dice, questi corpi sono tenuti insieme e nutriti dal grasso, quando esso si fonde ed è fornito attraverso la porosità delle ossa e nutre le ossa. Quando dunque la genesi dei corpi sia questa, l'essere vivente è nel suo stato naturale; quando

invece la genesi non sia questa, ma al contrario (in modo scambiato), produce malattie. Questo per ciò che riguarda la genesi dei corpi. A causa dei residui le malattie sorgono in tre modi: o a causa dei flussi d'aria || derivanti dai (*oppure* che accompagnano i) residui o a causa della bile o a causa del flegma. Per questi tre motivi sorgono malattie sia in generale sia specificamente. Infatti uno solo di essi produce malattie e due concentrandosi nello stesso luogo ancora producono malattie. Allo stesso modo anche attraverso i tre fattori combinati insieme sono prodotte malattie. L'opinione di Platone a proposito delle malattie è contenuta in ciò che ho detto. »).

XIV, 6: καὶ<sup>342</sup>

XIV, 12 – 32: the terms κρᾶσις and διάκρasiς (this latter in l. 23) are used interchangeably<sup>343</sup>. The explanation of the different kinds of mixture (σύμφθαρσις, μίξις, κρᾶσις)<sup>344</sup> presumes a classification akin to the Stoics<sup>345</sup>, but it is not known when or by whom such a classification was linked to and incorporated in the exegesis of the *Timaeus*.

XIV, 15: H. Diels saw a possible allusion to *On Coming-To-Be and Passing Away*<sup>346</sup>.

XIV, 16: σύμφθ[αρσιν], μίξις, κρᾶσιν<sup>347</sup>

XIV, 15 – 29: Chrysippus's theory of mixture allows for three kinds of relation between physical substances: juxtaposition or "joining" (μίξις), fusion (σύγχυσις), and blending (κρᾶσις)<sup>348</sup>. An example of juxtaposition is a mixture of beans and grains of wheat: their surfaces are in contact, but each preserves its own substance and quality. Fusion, by contrast, occurs when the substances and qualities mixed together are mutually destroyed, and another different body with different property is generated out of them, as it is the case of a compound medical drug. The original substances and

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<sup>342</sup> Diels (1893a), p. 21: « Desideres μετὰ ». The suggestion is adopted by W. H. S. Jones.

<sup>343</sup> *CPF* Stoici 3T, p. 793.

<sup>344</sup> For the concept of κρᾶσις see Aristotle *EN* VII 15, 1154b 11 – 15. Cfr. Van der Eijk - Francis (2009), p. 230. As for the different kinds of mixture, the topic is to be found in Alexander of Aphrodisias *De mixtione* III (593/595) [Bruns (1892), pp. 216, 1 – 217, 31]. Ricciardetto (2016), pp. 106 – 107.

<sup>345</sup> *CPF* Plato 129T, pp. 548, 554; Ricciardetto (2016), pp. 104 – 109.

<sup>346</sup> Aristotle *GC* I 10, 328a 5. Cfr. Diels (1893a), p. 21.

<sup>347</sup> Beckh - Spät (1896), p. 18: « Verschmelzung/Mischung/Vermengung »; Jones (1947), p. 61: « blending/mixing/compounding »; Ricciardetto (2014), p. 11; (2016), p. 18: « destruction simultanée/mélange/crase ».

<sup>348</sup> *SVF* II fr. 471 [von Arnim (1964b), pp. 152 – 153]; *SVF* II fr. 472 [von Arnim (1964b), pp. 153 – 154].

qualities of the ingredients can never be recovered from the fused new body, which now has properties that none of the ingredients had by itself. Thirdly, as regards blending, the blended substances and their qualities are mutually coextended throughout the entity, passing through one another everywhere, so that there are no parts of the blended mixture that do not participate in everything contained in the mixture; yet each of the original substances remains preserved with its qualities. This is the relation that Stoics believed happened between body and soul, since natural bodies are in a unified condition<sup>349</sup> by means of a natural material principle of unity that renders them in a single entity<sup>350</sup>. The notion of σύμφθορσις<sup>351</sup> is not really common in the usual Stoic definitions of ‘mixture’ — the most used term is σύγχυσις — but the verb (συμ)φθείρω is often used in the *definiens* of the former to indicate that the qualities of the components end up dissolved/fused in the composition. The *Anon. Lond.* shows an inverted view concerning both terms, that is, the mention of the term σύγχυσις is hereby almost of a secondary order, while that of σύμφθορσις takes most import. It could be this way because of the passage in the *Timaeus* 43a (συντήκειν), or due to the stress the scribe wants to put on the actual loss of the visible properties of each one of the elements comprising a mixture, or even due to the indication of a particular medical tradition<sup>352</sup>. But, why does the scribe takes this interest in the theory of the mixtures? At a certain point the Stoics (especially from Chrysippus’s notion of κρᾶσις διόλου onward) applied that theory to the *Timaeus* in order to give an account of the connection of the soul (πνεῦμα) with the body<sup>353</sup>.

XIV, 19 – 20: the scribe makes use of the example of the τετραφάρμακος to clarify what should be intended by ‘contemporary fusion’ (σύγχυσις)<sup>354</sup>. The first four premises in the Epicurean Κύρια δόξαι are also named τετραφάρμακος.

XIV, 25: the example of the honeyed wine is also attested in *On Breath*<sup>355</sup>.

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<sup>349</sup> *SVF* II fr. 366 [von Arnim (1964b), p. 124]; *SVF* II fr. 367 [von Arnim (1964b), p. 124].

<sup>350</sup> von Staden (2000), pp. 99 – 100.

<sup>351</sup> σύμφθορσις has two meanings: ‘simultaneous destruction’ and ‘melting into one another’. Cfr. Liddell - Scott (2006), p. 1687. This passage is actually addressing the combination of the four primordial elements according to the Greek view of the world, or more precisely, the combination of the bodies resulting from the combination of the primordial elements.

<sup>352</sup> For a supposed later medical usage of the term σύμφθορσις to explain the relationship between the food and the nutritive product after digestion see *CPF* Plato 129T, pp. 553 – 554.

<sup>353</sup> *CPF* Plato 129T, p. 555.

<sup>354</sup> Cfr. *infra* ch. I § 7. 1. For some usages of this drug in Antiquity see for example Galen *De const. art. med.* I [I p. 242, 5 K.]. Cfr. also *CPF* Plato 129T, p. 555; Ricciardetto (2016), pp. 109 – 110.

<sup>355</sup> Pseudo - Aristotle *Spir.* IX 485b 25.

XIV, 26: J. Blomqvist notes the particular postposition of the particle *τοιγάρτοι*, a usage rather uncommon that he judges as a peculiar trait of the scribe's style<sup>356</sup>.

XIV, 29 – 32: *ζύμφ[θα]ρ[c]ιγ*<sup>357</sup>: at this point the scribe addresses the issue of the mixture of the cosmic elements inside the human body. The explanation given for this problem was probably taken from *Timaeus* 56b – c. A quite similar argument, almost parallel, can be found in Galen<sup>358</sup>. The physician of Pergamon is taking issue with the commentators who claim that in *The Nature of Man* I Hippocrates rejects the theory according to which man is constituted of the four elements. Galen emphasises that Hippocrates is not against the theory, but against its monist version.

XIV, 33 – 34: *τετευχέναι* is the Ionian form for *τετυχηκέναι*. The use of *κρᾶσις* from this point onwards is not properly in accordance with the theory of mixture that the scribe has just described, but reflects the common meaning of the term. Hereafter the term *κρᾶσις* will take on the meaning of 'composition'<sup>359</sup>.

XIV, 39: *ὁ μυελός*<sup>360</sup>

XIV, 42: the syntagm « *πιθανότης λόγων* » makes manifest the feature of reliability of an argument. The expression is basically attested in writings from the 1<sup>st</sup> century CE onwards. Also of interest is the fact that in a rhetorical context the construction « *πιθανότης λόγων* » tends to convey a somewhat pejorative meaning, in the sense of "plausible but fallacious; deceitful argument" etc.<sup>361</sup> This negative meaning is stressed in the writings of early Christian writers, who used the expression to depict the tall tales invented by heathen thinkers. *πιθανότης λόγων* refers to occurrences in the *Timaeus* where a given description is deemed as feasible enough<sup>362</sup>.

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<sup>356</sup> Blomqvist (1969), p. 130.

<sup>357</sup> Diels (1893a), p. 22: Plato *Ti.* 82a.

<sup>358</sup> Galen *De elem. sec. Hipp.* V 15 – 18 (29/30) [CMG V 1, 2 p. 96, 7 – 21 De Lacy]; *CPF* Plato 129T, p. 556.

<sup>359</sup> *CPF* Plato 129T, p. 556.

<sup>360</sup> Diels (1893a), p. 22: Plato *Ti.* 73a – 74a.

<sup>361</sup> *CPF* Plato 129T, p. 558. Cfr. also Aristotle *Top.* I 11, 104b 14.

<sup>362</sup> E.g. Plato *Ti.* 27d, 29d 1; 30b 7. Cfr. Abel (1957), p. 97.

XIV, 43 – 44: both lines mirror *Timaeus* 73b 3 – 5.

XIV, 44: τὴν ψυχὴν τὴν τὸ ὅλον κῶμα διοικ(οῦσαν): this could be an allusion to Plato's *Laws*<sup>363</sup>.

## Column XV

### Description

A high resolution picture of col. XV can be consulted in paper format<sup>364</sup>. A good deal of the first half of col. XV is lost, the rectangular lacunae perhaps resulting from rolling the scroll. The first letter in l. 5 starts with *ekthesis*. In l. 10 the expression « καὶ ἅμα ψυ[.....] τὸ πῦρ » has been restored with difficulty. One might glimpse « ψυ[\τῶψυ[/ » in the interlinear space, and « ψυ » before the restitution could just as easily be « ςτ » (i.e. « ςτ[οιχεῖον » or the like). In addition D. Manetti interpreted the interlinear addition as « ]πα[ » as if « πα[ραμήκη » were the word that the scribe wrote<sup>365</sup>. In l. 11 the first word commences with *ekthesis*, a detail that passed unnoticed in the two former editions of the *Londiniensis*. In l. 15 there is a *spatium vacuum* noted by neither H. Diels nor D. Manetti. The reconstruction « τούτων]]έκκειμέν(ων) » in ll. 19 – 20 seems to be fortunate, since the expression « τούτων ἐκκειμένων » is a structure that the scribe tends to use in order to underpin either the beginning of a new paragraph or the commencement of a new topic<sup>366</sup>. In l. 25 Diels's reconstruction « ὁ ψ[ωτιαῖος περι]εχουσι » seems too long<sup>367</sup>, so that Manetti is of the opinion that it is necessary to find other possible restitutions appropriate to the available space. Manetti suggests either « κ(ατ)]έχουσι » or « π(ροσ)]έχουσι », for to some extent both seem to fit with the passage in the *Timaeus* concerning the nature of sperm<sup>368</sup>. The integration « κ(ατα)λείπ[ετ]αι. Καὶ [μὴν] » in l. 26 was suggested on the basis of the fr. 5 edited by F. G. Kenyon and H. Diels. It is seemingly the best possible<sup>369</sup> suggestion since it comes to establish that, in fact, the preponderant part of the soul is twofold or that one could distinguish two types, a mortal and an

<sup>363</sup> Cfr. Plato *Lg.* X 896d 10. *CPF* Plato 129T, p. 559.

<sup>364</sup> *CPF* (2002), plate 59.

<sup>365</sup> On account of Plato *Ti.* 73d 3.

<sup>366</sup> *CPF* Plato 129T, p. 560.

<sup>367</sup> *CPF* Plato 129T, p. 561.

<sup>368</sup> Plato *Ti.* 73b1 – d2.

<sup>369</sup> *CPF* Plato 129T, p. 561.

immortal one<sup>370</sup>. The expression « τε | τῆς {τε της} ψυχῆς [μέρη] » in ll. 26 – 27 attests another case of dittography as a result of distraction by the scribe; ll. 26 – 27 have been put in connection with fr. 5<sup>371</sup>; Manetti suggested the restitution [γένη] instead of [μέρη]<sup>372</sup>. The endings of lines ll. 35 – 40 were partially reconstructed on the basis of fr. 4<sup>373</sup>. In l. 40 the letter « ξ » that follows immediately after the restitution in the expression « τη{ι}κόμε[νην] ἐμψύχειν » could be a « η »; so that it could constitute again a dittography (i.e. « τηκομενηνηνηψυχειν »).

## Explanation

XV, 14: the most plausible reading is « αειταβοζκ[ ] »<sup>374</sup> insofar as a word beginning by « βοζκ[ ] » might bear some relation to food or nutriment. The passage in the *Republica* 338c suggested by H. Diels barely stands here; it looks much more likely instead to be a reference to *Timaeus* 73c 7.

XV, 20 – 30: διαί[ρεῖς]<sup>375</sup>: these ten lines make reference to *Ti.* 73b 8 – e 1.

XV, 26 – 28: Καὶ [μὴν] αὐτῆς τε|τῆς{τε της}ψυχῆς [μέρη] (εἶναι) λέγων|τὸ μ(έν) λογικτικὸν<sup>376</sup>

XV, 26 – 30: the scribe is at this point paraphrasing *Timaeus* 73b 6 – d 7, where Plato states that the divine (θεῖον) part of the soul is placed in the head whereas the mortal one (θνητόν) is in the marrow; this yields an eventual “bipartite interpretation of the soul”.

XV, 31: καθ(αρᾶς)<sup>377</sup>

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<sup>370</sup> CPF Plato 129T, pp. 562 – 563.

<sup>371</sup> Fr. 5 in Kenyon - Diels (1901), p. 1320; Ricciardetto (2016), p. 113.

<sup>372</sup> Manetti (1999), p. 122.

<sup>373</sup> Fr. 4 in Kenyon - Diels (1901), pp. 1320, 1322.

<sup>374</sup> Diels (1893a), p. 23: Plato *R.* I 338c.

<sup>375</sup> Diels (1893a), p. 87: « Scindere ».

<sup>376</sup> Diels (1893a), p. 24: Plato *Ti.* 69 d – e.

<sup>377</sup> Diels (1893a), p. 24: Plato *Ti.* 80e, 81a – c.

XV, 32: ἐναλ[ 5/6 τ]<sup>378</sup>: F. M. Cornford suggested the next two reconstructions: «ἐναλ[λαγῆ δ' ὑγρ]οῦ » or « ἐναλ[λάξ δ' ὑφ' ὑγρ]οῦ ».

XV, 30 – 33: the passage is a reference to *Timaeus* 73e 1 – 5. The term ἐμπήξει<sup>379</sup> is not easy to translate; it means something like “implant, infixation” or the like. In D. Manetti’s opinion, the best way to take l. 33 is as « τ]οῦ πυρός τε αὐτὰ ἐμπήξει π[ρος ηρ]τηκότος », for it matches the content in the *Timaeus* (i.e. the bones are mended or solidified by means of fire)<sup>380</sup>.

XV, 33 – 36: ὑ|\_\_\_γρότητα ἀλμυράν τε καὶ δριμεῖαν.<sup>381</sup>: these three lines seemingly mirror *Timaeus* 74c 6 – d 2. The verb παρεπάρθαι in the perfect tense is often used by Galen to speak about the diffusion of certain humours or liquids in the body<sup>382</sup>.

XV, 39: the term ἔγκαισις, literally ‘heat wave’, is a technical term of the pathology of the Post-Hellenistic period<sup>383</sup>. As a matter of fact heat is regarded as the main cause for the transformation of bodies.

XV, 40: τη{ι} κόμε[νην]<sup>384</sup>

XV, 41 – 42: ἐν]αν|τιοῦσθαι<sup>385</sup>

XV, 43 – XVI, 2: at this point the scribe paraphrases *Timaeus* 74e 1 – 75a 3.

XV, 46 – 47: ἐπειδήπ[ερ αὐτ(ῶν)] τὰ|ὄκτεια ἀψυχ[ότ]ερά (ἐστιν),<sup>386</sup>

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<sup>378</sup> Diels (1893a), p. 90: « vicissim mutare ».

<sup>379</sup> Beckh - Spät (1896), p. 21: « Vereinigung »; Jones (1947), p. 65: « hardened »; Ricciardetto (2014), p. 11; (2016), p. 20: « solidifiés ».

<sup>380</sup> *CPF* Plato 129T, p. 564.

<sup>381</sup> Diels (1893a), p. 25: Plato *Ti.* 74b – c.

<sup>382</sup> *CPF* Plato 129T, p. 565.

<sup>383</sup> *CPF* Plato 129T, p. 565.

<sup>384</sup> We take this participle as a verbal variation of τήκω/τάκω, as occurs for instance in *Ti.* 85d: « στοιχεῖα καυσούμενα τήκεται ». Cfr. Liddell - Scott (2006), p. 1787.

<sup>385</sup> Diels (1893a), p. 90: « Diversa via ire ».

<sup>386</sup> Diels (1893a), p. 25: Plato *Ti.* 74e – 75a. *CPF* Plato 129T, p. 565.

## Column XVI

### Description

A picture of col. XVI can be consulted in paper format<sup>387</sup>. In ll. 13 – 14 the deciphering of « παρα|[κ]εῖςθαι » is highly uncertain. Between ll. 30 – 31 there could have been, according to D. Manetti, a *paragraphos*; both lines present a lacunar beginning. In l. 39 the term « καρδ(ίαν) » is abbreviated as « καρδ<sup>δ</sup> ».

### Explanation

XVI, 1: τρ]οφή δὲ τ(ῶν) ἀλόγων ζώων: what is at issue in this passage is the possibility that some inferior animals (i.e. insects and worms) had their origin in the matter of decomposition (περίττωμα) by spontaneous generation<sup>388</sup>.

XVI, 2: ἐμψυχότερα makes reference, again, to *Timaeus* 74e 2 – 3. This time, as with col. XXIII, 38 where the scribe quotes Aristotle's *On Sleep and Waking*, the adverbial form ἀμέλει actually introduces a digression to indicate that the scribe is about to comment on the sound of the theory he expounds in light of a well known proverb. D. Manetti takes this reference to the inert world (τὰ ἐμψυχα) as the author's aim at putting mankind in the broader context of the external world<sup>389</sup>.

XVI, 3 – 4: « Παχεῖα γακτήρ|\_\_[λε]πτ[ὸ]ν οὐ [τ]ίκτηι νόσ[ν] »<sup>390</sup>: H. Diels remarks that it is a trimeter by an unknown poet. The sentence is transmitted by many ancient authors, both Greek and Latin, notably Galen, Seneca, and Pliny the Elder<sup>391</sup>.

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<sup>387</sup> CPF (2002), plate 60.

<sup>388</sup> In regards to this topic see Aristotle *HA* V 19, 551a 6. In *Mete.* IV 3, 381b 9 – 13 Aristotle affirms: « καὶ ζῶον (*scil.* worms) οὐκ ἐγγίγνεται ἐν τῇ πέψει, ὡσπερ τινὲς φασιν (perhaps Empedocles), ἀλλ' ἐν τῇ ἀποκρίσει σηπομένη ἐν τῇ κάτω κοιλίᾳ, εἴτ' ἐπανερχεται ἄνω· πέττεται μὲν γὰρ ἐν τῇ ἄνω κοιλίᾳ, σήπεται δ' ἐν τῇ κάτω τὸ ἀποκριθέν· δι' ἣν δ' αἰτίαν, εἴρηται ἐν ἑτέροις », (« and it is not true that worms are generated in the excrement which decays in the lower belly, and subsequently make their way upwards. For digestion takes place in the upper belly and the excrement decays in the lower. The reason for this we have explained elsewhere »). Trans. Lee (1952), p. 311.

<sup>389</sup> Manetti (2013), p. 164 n. 18.

<sup>390</sup> Diels (1893a), p. 25; Plato *Ti.* 75a – c. Diels (1893a), p. 86: « Ipse scriptor medicus utitur vocabulo κοιλία », (« Had the scribe been a doctor then he would have used the term κοιλία »). Diels (1893a), p. 115. Cfr. infra ch. I § 2 n. 32.

<sup>391</sup> Galen *Thras.* XXXVII [V p. 878, 13 K.]; Seneca *Ep.* XV 3, 17: « deinde copia ciborum subtilitas inpeditur »; Pliny the Elder *HN* XI (37/79) 200 [Mayhoff (1967), pp. 347, 22 – 348, 1]. Cfr. Ricciardetto (2016), p. 115.

XVI, 5: [ἀ]ποστηρί[γμα]τος<sup>392</sup>: this is in fact an Hippocratic term<sup>393</sup>; the sense the word takes here is ‘to bank firmly’ supplementing in this way the argument the scribe has previously explained about bones in col. XV, 30 – 33.

XVI, 6 – 7: π(ρὸς) τὰς συ|ςτολὰς καὶ κάμψεις.<sup>394</sup>

XVI, 7 – 9: διὰ τὰς κ(ατὰ) πρ[ο]αίρεσιν κιν[ή]σεις<sup>395</sup>: the sentence reveals a technical expression to define the voluntary movements, thus making the Herophilean medicine the *ante quo*<sup>396</sup>, for Plato ignored the distinction between the conjunctive and the voluntary motion nerves (συνδετικά ἢ προαιρετικά νεῦρα) insofar as such a distinction came as the result of Herophilus’s anatomical investigations.

XVI, 10 : the noun προβολή is linked to *Timaeus* 74b 7 – 8.

XVI, 11 – 13: κ(ατὰ) τινὰ|ἰδίαν κρᾶσιν.<sup>397</sup> Ὡδε καὶ φλέβας.<sup>398</sup>: both lines recollect *Timaeus* 74d 2 – 4.

XVI, 13 – 17: in the *Anonymus* one finds a rather scarce description of the circulatory system. The reason for this is that this aspect is unclear<sup>399</sup> in Plato, perhaps also why the scribe will address it in more detail in the next section. The term εὐώνυμα in l. 15 hints at some form of superstitious thought. Since bad omens were said to come from the left side, perhaps the author of *Anon. Lond.* avoids saying ‘left’ (ἀριστερά) and uses instead an euphemistic or apotropaic form. L. 16

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<sup>392</sup> Diels (1893a), p. 84: « Fulcrum ».

<sup>393</sup> *CPF* Plato 129T, p. 565.

<sup>394</sup> Diels (1893a), p. 94: « Membrorum coni. συςτολή ».

<sup>395</sup> Diels (1893a), p. 26: Plato *Ti.* 74a – b.

<sup>396</sup> von Staden (1989), pp. 318 – 319 fr. 141.

<sup>397</sup> Diels (1893a), p. 26.

<sup>398</sup> Diels (1893a), p. 26: Plato *Ti.* 77c – e.

<sup>399</sup> Plato *Ti.* 77c 9 – e 6.

κ(ατα)πλέκε[ι]ν<sup>400</sup>. As regards the term ἀποσχίδα also in l. 16, it stems from ἀποσχίς (split, division) and occurs in Hippocrates<sup>401</sup>, yet we find it here interpolated in Plato's theory.

XVI, 18 – 20: Plato (and Aristotle) concedes an ἄνω and a κάτω κοιλία<sup>402</sup>. The term κοιλία means in general “hollowness; cavity” etc. It can therefore be applied in many senses and in a wide array of situations. In ancient Greek there are mainly two ways to refer to the stomach: « κοιλία(η) » and « γαστήρ »<sup>403</sup>. J. Jouanna has laid the stress upon the fact that κοιλία is by far the preferred form in *Epidemics* I – III<sup>404</sup>.

XVI, 20 : ὑποδοχή is a reference to *Timaeus* 73a 3<sup>405</sup>.

XVI, 21 – 24: these lines refer to *Timaeus* 72e 3 – 73a 8.

XVI, 30: Ἐπεὶ δέ<sup>406</sup>

XVI, 24 – 32: l. 24 ποσοῦς χρόνου<sup>407</sup>. The comparison to rivers is, one more time, founded on the effort to understand what happens inside the body by means of what happens in the world, or outside the body. The scribe could have been inspired by Plato or Aristotle or even Theophrastus<sup>408</sup>. As regards this later reference, Theophrastus reports that it was Democritus who stated that if curved plants tend to live for longer than the straight ones it is precisely on account of the fact that their contorted shapes confer on the former a higher capacity to retain the nutriment. While Theophrastus (Democritus) gives a cause of material order, the scribe of the *Anonymus* offers a functional reason.

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<sup>400</sup> Diels (1893a), p. 95: « De venis ».

<sup>401</sup> Hippocrates *Oss.* V- VII [IX p. 172, 2, 5, 20 Li.]. Diels (1893a), p. 84.

<sup>402</sup> Plato *Ti.* 73a 3, 85e 10.

<sup>403</sup> Galen remarks that the ancients even called the stomach ‘pylori’ or ‘cardia’ *De san. tuenda* VI 14 [VI p. 444, 4 K.]. Cfr. Green (1951), p. 273.

<sup>404</sup> Jouanna (1989), p. 64; Ricciardetto (2016), p. 91.

<sup>405</sup> Cfr. also Pseudo - Aristotle *Pr.* I 40, 863b 33.

<sup>406</sup> Diels (1893a), p. 91: « Post irreallem conditionem ».

<sup>407</sup> Diels (1893a), p. 27: Plato *Ti.* 72e – 73a.

<sup>408</sup> *Ti.* 43a 6 – b 2; *GA* I 4, 717a 23 – 25; *De causis plantarum* II 11, 7 – 9 [Amigues (2012), pp. 93, 19 – 94, 24] respectively. Cfr. *CPF* Plato 129T, pp. 568 – 569.

XVI, 33 ff. : it is likely that the term τριμερής refers to the *Topics*<sup>409</sup>. The scribe introduces the doctrine of soul in the *Republic* but applies it to the *Timaeus*, suggesting that he might have used Arius Didymus's *Epitome*, which contains Platonic doctrines<sup>410</sup>.

XVI , 35: τὸ δὲ θυμικόν<sup>411</sup>

XVI, 36 – 38: εὐφρεῖς instead of εὐφρής. The term ἡγεμονικ(οῦ)<sup>412</sup> in l. 38 is well attested in the philosophical tradition (Democritus<sup>413</sup>, Plato<sup>414</sup> and even Neoplatonists), but it is among the Stoics<sup>415</sup> and the Epicureans<sup>416</sup> that the notion acquires special signification. τὸ ἡγεμονικόν is a way to indicate the ruling part of the soul in the purported hierarchical scheme of the psychical apparatus, whereby some functions or faculties hinge on others of more importance due to being in charge of the discerning of events coming from outside through the senses and perception, or of elaborating the representations ensuing from perceptual data. The moot point concerning the ἡγεμονικόν is to make clear where exactly in the body the hegemonic part is allocated, the issue becoming even odder because the location and particular properties allotted to the commanding psychical part vary from author to author (the chest, the diaphragm, the brain, the heart etc.)

XVI, 39 – 42: these three lines might be an allusion to Plato *Ti.* 70a 2 – 8.

XVI, 42 – 44: [ἴν]α δὴ καὶ ὑπήκο<ον> αὐτῶι γί(νηται).<sup>417</sup> μεταξὺ δια|[φρά]γματος καὶ ὀμφαλοῦ.<sup>418</sup>

XVI, 44 – XVII, 1: Ἐπέκτηεν<sup>419</sup>. It is a reference to Plato *Ti.* 71a 3 ff.

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<sup>409</sup> Aristotle *Top.* V 4, 133a 30 – 32.

<sup>410</sup> *CPF* Plato 129T, p. 570.

<sup>411</sup> Beckh - Spät (1896), p. 23: « Einbildungskraft »; Jones (1947), p. 67: « spirited part »; Ricciardetto (2014), p. 12; (2016), p. 21: « celui des émotions ».

<sup>412</sup> Diels (1893a), p. 28: Plato *Ti.* 45a – b.

<sup>413</sup> Solmsen (1961), p. 158.

<sup>414</sup> Plato *Ti.* 45a – b. Cfr. Diels (1893a), p. 28.

<sup>415</sup> *CPF* Plato 129T, p. 549.

<sup>416</sup> As neatly opposed to the flesh or to the body (σάρξ, σῶμα), in Epicurus the ἡγεμονικόν amounts to the so-called *animus*, which was believed to constitute properly the ψυχή.

<sup>417</sup> These two lines are seemingly an allusion to Plato *Ti.* 70d 7 – e 3.

<sup>418</sup> Diels (1893a), p. 28: Plato *Ti.* 70d – e, 71a – b.

<sup>419</sup> Diels (1893a), p. 92: « Praeficere ».

## Column XVII

### Description

A high resolution picture of col. XVII can be consulted in paper format<sup>421</sup>. According to D. Manetti, Diels's restitution of the adjective « πικνοκίγη[τος] » in l. 4 is fully consistent; it is worth noting however that such a term is only attested in Hippocrates' *On Joints* and in the Galenic commentary on the same treatise<sup>422</sup>. In l. 15 the term νόχοι is in the interlinear space, thus « \νοχοι/ ». Manetti is also of the opinion that Diels's restitution in l. 20 « πάλι ἐμποιεῖτ[αι ἑτέροι]c » is unacceptable because the middle voice in combination with the dative makes the sentence unintelligible, as the common form is the verb in the active voice followed by the accusative<sup>423</sup>. Ll. 22 – 23 were reconstructed by means of the discovery of the actual emplacement of fr. 2 by D. Manetti<sup>424</sup>. In ll. 31 – 32 the integration « ἄπη[κτος] » suggested by H. Diels seems to be the only possible one; the notion is clearly Aristotelian<sup>425</sup>. In the next line, though « τὸ αἶμα πλὴν ἐκ[ ] » is the most likely reading, it is nonetheless quite difficult to ascribe a sound ending to the sentence. The particle « ἐκ » might well be introducing a new sentence, so that if it were the case, a pause after αἶμα would be needed; therefore the text could end up integrated, for example, as « πλὴν ἐκ[εῖνο ῥήτ(έον)] »<sup>426</sup>. A. Ricciardetto suggests « ἐκ[ψυχθὲν] » or « ἐν[τεθνεῶτι] » on account of Plato *Ti.* 85d – e. As regards l. 46 Manetti believes that Edelstein's restitution « τὰς] φύσας τὰς μετὰ περιττωμ[άτ(ων)] » is preferable to « π[α]ρ[ὰ τὰς] φύσας [τὰς ἐκ (τῶν) πε]ριττωμ[άτ(ων)] » suggested by H. Diels.

<sup>420</sup> Diels (1893a), p. 28: « κατεχον vel κατοχον P. librarius haud dubie intellegebat κατελημμένον, quod contrarium sententiae. κάτοπτρον Platonicum restituendum ».

<sup>421</sup> *CPF* (2002), plate 60.

<sup>422</sup> Hippocrates *Art.* XIV [IV p. 124, 15 Li.]; Galen *In Hipp. Artic. comment.* I 68 [XVIII, 1 p. 413, 7 K.]. Cfr. Diels (1893a), p. 29; *CPF* Plato 129T, p. 572.

<sup>423</sup> *CPF* Plato 129T, p. 574.

<sup>424</sup> Manetti (2009), pp. 39 – 43; Ricciardetto (2016), p. 118.

<sup>425</sup> Aristotle *Mete.* IV 7, 385a 20, 385b 1.

<sup>426</sup> *CPF* Plato 129T, p. 575.

## Explanation

XVII, 1: τὰς ἐπιθυμίας τα[.].<sup>427</sup>

XVII, 2: π(ρὸς) τῆι καρδίαι the expression refers to *Timaeus* 70c 1 – d 6<sup>428</sup>.

XVII, 5 – 10: these five lines correspond to *Ti.* 72b 6 – d 3; the term ἐκμαγεῖον in particular could be a reference either to *Timaeus* 50c or 72c.

XVII, 11 – 23: the passage reflects *Timaeus* 82a 1 – b 8; regardless of the fact that the version provided by the scribe was dramatically resumed, it remains nonetheless quite attached to the Platonic source. The sentence in ll. 17 – 19 « καὶ γ(ὰρ) πλείονα γεγόμενα τοῦ δέοντ(ος) | τὰ στοιχεῖα νόσου κ(ατα)κευάζε[ι διὰ] τὸ πλῆθος »<sup>429</sup> deserves more attention. The comparative form πλείονα in l. 17 no doubt is an allusion to the term στοιχεῖα (elements), both *ad casum* and *ad sensum* because the scribe refers to the first of the three causes of illness in Plato's *Timaeus*. The way A. Ricciardetto translates the comparative<sup>430</sup> does not really match the scribe's intended meaning. Since the author has just expounded how the different elements — air, fire, earth, and water — constitute the different parts of the body, the στοιχεῖα should be taken as the constitutive elements (in an Empedoclean sense). Given that the στοιχεῖα are by definition always four in number, there cannot be more than four<sup>431</sup>. In any case, in the unlikely event that in the eyes of the scribe Plato likened the στοιχεῖα to the Hippocratic humours (or their qualities) the restrictive rule should be applied too, as the Hippocratic humours were also limited in number. Our objection is furthermore reinforced by the descriptions of the στοιχεῖα in other passages in the *Londiniensis*, for instance, in light of Menecrates or Philistion's theories<sup>432</sup>. The translation, therefore, in no way could suggest that the elements (the humours, or the qualities linked to the elements) are more numerous than four, this being what occurs with Ricciardetto's. It is not the case that the scribe is saying that Plato maintained that the causation of the illness was due to the excess of elements

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<sup>427</sup> Diels (1893a), p. 89: « Speculi imagines ».

<sup>428</sup> Diels (1893a), p. 29.

<sup>429</sup> Diels (1893a), p. 29: Plato *Ti.* 81e, 82a – e.

<sup>430</sup> Ricciardetto (2014), p. 13: « plus nombreux ».

<sup>431</sup> Aristotle *Metaph.* I 7, 988a 27 – 28; 8, 989a 20 – 21. Cfr. Longrigg (1993), p. 151; Jouanna (2012g), p. 219 n. 68.

<sup>432</sup> Cfr. cols. XIX, 22 – 24; XX, 25 – 27 respectively.

(more than four) in the body, but rather a certain partitive demands to be understood here; so that the meaning more adjusted to Plato's reading by the scribe is that illnesses arise when there is an excess of a certain element in the body, when there is more air, water, fire or earth in the body than necessary. In sum, in this instance the form *πλείονα* should be taken as synonym of 'excessive, some X is in excess, or more than necessary', in a much closer way to the meaning ascribed to terms like *πλήθος*, *πληθώρα*, *πληρομονή*, or *πλεῖον* above (as particularly happens in Aegimius of Elis)<sup>433</sup>.

XVII, 29 – 30: for Aristotle and Praxagoras the heart was the nucleus of vital activity, for Aristotle because he thought that the heart was in fact the first part of the body to be formed in the uterus after conception, for Praxagoras because he believed that the heart was the source of the nerves (the Coan physician conceived of the nerves as fine and thin prolongations of the arteries); hence the bounds between arteries, *pneuma* and mobility/motion in Praxagoras's anatomical and physiological system<sup>434</sup>.

XVII, 46: D. Manetti proposes *Timaeus* 84e 2 – 7 as the source on which the paraphrase might be dwelling at this point.

## Column XVIII

### Description

A high resolution picture of col. XVIII can be consulted in paper format<sup>435</sup>. In l. 10 the adjective « ἄμέτ<ο>χα » is seen in rather late Greek writings<sup>436</sup>; curiously it is again badly written in ll. 16 – 17 because the second letter ο in « ἀμέ]τοχόν » is rewritten on a former letter η, and the letter μ in the second occurrence apparently surcharges another letter. In ll. 15 – 16 there is a supralinear addition « \το δε εοικος τινη τατο δυναται | ωι εοικεν/ » on the right margin of the

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<sup>433</sup> Col. XIII, 22, 23, 25, 45 etc.

<sup>434</sup> Cfr. Nutton (2004) p. 126.

<sup>435</sup> *CPF* (2002), plate 60.

<sup>436</sup> *CPF* Philolaus 1T, p. 24.

column that D. Manetti takes as a proof for the incompleteness of the *Londiniensis*<sup>437</sup>. On the right margin of l. 27, the expression « π(ρὸς) αὐτ(ο)ῦ » is abbreviated as « \π'αυτ' / ». L. 33 bears evidence of the scribe's writing skills. Having written by mistake « μεcov » but intending « μ(ὲν) ἔcω » he first crossed out 'εov' (i.e. [[cov]]), and then wrote « cω » in the interlinear space (i.e. «\cω/») and added the mark « ´ » for the abbreviation of the particle « μὲν » above the initial letter μ (therefore « μ´ ») in the expression. Lastly, in l. 42 there is another case of deletion and correction in the interlinear space: « [[θερμον]] \ψυχον/ », which should be restored as « ψυχ<ρ>ὸν » since the letter rho is missing.

## Explanation

XVIII, 1 ff. : the idea the scribe has in mind, or else the Aristotelian source he was consulting, on bile and phlegm are certainly in contrast with Plato. The illnesses reported by Plato were well known at that time and in general attributed to some humoral disorder<sup>438</sup>.

XVIII, 4 – 5: καὶ δύο ε[ρυνάμφο]ω συνελθόντα πάλι νό|cουc κ(ατα)κ[ευάζ]ει.<sup>439</sup>

XVIII, 8 – XIX, 1: the scribe finishes the report on Plato and moves onto the theories by Philolaos of Croton<sup>440</sup> (Φιλόλαοc|δὲ ὁ Κροτ[ωνιάτ]ηc)<sup>441</sup>. This passage was severally edited and translated into English by D. Manetti in a contribution<sup>442</sup> previous to her complete edition of the *Londiniensis* in 2011.

H. Diels was of the opinion that Philolaos, a contemporary of Socrates, was a Pythagorean acquainted with the “Hippocratic” principles of humoral pathology<sup>443</sup>. Philolaos was born in the

<sup>437</sup> Manetti (1990), p. 226; (1994), p. 51 n. 18.

<sup>438</sup> *CPF* Plato 129T, p. 578.

<sup>439</sup> Diels (1893a), p. 31: Plato *Ti.* 84c – d.

<sup>440</sup> Cfr. infra. ch. III § 3. 2. 2. Diels (1893b), pp. 417 – 418; (1903), p. 249; Ricciardetto (2014), p. XLIII. The content in cols. XVIII, 8 – XIX, 1 is to be found in DK Philolaos 44[32]A 27 [Diels (1951), pp. 405 – 406]; while in G. S. Kirk and J. E. Raven's work it is just recollected col. XVIII, 8 – 28. Cfr. Kirk - Raven (1957), pp. 312 – 313 fr. 401. D. Manetti also addressed this author in *CPF* Philolaos 1T, pp. 16 – 31, and in Manetti (1990), p. 222. Philolaos is also mentioned in col. XX, 22 – 24 where, in regard to bile, the scribe compares Philolaos's views with those by Petron of Aegina.

<sup>441</sup> Manetti (1986), p. 68; Manetti (2014), p. 233.

<sup>442</sup> The translation in English is in Manetti (1990), p. 224.

<sup>443</sup> Cfr. Abel (1957), p. 113.

midst of the 5<sup>th</sup> century BC, and belonged to the generation that experienced the dramatical end of the political domination of the Pythagoreans at Croton. As a consequence, Philolaos was exiled and went in the first place to Lucania, afterwards to Thebes where he taught<sup>444</sup> in his midlife sheltered by the important Pythagorean community which had settled there. More than 20 fragments are attributed to Philolaos, some of them of considerable length, but opinion is divided on the question of their authenticity. Perusal of the extant fragments exhibits a notable resemblance to Aristotle's surviving accounts of Pythagoreanism<sup>445</sup>. G. S. Kirk and J. E. Raven likewise remarked on the similarity, both in the general picture and in the vocabulary, to the passages describing the beginning of the Pythagorean cosmogony<sup>446</sup>. It is also believed that Alcmaeon of Croton exerted a strong imprint on Philolaos's ideas<sup>447</sup>.

According to the *Londiniensis* papyrus, Philolaos upheld that our body is namely and mainly constituted of heat (in agreement with Aristotle)<sup>448</sup>, and that the air we breathe in is cold by definition (τὸ ἐκτὸς πνεῦμα ψυχρὸν ὄν)<sup>449</sup>. Such opinion probably lies in his cosmological theory whereby fire occupied the center of the universe as its ruling principle<sup>450</sup>. In respect of the causes of disease, Philolaos maintained that they were brought about by three humours (blood, bile, and phlegm) and affirmed that every kind of excess or defect of heat, cold, and nourishment intervened or prompted the apparition of pathological states<sup>451</sup>. Perhaps the most peculiar trait in Philolaos's theory is that he might have considered phlegm a warm element, and not a cold one as it was conceded among the majority of physicians of Philolaos's own day. Philolaos could have found this admittedly striking variant in a treatise titled Περὶ φύσεως ἀνθρώπου attributed to Prodicus, a pre-Socratic sophist<sup>452</sup>. Philolaos's most renowned disciple was Petron of Aegina, whose theories are also reviewed in the *Anonymus*<sup>453</sup>.

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<sup>444</sup> Plato *Phd.* 61 d – e.

<sup>445</sup> Aristotle mentions 'Philolaos' only once at *EE* II 8, 1225a 33. Cfr. Kirk - Raven (1957), pp. 309 – 310.

<sup>446</sup> Cfr. Kirk - Raven (1957), p. 313. The Pythagoreans affirmed the existence of the vacuum. They posited that vacuum penetrated the cosmos by means of the world's breath, as if the cosmos would have breathed in the void from the outside. Aristotle's picture of the Pythagorean cosmogony is based upon the analogy of the formation of the embryo in the womb. Aristotle *Metaph.* XIII 3, 1091a 13 – 21. For the fact of envisaging the origin of the cosmos by means of a primordial breath the Pythagoreans necessarily conceived of the world as a living being.

<sup>447</sup> Diels (1893b), p. 418.

<sup>448</sup> E.g. Aristotle *Juv.* IV 469b 7 – 10.

<sup>449</sup> Col. XVIII, 22 – 23. Cfr. DK Philolaos 44[32]A 27 [Diels (1951), p. 405]; Kirk - Raven (1957), p. 312 fr. 401.

<sup>450</sup> DK Philolaos 44[32]A 16 [Diels (1951), p. 403].

<sup>451</sup> Cfr. Jouanna (1992), pp. 377 – 378.

<sup>452</sup> Galen *De fac. nat.* II 9 (50) [II p. 130, 4 – 10 K.]. Diels (1893b), p. 419 n. 1; Manetti (1990), p. 230.

<sup>453</sup> Col. XX, 1 – 24.

XVIII, 20: κατακ[ευήν]<sup>454</sup>

XVIII, 12 – 20 : the scribe develops Philolaos's assumption whereby heat is the foremost principle in the living being. We find expounded therefore the conditions present and necessary for the generation to be possible. First, it is worth underlining that the idea of sperm as a warm fluid « τὸ σπέρμα (εἶναι) θερμὸν » also occurs in Aristotle<sup>455</sup>. The gloss in l. 14 « , [μήτρ]α δὲ αὕτη, » reflects the author's aim of disambiguating a concept that he might have deemed equivocal in the source he was using<sup>456</sup>. In this very line, the term 'insemination' or 'ejaculation' (καταβολή) is linked to the pre-Socratics<sup>457</sup>. The reason given by the scribe for the uterus to be warm presents some points of coincidence with Aristotle<sup>458</sup>. If we were to give a metaphysical reason for that, we could adduce the so-called 'Movement Towards the Same'<sup>459</sup>.

XVIII, 21 – 23: the incessant need for the attraction and expulsion of air is a central aspect in the cosmology of the Pythagoreans<sup>460</sup>.

XVIII, 24 – 28: διὰ τοῦτο δὴ καὶ ὄρεξις τοῦ ἐκτὸς πνεύματος, ἵνα τῆ|ἐπεισάκτωι τοῦ πνεύματος ὀλκῆ θερμότερα ὑπάρχοντα τὰ ἡμέτερα σώματα π(ρὸς) αὐτ(ο)ῦ|καταψύχηται.

One might find the Pythagorean cosmogony reproduced here, but applied to mankind. In actual fact the Pythagoreans were the first pre-Socratic philosophers to propose that the whole universe respire<sup>461</sup>. Apropos of this, in the *Physics*<sup>462</sup> Aristotle brings up a passage concerning the opinions the Pythagoreans held on this matter wherein the *pneuma* amounts to a "substance"<sup>463</sup>

<sup>454</sup> Diels (1893a), p. 95: « Demonstratio ».

<sup>455</sup> Aristotle *GA* II 4, 748b 25 – 27.

<sup>456</sup> Manetti (1990), p. 225; (2013), p. 166.

<sup>457</sup> DK Philolaos 44[32]A 27 [Diels (1951), p. 405]; Kirk - Raven (1957), pp. 312 – 313 fr. 401.

<sup>458</sup> Aristotle *GA* II 4, 739b 9 – 12.

<sup>459</sup> Prince (2014), p. 923. In Hippocrates *Morb.* IV 17 there is a description of an experiment in order to explain how the similar entities move and experience attraction to each other.

<sup>460</sup> J. Bremmer named it « infinite breath » (ἄπειρον πνεῦμα). Cfr. Bremmer (1989), p. 200.

<sup>461</sup> Debru (1996), p. 178.

<sup>462</sup> Aristotle *Ph.* IV 6, 213b 22 – 27; DK Pythagoreans 58[45]B 30 [Diels (1951), pp. 459 – 460]. Cfr. Bernabé - Mendoza (2013), pp. 35 – 36. The verb ἔλκω is a technical term, which corresponds to the ἀναπνέοντι in Aristotle's fragment extracted from the *Physics* IV 6.

<sup>463</sup> The *pneuma*, the primordial substance the cosmos respired, cannot be likened in this case to air because in such a mythical picture of the origins any of the four classical elements had yet to come to be (or to separate).

inhaled from the outside (which Aristotle equates to void). In any case, in the *Anonymus* papyrus it is stated that this endless process is mainly to do with cooling the bodily heat. As regards the adjective ἐπειράκτωι<sup>464</sup>, it is commonly found in Aristotle's biological treatises.

XVIII, 35: διαιρουμέν(ων)<sup>465</sup>

XVIII, 36 – 37: τὸ δὲ φλέγμα συνίστασθαι ἀπὸ τῶν ὄμβρων φησὶν.: in the Hippocratic treatise *The Nature of Man*<sup>466</sup> phlegm is also assigned to the rains, as the rainy seasons (springtime and autumn) are midway, while the acme for blood is said to be in the summertime. D. Manetti believes, however, that there is no reason to introduce a climate reference in this passage. The philologist instead proposes a metaphorical use of ὄμβρος in a physiological context (i.e. 'liquid'), and argues moreover that the infinitive συνίστασθαι has a clear technical meaning: 'to consist of, to be composed of'<sup>467</sup>.

According to Philolaos blood becomes a cause of disease when it is altered by external mechanical causes that influence the pressure of the blood vessels and the flesh. For Philolaos phlegm was warm and composed of liquids; that is to say, he did not see phlegm as properly constituting a humour<sup>468</sup>, but he continued to maintain its primordial meaning (inflammation or inflammatory swelling). We could assume that Philolaos considered bile and phlegm effects rather than causes of disease<sup>469</sup>; therefore drifts away from the Cnidian pathological theory based on a binary theory of humours (bile-phlegm)<sup>470</sup>.

XVIII, 37 – 40: the bile as a serum (ιχώρ) of the flesh, a harmful liquid in Petron's view; the closest parallel to this opinion is in Plato *Timaeus* 82 e ff<sup>471</sup>.

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<sup>464</sup> Cfr. infra ch. VI § 2. 1.

<sup>465</sup> Diels (1893a), p. 87: « Laxari ».

<sup>466</sup> VII, 20: « τῶν ὄμβρων »; VII, 44 – 48: « τῶν ὑετῶν ».

<sup>467</sup> Manetti (1990), pp. 228 – 229.

<sup>468</sup> Manetti (1990), p. 230.

<sup>469</sup> Similarly, in the first half of the 4<sup>th</sup> century BC Petron of Aegina (infra col. XX, 1 – 24) held that bile was produced only when the body was diseased; so that contrary to the general belief bile itself was not the cause of disease. Cfr. infra ch. V § 3. 2. 2.

<sup>470</sup> Manetti (1990), p. 231.

<sup>471</sup> Manetti (1990), p. 230.

XVIII, 44: ἀπὸ γ(άρ) τοῦ φλέγειν φλέγμα εἰρήσθ(αι)<sup>472</sup>

XVIII, 45: by the expression « ταύτη δὲ καὶ » the scribe introduces a new example in support of the main issue under discussion<sup>473</sup>.

XVIII, 48: [c]υνεργὰ δὲ ὑπερβολ[ά]ς<sup>474</sup>: the term *συνεργὰ* is a kind of hapax in the *Anonymus* papyrus and points to a certain hierarchy between the different causes. In actual fact the causes defined as *συνεργὰ* are opposed to the primary causes, therefore, contributory or coalescent causes. This classification resembles the Stoic system<sup>475</sup> more than the Aristotelian, and it was probably current in the rhetorical schools of the early Roman empire<sup>476</sup>. As regards the notion ὑπερβολ[ά]ς, it has the meaning of ‘extreme condition’ (either by excess or by defect)<sup>477</sup>.

## Column XIX

### Description

A high resolution picture of col. XIX can be consulted in paper format<sup>478</sup>. The name ‘Menecrates’ in ll. 18 – 19 appears in the papyrus after a clear wide blank underlined by a *diple obelismene*, and l. 19 starts furthermore with *ekthesis*; all these details head to the fact that the scribe was certainly aware of furnishing the reader with particular information, relevant enough. The endings of ll. 22 – 28 were partially reconstructed on the basis of fr. 6<sup>479</sup>. One of the features that attracts most the attention is a quite long oblique descending sign (/) affecting ll. 35 – 36. Although many conjectures have been put forward in relation to this trace, its presence and meaning are still unclear. H. Diels thought that it was the abbreviation for « ἐστίν », whereby the first three

<sup>472</sup> Diels (1893a), p. 33; (1893b), p. 419. Cfr. infra. ch. V § 3. 2. 2.

<sup>473</sup> Cfr. also cols. XIV, 29; XXV, 12, 23; XXXIII 22, 29. Cfr. Manetti (1990), p. 230.

<sup>474</sup> Diels (1893a), p. 33: « vel υπερβαλ, sed υπερβαλλούσας vel propter spatium suppleri nequit ».

<sup>475</sup> *SVF* II fr. 351 [von Arnim (1964b), p. 121].

<sup>476</sup> Pseudo - Galen *Def. med.* CLX [XIX p. 393, 16 – 18 K.].

<sup>477</sup> Manetti (1990), pp. 231 – 232. Cfr. Hippocrates *Hebd.* XIX [IX pp. 442 – 443 Li.]

<sup>478</sup> *CPF* (2002), plate 61; *CPF* (2008), plate 45.

<sup>479</sup> Fr. 6 in Kenyon - Diels (1901), pp. 1320, 1323.

letters would have been written above the word « κό[μ]ατι » in l. 34; but A. Ricciardetto has been unable to read those letters<sup>480</sup>. A much more suitable proposal in this particular case is that the scribe used such a trait as a check-mark (as seems to be the case in other literary papyri). The descending line would be a diacritical sign that the author drew to remind himself that he had to go over that section, either because it contained some mistakes or needed a revision (l. 36 appears in fact flanked by philological crosses and has not been satisfactorily deciphered). This mark is then another argument upholding the scribe's work in progress (i.e. incomplete), perhaps to remind him of the necessity to have a look at the *antigraphon* he was using or to reconsider the passage in question<sup>481</sup>.

### Explanation

XIX, 2 – 18: Polybus of Cos (Ὁ δὲ Πόλυβος)<sup>482</sup>

XIX, 1 – 8: Ὁ δὲ Πόλυβος ἐξ ἐνός μ[ι] (ἐν) στοιχείου οὐ λέγει τὰ ἡμέτερα κόμ[α]τα γεννᾶσθαι, ἀλλ(ὰ) πολλ(ῶν) τήν[α] αὐτήν φύσιν ἐχόν[τ] (ων), ἐξ ὑγροῦ τε καὶ ξηροῦ, ψυχοῦ τε καὶ θερμ[ο]ῦ, [οὐ χωρὶς ὄντ(ων) τ]ούτ(ων) ἀλλὰ κεκραμέν(ων) αὐ[τ] (ῶν) μετρίως, ὑπερ[β]αλὸν δὲ θάτερον θατ[έ]ρου, νόσου ἀπο[σ]τελεῖν.<sup>483</sup>

XIX, 3 – 17:

A chapter in Aulus Gellius's *Attic Nights* bears the following title: *That those Persons Are in Error Who Think that in Testing for Fever the Pulse of the Veins Is Felt, and not that of the Arteries*<sup>484</sup>. In brief, the portrait of the situation is that Aulus Gellius is down in bed with high fever in the house of a friend who is settled in the Attica; his friend the philosopher Calvicius Taurus and some of his disciples visit him while he is being attended by a local doctor. Then, the physician starts telling the visitors of the discomfort Aulus Gellius is suffering, and suggests that by taking the

<sup>480</sup> Ricciardetto (2014), pp. XXIII – XXIV n. 69.

<sup>481</sup> Andorlini (2014), p. 220.

<sup>482</sup> Cfr. infra ch. II § 5 n. 321. Ricciardetto (2014), p. XLIV.

<sup>483</sup> Hippocrates *Nat. hom.* III [VI p. 38, 5 Li.]; Diels (1893a), p. 33.

<sup>484</sup> Aulus Gellius *The Attic Nights* XVIII 10 – 11 [Hosius (1903), pp. 249, 1 – 250, 24].

pulse<sup>485</sup> on one of the veins (φλεβός)<sup>486</sup> of the ailing Aulus they will be in a better position to tell what kind of sickness is affecting Aulus Gellius. Calvicius Taurus and his students are stricken by the suggestion; in gauging the invitation of the doctor as an unfortunate comment, they all come to think the doctor has made a terrible mistake. But, why were Aulus Gellius's learned friends so shocked at hearing the words of the doctor?

Perhaps the scene is mindful of a phenomenon that was becoming the norm all over the Roman world in the Imperial period: the increasing number of incompetent physicians hanging around Hellenistic cities<sup>487</sup> on account of the evident social and economic benefit that one was to enjoy by way of practicing medicine<sup>488</sup>. Yet, apart from this, the astonishment among the group of friends is more likely due to what Aulus Gellius should have considered a theoretical assumption, since everybody who was minimally educated — above all, a doctor — must have necessarily been familiar with the distinction between veins and arteries<sup>489</sup>. It was Praxagoras of Cos the physician who actually set and put forth such a distinction for the first time<sup>490</sup>. According to Praxagoras the system of the arteries was separate from that of the veins, the arteries containing only *pneuma*<sup>491</sup>. Praxagoras was of the opinion that in the course of normal digestion bubbles were formed in the system of the veins, this air intercepted from the blood being the thing that actually explained air in the arteries, as well as the existence of a link between the two main systems of channels within the body<sup>492</sup>. As the arteries beat they were said to have a movement of their own, i.e. the pulse

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<sup>485</sup> It is generally admitted that the analysis of the pulse among the Greeks was formerly taken into account by Praxagoras. Nutton (2004), p. 126. Yet, inasmuch as this method of diagnostic (sphygmology) is also witnessed in the *On Respiration*, no doubt the pulse was already known at Aristotle's time. Aristotle *Resp.* XX 479b 17 – 480a 5; *Mete.* II 8, 368a 6 – b 25. Cfr. Abel (1957), p. 110; Thivel (1965), p. 272.

<sup>486</sup> In origin φλέψ, the term that later came to be used in a narrow sense for 'vein', was the way to call indistinctly any blood vessel; as νεῦρον (i.e. nerve) in origin also meant 'ligament' or 'tendon'. Wilson (1959), p. 295; Longrigg (1993), pp. 208, 210; Nutton (2004), pp. 77, 126.

<sup>487</sup> In the first two centuries of the Roman Empire there flourished a veritable marketplace of medicine, with learning and showmanship, practical expertise and eloquence on all sides — Pneumatists, Dogmatists, Methodists or Hippocratic. Nutton (2004), p. 201. Hence the circulation of sayings touching the unworthiness of a too talkative doctor like « garrulus medicus secundus est morbus aegroto » and so forth.

<sup>488</sup> Vegetti (1994), 1674 – 1675.

<sup>489</sup> Aristotle seems to have known nothing about the distinction between veins and arteries. Aristotle *HA* III 2, 511b 13 – 3, 513a 7.

<sup>490</sup> According to Galen *De dign. puls.* IV 3 [VIII p. 950 K.] almost two physicians — Erasistratus and Praxagoras — claimed that the arteries contained and conveyed only *pneuma*. Since Praxagoras (c. 300 BC) was older than Erasistratus (330 – 250 BC), here we make reference first to Praxagoras. Cfr. Steckerl (1958), pp. 2 – 6.

<sup>491</sup> Praxagoras held that the liver was the origin of the veins. Cfr. Jaeger (1913), p. 67; Diller (1936), p. 184; Steckerl (1958), p. 48.

<sup>492</sup> There is a very similar description at Pseudo - Aristotle *Spir.* IV, 482b 14.

(σφυγμός)<sup>493</sup>. From Praxagoras onwards the pulse would be thus conceived as the natural movement of the arteries (κίνησις κατὰ φύσιν) or as the right deliverance and conveying of *pneuma* throughout the body<sup>494</sup>. According to Praxagoras the arteries had a cognate power of beating, becoming filled with *pneuma* because they beat but not because they were filled with *pneuma*. Therefore, the *pneuma* in the arteries could not come from the exterior but from the body; the mechanical destruction of the bubbles by the arterial wall was the source of the air in the arteries.

Some time later, in the 3<sup>rd</sup> century BC, the physician Erasistratus of Ceos made some experiments with animals in order to prove that in normal circumstances there was no blood in the arteries<sup>495</sup>. In the eyes of Erasistratus the experiments revealed that the beating of the arteries was due to the action of the *pneuma* impelled by the heart while passing through and not to any special characteristic of the arterial walls (as Galen wrongly believed)<sup>496</sup>; thus it was definitely Erasistratus who founded the belief in the total absence of blood in the arteries, since he conceived the two nets of channels in the body as completely independent, and committed to two different physiological scopes; the veins to nutrition and the arteries to respiration<sup>497</sup>. As the author of *Anon. Lond.* was — with Herophilus — convinced of the presence of blood in the arteries while containing only a few parts of *pneuma*, the scribe of the *Anonymus* was somehow led to take issue with Erasistratus and his theory of the exclusive presence of *pneuma* in the arteries<sup>498</sup>. One century after the composition of the *Londiniensis*, Galen<sup>499</sup> would have to repeat the test to confute Erasistratus's theory<sup>500</sup>.

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<sup>493</sup> « σφυγμὸν γὰρ οὗτοι (scil. Praxagoras and Herophilus) πᾶσαν ἀρτηριῶν κίνησιν τὴν αἰσθητὴν καλοῦσιν ». Cfr. von Staden (1989), p. 535. As a matter of fact the pulse is the arterial diastole that follows on the cardiac systole. Vegetti (1993), p. 105.

<sup>494</sup> Steckerl (1958), p. 63. Praxagoras undoubtedly must have wanted to distinguish the pulse from a movement of the arteries which is not perceptible (αἰσθητή). As opposed to the pulse, there were three other abnormal or pathological (contrary to nature) movements in the arteries: the πάλμος, the τρόμος, and the σπασμός. Steckerl (1958), pp. 21 – 23, 26.

<sup>495</sup> In relation to Erasistratus's opinion and his followers, in col. XXVI, 31 – 34, 47 the scribe of *Anon. Lond.* states: « οὐ γὰρ κατὰ φύσιν ἐν ταῦται αἷμα ». Beside nourishment (τροφή), Erasistratus conceived the *pneuma* as the second fundamental kind of matter in the human body. Cfr. infra col. XXII, 51. Cfr. also Garofalo (1988), p. 28; Nutton (2004), p. 136.

<sup>496</sup> Grmek (1997), p. 83.

<sup>497</sup> Manetti (1996b), p. 309. In view of this, the comprehension of the chapter in the *Anonymus Parisinus* dealing with the causes of paralysis according to Erasistratus becomes problematic, for it is as if the *Anonymus Parisinus* ignored or dismissed this distinction in Erasistratus. Cfr. *Anonymi medici XXI* 1 (1) [Garofalo (1997), p. 122, 19 – 23].

<sup>498</sup> Cfr. infra col. XXVI, 31 – 48. Cfr. Manetti (1996b), p. 307.

<sup>499</sup> Cfr. infra. *Comment.* on col. XXVI, 35 – 38 n. 735.

<sup>500</sup> Galen *De anat. admin.* VII 16 [II pp. 641 – 646 K.]. Grmek (1997), pp. 81 – 82. From a practical medical perspective, venesections and bloodlettings were carried out for therapeutic purposes because of the belief that the veins only conveyed blood; the arteries, contrariwise, were capable of manifesting by their motion and pulsation the sound or the bad condition of the body as well the intensity of fever.

Aulus Gellius had no qualms about remarking that the criticism Calvicius Taurus addresses to the doctor is not only shameful for a physician but also « for all cultivated and liberally educated men »<sup>501</sup>. It seems that during the Second Sophistic the medical thought was somewhat dominated by philosophical paradigm, and on the other hand, it attests that for some highly educated persons the language had become nearly as important as reality. Conceptual accuracy (ἀκριβεια) is fundamental in all rhetorical genres, but specially in the epideictic. The whole scene finally comes to an end by providing the definitions for ‘vein’, ‘artery’, and ‘pulse’ (the three concepts are given in Greek, as well as the *definiens* of ‘pulse’). Since Aulus Gellius says the veins contain a small amount of vital breath (*spiritus naturalis*)<sup>502</sup> and the arteries also to convey some blood, the definitions of the veins, the arteries, and the pulse given by Aulus Gellius are slightly closer to Praxagoras than to Erasistratus.

As regards pulsation, given that it is a matter of an involuntary movement — one and the same in the heart and in the arteries — Aulus Gellius bears evidence of updated medical knowledge, as he will next remark that in the eyes of the ancient Greek physicians this involuntary movement corresponded to a contraction and a dilation taking place in the heart, and to a contraction and a dilation taking place in the arteries themselves.

XIX, 18 – XX, 1: Μενεκράτης δὲ ὁ Ζε[ῦ]ς

With a strong historical slant, G. Squillace has published a number of contributions and even a monograph<sup>503</sup> touching on Menecrates, the physician surnamed Zeus<sup>504</sup> (middle years of the 4<sup>th</sup> century BC), as well as on other personages who are also reviewed in the *Anonymus* papyrus. Although published in 2012, the passage concerning Menecrates<sup>505</sup> was edited, translated into

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<sup>501</sup> Aulus Gellius *The Attic Nights* XVIII 10 (8) [Hosius (1903), p. 250, 3 – 7].

<sup>502</sup> There is no innate heat in the system of Praxagoras, he knew nothing of an *innate pneuma* (σύμφυτον πνεῦμα). The theory of humours, the very backbone of Praxagoras’s system, shows no connection with the corresponding views in Aristotle. Praxagoras is credited as a Hippocratic physician, but his system presents many points of view in common with Aristotle. Steckerl (1958), pp. 19, 36 – 37.

<sup>503</sup> *Menecrate di Siracusa. Un medico del IV secolo a.C. tra Sicilia, Grecia e Macedonia*, G. Olms, Zürich/New York 2012.

<sup>504</sup> The reason for this name is disclosed in the *Souda*; as it seems Menecrates regarded himself as the higher divinity, giving also divine names also the patients he could heal of the sacred disease. Squillace (2012), p. 128 [T. 6]. Menecrates is also studied in Diels (1893b), pp. 416 – 417.

<sup>505</sup> Squillace (2012), pp. 134 – 138 [T. 1].

Italian<sup>506</sup>, and commented on by Squillace prior to D. Manetti's full edition of the *Anonymus* in 2011. However, Squillace's commentaries are somewhat misleading, presenting some shortcomings and incongruent points in different aspects. The reasons for the criticism are several and of various natures, but the main ones to a great extent owe to the fact that he used the edition of the *Londiniensis* that D. Manetti was preparing<sup>507</sup>. The reader will therefore find some imprecisions in the quotations of the passages concerning the different authorities reported in the papyrus. Yet, leaving these *peccata minuta* aside, the weakest point in Squillace's book in relation to the *Anonymus* probably has to do with the title. Squillace notes that the *Londiniensis* papyrus is the only source from which we learn that Menecrates actually wrote a work titled Ἱατρική<sup>508</sup>, but he does not give any translation of the title (« nella sua opera Ἱατρική »)<sup>509</sup>. As soon as he has affirmed, again, that Menecrates wrote a treatise titled Ἱατρική<sup>510</sup> and recalled that it was a recurrent title in ancient medical writings, Squillace moves on to deal with the title<sup>511</sup> « Ἱατρικὰ » — or wrongly transliterated « Ἱατρικά » — that Manetti uses in her edition of the *Anonymus* papyrus. By doing so Squillace proves that he has not autopsied the papyrus, otherwise he would have remarked that the title of Menecrates' work in no way could be considered in light of the purported title that Manetti gives to the *Londiniensis*<sup>512</sup>. Manetti therefore goes beyond the boundaries of the scientifically acceptable, so much so that Squillace uncritically takes a standpoint which seems to be plainly mistaken, for both presume more than the papyrus actually reads. Finally, Squillace takes a passage in Aristotle's *Politics*<sup>513</sup> in order to liken Menecrates to an ἀρχιτεκτονικὸς, but in doing so he proves

<sup>506</sup> (« Menecrate, soprannominato Zeus, nella sua opera Ἱατρική, offre una descrizione dei corpi, spiega le cause delle malattie, interessandosi in primo luogo della composizione dei corpi. Afferma, infatti, che essi sono costituiti da quattro στοιχεία: due caldi, due freddi. Sono caldi sangue e bile, freddi aria e flegma. Il corpo sta bene, se questi non sono in contrasto ma rimangono in equilibrio, si ammala se confliggono. In questo caso sono espulsi dai nostri corpi flegmi che provocano piccoli ascessi e rigonfiamenti. Inoltre catarrhi di varia natura nascono dall'eccesso di flegma. Infatti (Menecrate) afferma che, quando il flegma invecchia nel corpo [...] al phlegma che entra [...] quando rimane bloccato produce bile rossa. La bile, a sua volta, ristagnando e invecchiando, produce bile nera. Se poi una parte del corpo, dovunque questo si verifichi, riceve la bile diventata in eccesso e invecchiata e se ne riempie non ne consegue — dice Menecrate — niente di buono. Infatti, se si accumula sulle gambe, provoca la sciatica, sul polmone la polmonite, sui fianchi la pleurite, portata nelle viscere provoca febbre ardente. E insorgono inoltre molte malattie dello stesso genere e differenti »). Trans. Squillace (2012), pp. 135 – 136.

<sup>507</sup> Cfr. Squillace (2013), pp. 173 – 175.

<sup>508</sup> Col. XIX, 19: « ἐν Ἱατρικῇ δ[ε]ξίῳ ».

<sup>509</sup> Beckh - Spät (1896), p. 27 « die Heilkunst »; Jones (1947), p. 77: « Medicine »; Ricciardetto (2014), p. 14; (2016), p. 25: « *Art médicale* ».

<sup>510</sup> Squillace takes for granted that to write his report on Menecrates the scribe of *Anon. Lond.* read that book, but this assumption seems far-fetched. Squillace (2013), p. 176 n. 100. The scribe might merely be reporting what he found written in the Aristotelian source that he supposedly was consulting. Another evidence of that, this time concerning Hippo of Croton, can be found in col. XI, 33 – 34: « Ἐν ἄλλω δὲ βιβλίῳ αὐ[τ]οῦ ἀνὴρ λέγει ».

<sup>511</sup> Squillace (2012), p. 136.

<sup>512</sup> Cfr. infra ch. II § 4.

<sup>513</sup> Aristotle *Pol.* III 6, 1281b 38 – 1282a 8.

anew that he did not properly understand the concept *παιδευμένος* in Aristotle, for Squillace contends that a person only learned in the medical art cannot be judged to be a doctor<sup>514</sup>, when the perusal of Aristotle's *Politics* seems rather to confirm the contrary.

XIX, 23 – 29: λέγει τὰ σώματα ἐκ τῶν τεσσάρων|στοιχείων, β' μ(έν) θερμῶν, β' δὲ [ψ]υχρῶν·|θερμῶν μ(έν) αἵματος χολῆς, ψυχρῶν|δὲ πνεύματος [κ]αὶ φλέγματος.|Τούτων μ(έν) δὴ μὴ στασιαζόντων, ἀλλ' ἐκρά|τως διακειμένων, ὑγιαίνει τὸ ζῷον,|δυσκράτως δὲ ἐχόντων νο[σεῖ].

Menecrates argued that the body was created from four elements, two hot (blood and bile) and two cold (breath or *pneuma* and phlegm). Along with Polybus, Menecrates is in a narrow sense the only physician in this subsection who put the origins of disease down to the elements in us, and thus also the only one who considered phlegm and bile as plain constituents of the body. Menecrates' theory of the cause of disease resembles in a way some doctrines in the *Corpus Hippocraticum*. The elements that Menecrates maintains constitute the body (blood, bile, breath, and phlegm)<sup>515</sup> are close to those expounded in *The Nature of Man*. Anyhow, according to the description of Menecrates' views in the *Londiniensis*, when they are in harmony a healthy constitution follows; contrariwise, an imbalance among the constitutive elements brings about illness<sup>516</sup>. With Philolaos of Croton and Philistion of Locris, Menecrates is the third physician by whom it is stated that the causation of the illness is due to the unbalanced state of the elements informing the body, or their alleged qualities<sup>517</sup>.

Menecrates also believes that if the fluid he terms 'red bile' is allowed to become stagnant and stale then it turns into black bile, a situation that yields different diseases depending on the place where such black bile happens to settle during its course around the body. Thus, he explains pneumonia<sup>518</sup> on account of the transference of black bile in the lungs, lumbago around the hips, pleurisy in the ribs, and καῦσος<sup>519</sup> — an extremely burning fever — if black bile comes to settle in the bowels. The excess of bile is cause for several illnesses in the Hippocratic treatise titled

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<sup>514</sup> Squillace (2012), pp. 93 – 94.

<sup>515</sup> Jones (1984a), p. L.

<sup>516</sup> The author of *The Nature of Man* also defined health and disease in terms of balance and imbalance. Hippocrates *Nat. hom.* IV [VI pp. 38 – 40 Li.]. Cfr. Nutton (2004), p. 82.

<sup>517</sup> Gourevitch (1989), p. 238.

<sup>518</sup> In Hippocrates *Vet. med.* XVII [I p. 612, 7 – 9 Li.] the peripneumonia is described as a feverous pathology.

<sup>519</sup> Cfr. *supra Comment.* on col. IV, 13 – 17.

*Affections*<sup>520</sup>. In the *Aphorisms* sciatica, pulmonitis, pleurisy<sup>521</sup>, and boiling fever are listed together, as they are all considered to belong to the same class of affections (i.e. acute)<sup>522</sup>. These aforementioned illnesses were extremely dangerous, almost lethal. Nevertheless, it is almost impossible to say whether Menecrates came to know about all these theories from such Hippocratic writings<sup>523</sup>.

XIX, 31: δοθιῶνας<sup>524</sup>; [ποιοῦντα]<sup>525</sup>

XIX, 33 – 34: Π[αλαι]ιούμενον<sup>526</sup>

XIX, 47: τὰ πλάγγωα: it could be also translated as ‘the zones in the abdomen’, or ‘the abdominal organs’.

## Column XX

### Description

A high resolution picture of col. XX can be consulted in paper format<sup>527</sup>. In l. 3 the word « διτ[.]ν » evinces again the omission of two contiguous consonants. In l. 18 the expression « τ(ῶν) νόων α<ῶ>τ(ῶν) » is written in the papyrus as « τ\`νοων/ [[cωμ]ατ] ». The author erased [[cωμ] maybe because he wanted to write another word, for instance « νοχημάτ(ων) », or else — as D.

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<sup>520</sup> Squillace (2012), p. 89.

<sup>521</sup> As for this particular affection, in studying pleurisy Caelius Aurelianus in *Cel.* II 16 (96) [CML VI 1, 1 p. 96, 1 – 7 Bendz] reports that there was issue among ancient physicians at agreeing which part of the body was properly affected. On the one hand Euryphon, Praxagoras or Herophilus believed that it was the lung « pulmonem pati dixerunt »; while Diocles, Erasistratus or Asclepiades posited that the affected part was the hypochondria « hypezocota membranam, quae latera ex interiore cingit ».

<sup>522</sup> Hippocrates *Acut.* II.

<sup>523</sup> Squillace (2012), p. 92.

<sup>524</sup> *Hapax legomenon*. Cfr. Liddell - Scott (2006), p. 441. D. Gourevitch goes into detail about the difficulty of the translation and gives ‘boutons’ as a feasible one. Cfr. Gourevitch (1989), p. 247. Ricciardetto (2014), p. 15; (2016), p. 25: « gonflements ». The Greek word that normally is translated as ‘abscess’ is ἀπόστασις. Cfr. Jones (1984a), p. LIII.

<sup>525</sup> Diels (1893a), p. 100: « ut enumeratio claudatur ».

<sup>526</sup> Diels (1893a), p. 35: « fortasse ἀλλοιούμενον ».

<sup>527</sup> *CPF* (2002), plate 61.

Manetti hypothesised — the scribe could have corrected « [[cωμ]]ατ' » to get « vocων αυτ' » (i.e. νόων αὐτῶν). To do so he deleted the first three letters ([[cωμ]]) and afterwards inserted « vocων » in the interlinear space (i.e. « \vocων/ »), but he apparently forgets the addition « υ » in order to transform « ατ(ῶν) » into « αὐτ(ῶν) »; that is why the transcription reads « α<̣>τ(ῶν) ». In l. 24 the verb in the expression « τᾶλλα αὐτον<ο>εῖ » is partially written on the margin. Ricciardetto's reading at this point is closer to Diels (who suggested « τᾶλλα αυτονει; τααλλαηνει; αυτογνωμονει; αυτον<ο>ει ») than to Manetti's<sup>528</sup>. As regards the numerals in ll. 25 – 26 (and in the following), the way the scribe writes them is by adding a transversal stroke above; then, for example, the number « 4 » is not written as « δ' » but as « δ̄ »<sup>529</sup>. In l. 37 the scribe first wrote « αυμαρον », and to amend the mistake into « ἀμαρὸν » he erased the first upsilon and added the right upsilon in the interlinear space, hence « α[[υ]]μα\υ/ρον ». Between ll. 37 – 38 there is a *paragraphos* that has not been edited in any of the two former editions of P. In l. 45 the expression « οὐ γ(ἄρ) μό(νον) κ(ατὰ) » provides a good sample of some of the abbreviations used in the papyrus: « ουγ'μ<sup>ο</sup>κ̂ ».

## Explanation

XX, 1 – 24: this passage, where the scribe is concerned with Petron of Aegina, was severally treated by D. Manetti in a contribution previous to her full edition of the *Londiniensis* in 2011<sup>530</sup>.

XX, 1 – 2: (ὁ δὲ Αἰγινήτης Πέτρων)<sup>531</sup>

XX, 8 – 9: διὰ τὰς περιπτώσεις τῆς τροφῆς[c].<sup>532</sup>

XX, 10: ὅταν<sup>533</sup>

<sup>528</sup> « τᾶλλα † αυτγγει\./ † »; « τᾶλλα † αυτογγει † ». Cfr. Manetti (1990), p. 223; Ricciardetto (2016), p. 127.

<sup>529</sup> The same applies to l. 38 and to cols. XXI, 10; XXII, 54; XXVI, 49; XXVIII, 17, 23, 33, 49; XXIX, 17; XXXI, 33, 47; XXXIII, 3; XXXIII, 3; XXXVIII, 58 etc.

<sup>530</sup> Manetti (1990), p. 223.

<sup>531</sup> Celsus *De medicina* III 9 [Daremborg (1891), p. 91, 5 – 14]; Galen *In Hipp. Vict. Rat. in Morb. Acut. comment.* XII 8 [XV p. 436, 3 – 4 K.].

<sup>532</sup> Beckh - Spät (1896), p. 28: « Nahrungüberschüsse »; Jones (1947), p. 79: « residues of nutriment »; Ricciardetto (2014), p. 15; (2016), p. 26: « évacuations de nourriture ».

<sup>533</sup> Diels (1893a), p. 35: « fortasse γάρ vel φησὶν ».

XX, 11: κατεργάζεται<sup>534</sup>

XX, 19 – 21: οὗτος δὲ ἀπὸ τ(ῶν)νόσων τὴν χολήν.<sup>535</sup>: in the Hippocratic treatises *The Nature of Man* and *De morbis I 2 bile* is conceived of as a constitutive element, humour, principle, or “idea” of the human body. This assumption strongly contrasts with Petron’s views.

XX, 25 – XXI, 8 [?]: Φιλιστίων: Philistion was a Sicilian physician<sup>536</sup> of the 5<sup>th</sup> century BC. Galen<sup>537</sup> affirms that Philistion belonged to the circle of Empedocles, which makes sense, since Philistion could have incorporated Empedocles’ theories when he moved from his native Locris to Sicily<sup>538</sup>. Philistion’s medical principles are actually deeply rooted in Empedocles’ doctrines, so that Philistion was properly the bridge that brought and introduced Empedocles’ medicine to Athens, that is to say, to Plato (with whom Philistion formed a solid friendship), to Aristotle, and to Diocles. At the end of the 5<sup>th</sup> century BC Philistion founded an important medical center in Syracuse, which was attended by Chrysippus and Eudoxus (both from Cnidos) for purposes of studying. When Chrysippus<sup>539</sup> and Eudoxus moved to Sicily to learn the medical art, they introduced to the school founded by Philistion the distinction between veins and arteries formerly made by Euryphon of Cnidos; the melding of the traditions would exert strong influence upon the Sicilian and the rest of the medical tradition to come.

One might find traces of Philistion’s theory in the pseudo-Hippocratic treatise *Heart (De corde)*<sup>540</sup>. In light of the detailed description of the heart in *Heart*, if not absolutely certain it is more than very likely that Philistion practiced dissections on human<sup>541</sup>. It is generally admitted that the *Heart* is a book that was incorporated quite late in the Hippocratic collection. At Galen’s time

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<sup>534</sup> Diels (1893a), p. 95: « Concoquere ».

<sup>535</sup> Cfr. infra ch. V § 3. 2. 2.

<sup>536</sup> Diogenes Laertius *Vitae philosophorum* VIII 86 [Marcovich (1999a), p. 628, 1 – 4].

<sup>537</sup> Galen *Meth. med.* [X p. 6, 3 – 4 K.].

<sup>538</sup> Abel (1957), pp. 107, 112 n. 66.

<sup>539</sup> It is known that Chryssipus of Cnidos learned the medical art beside Philistion and instructed Erasistratus. Diogenes Laertius *Vitae philosophorum* VIII 89 [Marcovich (1999a), p. 629, 19 – 20]. Cfr. Viano (1984), pp. 311 – 312; Polito (1999), p. 50.

<sup>540</sup> Ricciardetto (2014), p. XLV. This treatise is considered the oldest anatomical hypomnematic writing that has come down to us. Bidez - Leboucq (1944), p. 20.

<sup>541</sup> Bidez - Leboucq (1944), p. 39. Philistion of Locris was also the first physician to describe the sigmoid valve. Bidez - Leboucq (1944), pp. 33, 38. Yet it is Erasistratus (3<sup>rd</sup> century BC) who appears to have been the first to discover all the valves in the heart (bicuspid, tricuspid) in charge of keeping the sanguineous flux in one direction. Abel (1957) p. 110; Wilson (1959), p. 298; Byl (2011b), p. 21.

almost nothing was known about Philistion; the physician of Pergamon cites Philistion very seldomly, so presumably Philistion's works were lost in the 2<sup>nd</sup> century CE<sup>542</sup>. M. Wellmann collected the fragments attributed to Philistion in *Die Fragmente der Sikelischen Ärzte, Akron, Philistion un des Diokles von Karystos*<sup>543</sup>.

Many scholars contend that Philistion's views as they are expounded in the *Anon. Lond.* resemble Aristotle's views<sup>544</sup>, but the influence that the former may have exerted upon the latter should not be overrated<sup>545</sup>. In contrast to Philistion, Aristotle does not combine each of the primordial elements with its opposing quality but with a pair of opposed qualities. Such procedure — witnessed in the *Corpus Hippocraticum* —<sup>546</sup> is also to be found in Diocles of Carystus<sup>547</sup>. It is nevertheless generally admitted that Philistion introduced teleological thinking patterns into Italic medicine. Philistion essentially made a turn from essentialism to the qualitative, namely by substituting the four Empedoclean roots (earth, water, air, and fire) into the four δυνάμεις (dry, wet, hot, and cold)<sup>548</sup>. The *Anonymus* recalls in fact that it was Philistion who set the correspondence between the elements and their qualities<sup>549</sup>.

Philistion posited three general causes of disease. He attributed the first cause (internal) to an excess or a deficiency in one of the four “forms” (hot, cold, wet, and dry). Along with Philolaos of Croton and Menecrates of Siracusa, Philistion is one of the three south Italian physicians in the *Anon. Lond.* that attributed the causation of disease to an imbalance between the constitutive elements in us and their qualities. The second cause (external) was the presence of wounds or sores, the result of an excess or deficiency of external heat and cold, the inopportune changes from one into another, or else simply due to a deficient/incorrect nutrition. This second kind of cause is also conceded by the pre-Socratic philosophers and the Hippocratic physicians<sup>550</sup>. Philistion put the third and last cause of disease down to some impediment in the air that did not allow it to flow properly

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<sup>542</sup> Bidez - Leboucq (1944), p. 14.

<sup>543</sup> Cfr. Wellmann (1901), pp. 109 – 113.

<sup>544</sup> Gourevitch (1989), pp. 237 – 239; Longrigg (1993), p. 158.

<sup>545</sup> Cfr. Longrigg (1995), p. 433.

<sup>546</sup> For instance in Hippocrates *Nat. Hom.* III [VI pp. 36, 17 – 38, 19 Li.].

<sup>547</sup> Cfr. Longrigg (1995), pp. 433 – 435.

<sup>548</sup> Bidez - Leboucq (1944), p. 39; Giannantoni (1984), p. 52.

<sup>549</sup> Cfr. Vegetti (1998), p. 292.

<sup>550</sup> Tsingarida (1998), p. 43.

into or out of the body<sup>551</sup>. Hence, where there is no breath the body begins to rot; where there is too much the air forces its way through where it should not and this causes painful swellings, sweatings and distortions<sup>552</sup>.

XX, 34: ἡ παρὰ τὰ ἐκτός.<sup>553</sup>

XX, 47: as Philistion and Plato, the Peripatetic Diocles<sup>554</sup> held that diseases appear when the passages (πόροι) in the skin were obstructed, preventing the air to pass in and out<sup>555</sup>. The theory of respiration throughout the body surface can be traced back to Empedocles.

## Column XXI

### Description

The text in ll. 10 – 13 is full of lacunae. The beginning of ll. 24 – 26 is preserved on the fragment VIII catalogued by H. Diels<sup>556</sup>. In l. 30 the verb « <(ἐκτιν)> » is in angular brackets because the scribe wrote by mistake the trace that serves as abbreviation for the infinitive « εἶναι ». The first letter in l. 33 starts with *ekthesis*. In l. 38 the word « ἀνομοιομερῆ » is another case of haplography. While writing « ανοιμερη » the scribe realised that he wrote it incorrectly, whereupon he expunged the group « οι » and added « ομοιο » above the word; thus P. reads: « αν[[οι] \ομοιο/μερη ». In l. 43 the word « ἀπλ(ῶν) » is abbreviated as « απ<sup>λ</sup> ». In the next line the first letter starts with *ekthesis*.

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<sup>551</sup> In the *Timaeus* Plato gives two very similar explanations to Philistion's first and last causes (i.e. the imbalance of the four elements, and air's failure to move properly and freely into or out of the body). Cfr. Plato *Ti.* 84 a – e; and infra ch. V § 3. 2. 1 n. 545.

<sup>552</sup> Nutton (2004), p. 115.

<sup>553</sup> Diels (1893a), p. 90: « Causae externae ».

<sup>554</sup> Cfr. ch. II § 3. 1.

<sup>555</sup> Plato *Ti.* 84d. Cfr. Longrigg (1995), p. 441.

<sup>556</sup> Ricciardetto (2016), pp. 60, 129.

## Explanation

XXI, 17: μ]ελητέον<sup>557</sup>

XXI, 18: Τοῦ ε]ώματος: the third section of the *Londiniensis* papyrus<sup>558</sup> is said to start with this word (i.e. cols. XXI, 18 – XXXIX, 32).

XXI, 21: Ἡρόφιλος<sup>559</sup>

Herophilus of Chalcedon (330 – 260 BC) is credited with having been Praxagoras's pupil<sup>560</sup>, presumably on Cos. Herophilus, however, took issue with his mentor on different points. As regards the alleged qualitative differences of the pulse Herophilus, contrary to Praxagoras, conceived of the palpitation (πάλμος), the tremor (τρόμος), and the spasm (σπασμός) not as three different affections that the arteries might experience, but as three quantitatively different motions of the pulse. On the other hand, Herophilus also carried on an interest of Praxagoras by studying the nervous and the vascular systems<sup>561</sup>; true, he distinguished between veins and arteries anatomically (as well as functionally)<sup>562</sup> by noting the greater thickness of the arterial coats, but Herophilus seems to have rejected Praxagoras's opinion that the arteries carried only *pneuma* in favour of a belief in a mixture of blood and *pneuma*<sup>563</sup>.

Herophilus's pupils<sup>564</sup> constituted his household, which implies that they lived communally, but not necessarily within the Museum. It should be kept in mind that there is no evidence that Herophilus (or any of his followers) was a member of the Alexandrian Museum<sup>565</sup>. In any case, a

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<sup>557</sup> Diels (1893a), p. 37: « Ελητεον vel εντεον vel επιτεον ».

<sup>558</sup> Manetti (1996b), p. 308. The first lines with which the scribe starts what is deemed to be the third section of the *Londiniensis* can be also found in Dorandi (2016), p. 200.

<sup>559</sup> Herophilus is also mentioned in cols. XXVIII, 46; XXXVI, 47.

<sup>560</sup> Steckerl (1958), p. 62; Vegetti (1984), p. 459; Manetti (2014), p. 238.

<sup>561</sup> Aristotle had no knowledge of the nervous system as such, it would be an Alexandrian discovery; in fact Herophilus is credited as the first physician to give a description of the nervous system as it stands (or is represented) in modern medicine. Vegetti (1993), p. 92; French (2000), p. 91.

<sup>562</sup> The distinction between veins and arteries is attributed to Praxagoras (who will be afterwards followed by Erasistratus).

<sup>563</sup> Steckerl (1958), pp. 34 – 35; Nutton (2004), p. 132; Squillace (2013), pp. 168 – 169.

<sup>564</sup> While in the 2<sup>nd</sup> century CE there were still Erasistratean physicians at Rome, by contrast the Herophilean school disappeared in the middle of the 1<sup>st</sup> century CE. Gourevitch (1993), pp. 126 – 127; Vegetti (1993), p. 112.

<sup>565</sup> von Staden (1989), p. 26; Nutton (2004), pp. 130 – 131. This remark contrasts with Vegetti's claim that it was precisely due to the Herophileans settled in the Museum that we owe the beginning of the enterprise of commenting on the works ascribed to Hippocrates. Cfr. Vegetti (1984), p. 467 n. 38.

systematic research into the internal anatomy of the human body was doubtlessly first carried out in Alexandria by Herophilus<sup>566</sup>. Thus, the discovery of a number of anatomical parts and their technical names is due to Herophilus. In this way the *calamus scriptorius* (a pen-shaped groove in the brain also called ‘Arantius’s ventricle’); the torcular (the “wine-press”, a concavity in the rear part of the cranial bone where the sinuses converge); the choroid plexus (so-called because it resembles the membrane wrapped around the fetus)<sup>567</sup>; the styloid process of the skull (in the rear part of the ears); the duodenum (twelve-fingers long); the *rete mirabile* and perhaps the pineal gland (pine-cone) are all linked to Herophilus’s research. Herophilus also studied the reproductive systems in both sexes.

XXI, 15 – 18: Καὶ περὶ μ(έν) ψυχῆς|[ἄλλοι]ς ἀν[α]βάλλομα[ι-ήμῖν δὲ] τοῦ σώμα|[τος μ]ε λητέον,<sup>568</sup> ἐπεὶ [μάλιτα] περὶ τοῦτο|>-[επου]δαζει ἡ ἰατρικ[ή].

The scribe is taking up his own position. We see here a somewhat accomplished version of the apothegm « where the philosopher finishes the physician begins » (*quia ubi naturales terminant ibi incipiunt medici ut dicitur in libro de sensu et sensato*)<sup>569</sup>. The use of the first person singular could in fact be seen as a plain authorial hint. According to D. Manetti, moreover, this is the only case in the whole papyrus where the scribe genuinely reveals his main concern, where he is clearly taking a stance<sup>570</sup>. The author of *Anon. Lond.* is on the side of the physicians; he regards himself as a physician and takes the way he proceeds as the right one in the pursuit of the medical art. The scribe is therefore differentiating his own concern from philosophy’s. This passage in the *Londiniensis* might be taken as a reconsideration of Socrates’ statement in the *Phaedrus* wherein it

<sup>566</sup> This opinion has roots in and was spread by means of the commentaries we find in Galen *De uteri dissect.* V [II p. 895 K.]; *De anat. admin.* VI 8 [II p. 571 K.]; in Celsus *De medicina* Praef. 23 – 26 [Daremberg (1891), pp. 4, 35 – 5, 17]; or in Augustine of Hippo *De civitate Dei* XXII 24 [Dombart - Kalb (1993), pp. 614, 18 – 615, 11]. Cfr. Giannantoni (1984), p. 67; Vegetti (1984), pp. 444, 469 n. 40; Vegetti (1993), p. 91; French (2000), p. 93; Byl (2011b), pp. 122, 127. According to Galen, the Empirics (unlike the Dogmatists) disapproved of every form of dissection. Galen *De sectis* V [I p. 77, 4 – 6 K.].

<sup>567</sup> The choroid plexus is a kind of network in the brain where the cerebrospinal fluid is produced. Having an important immunological role, such fluid acts as cushion in order to preserve the brain from motion.

<sup>568</sup> Diels (1893a), p. 37: « Ελητέον vel ενιτεον vel επιτεον ».

<sup>569</sup> French (2000), p. 78. On the other hand, this claim is also opposite of the view held by Plato at *Chrm.* 156d – 157a where the philosopher reports the opinions of Zalmoxis the Thracian in relation to the inherent failures of Greek medicine. In short, Zalmoxis underlines that it is impossible to achieve a real and effective cure by just focusing on the body; in this sense the radical therapy must include the soul. In the hierarchy of the souls, the soul of the physician is placed in the fourth place, after those of the philosopher, the king and the politician. Plato *Phdr.* 248d – e. Cfr. Vegetti (1995c), p. 102.

<sup>570</sup> Manetti (2013), p. 174.

is said that the method of the art of healing is much the same as that of rhetoric<sup>571</sup>; thus, when both texts are viewed alongside each other, it comes out that next in his exposition the scribe addresses the basilar distinction between simple and composed bodies, while Socrates in the *Phaedrus* affirms that the analytic is the only scientific way to proceed.

However it might be, apropos of the relation of philosophy to medicine, the philosopher is inclined to see the health of the soul as primary<sup>572</sup>, while the doctor (the scribe in this case) is more inclined to see psychical health as dependent upon physical<sup>573</sup>. This self-limitation does not imply that the scribe had no opinion on the soul<sup>574</sup>. In his writing the scribe allows the reader to glimpse a vision bent somehow on a certain “Pneumatic view”<sup>575</sup>, or at least countering the positions held by the Empirics.

XXI, 18 – 47<sup>576</sup>: the physiological accounts and arguments expounded in the third section distance themselves from Erasistratus’s views<sup>577</sup>. In fact, and in agreement with Aristotle, the scribe regrets that in positing the theory of *τριπλοκία*<sup>578</sup> Erasistratus had gone beyond what observation makes manifest because the body is in the opinion of the scribe made only of either simple or compound parts. This heuristic premise is due to Herophilus of Alexandria who, in turn, is almost sure to have drawn it from Aristotle<sup>579</sup>. The scientific analysis of the constituent parts of the body is an enterprise that was first undertaken by Aristotle — even though the notion ‘element’ is doubtlessly Empedoclean. The classification of tissues began with Aristotle and would remain almost invariable

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<sup>571</sup> Plato *Phdr.* 270b.

<sup>572</sup> Plato *Chrm.* 156e.

<sup>573</sup> Tarrant (1998), p. 232.

<sup>574</sup> Cfr. *supra Comment.* on cols. I – II and *infra* ch. III § 3. 1 – 3. 2.

<sup>575</sup> Col. XXXII, 1 – 2: « ὅτι καὶ πνεῦμα(α) ἢ ψυχὴ ».

<sup>576</sup> Col. XXI, 18 – 32 corresponds to fr. 50a in von Staden (1989), p. 125. The passage comprised between ll. 21 – 46 is a criticism that the scribe launches against Erasistratus for contravening the stoichiological principles of Herophilus. From the quotation it can be inferred that the author of *Anon. Lond.* is by far more akin to Herophilus than to Erasistratus, as many other fragments in the papyrus seem to support this very presumption. An exception, however, is to be found in col. XXII, 52.

<sup>577</sup> Garofalo (1988), p. 31.

<sup>578</sup> A consistent biomechanical theory is actually meant by *τριπλοκία*, a particular ancient anatomical and physiological view, according to which there are three different kinds of vessels in the body — i.e. veins, arteries, and nerves. The Alexandrian physician Erasistratus, to whom such a theory is attributed, assigned a specific function to each one. Thus, he believed that the veins conveyed either blood or nourishment, arteries the *vital pneuma*, and nerves the *psychic pneuma*. Cfr. Diller (1936), p. 184; Viano (1984), p. 308; Garofalo (1988), p. 33; Vegetti (1993), pp. 101 – 102; Vegetti (1994), p. 1701; Garofalo (1997), pp. 144, 174; Grmek (1997), p. 79; von Staden (2000), p. 92; Byl (2011b), p. 22.

<sup>579</sup> Manetti (1996b), p. 308.

until M. X. Bichat<sup>580</sup>. Aristotle conceived the bones, the nerves, the marrow, the skin and the flesh as continuous parts of the body<sup>581</sup>. In *On Coming-To-Be and Passing Away*<sup>582</sup> the so-called « ὁμοιομερῆ (bodies or things) »<sup>583</sup> furnish the matter by which the differentiated parts of the body (i.e. the organs belonging to a particular apparatus or system, that is to say, the ἀνομοιομερῆ parts) are said to be formed<sup>584</sup>. As such, simple things which are of like/uniform parts (ὁμοιομερῆ) are distinguished on account of the differences yielded by sense perception, mainly touching<sup>585</sup>. In the *Metereologica* such ὁμοιομερῆ parts are said to be constituted of dry and humid, as well as the agents capable to act upon them, i.e. heat and cold<sup>586</sup>. Therefore, in Aristotle the ὁμοιομερῆ correspond to the stromatic or structural tissues (that is, the non-parenchymatic<sup>587</sup> tissues) of medicine nowadays.

XXI, 21 – 23: καθὼς καὶ Ἡρόφιλος ἐπισημειοῦται λέγων ο(ὔτως)· « Λεγέσθω δὲ τὰ φαινόμενα| πρῶτα, καὶ εἰ μὴ (ἐστι) πρῶτα ».<sup>588</sup>

The fact that Galen<sup>589</sup> refers to this sentence that the scribe attributes to Herophilus is what led M. Wellmann to the belief that Galen knew and had access to the *Anonymus papyrus*, and

<sup>580</sup> Marengi (1961) p. 142; Musitelli (1996), p. 234. This Aristotelian classification is fully represented in Galen *De san. tuenda* VI 2 [VI p. 384, 4 K.]; VI 9 [VI p. 420, 4 K.]. Jouanna (2012i), p. 328.

<sup>581</sup> Aristotle *GA* I 1, 715a 9–11.

<sup>582</sup> Aristotle *GC* I 1, 314a 18–24.

<sup>583</sup> Things having parts like each other and like the whole. Cfr. von Staden (1989), p. 536.

<sup>584</sup> Cfr. Aristotle *HA* I 1, 486a 13–14. Aristotle *PA* II 1, 646b 30–31 reads as follows: « τὰ μὲν γὰρ ἀνομοιομερῆ ἐκ τῶν ὁμοιομερῶν ἐνδέχεται συνεστάναι, καὶ ἐκ πλειόνων καὶ ἐνός, οἷον ἕνα τῶν σπλάγγων », (« It is possible for the non-uniform parts to be constructed out of the uniform substances, either out of many of them, or out of one only »). Trans. Peck (1961), p. 113. Cfr. also Jouanna (2012i), p. 327.

<sup>585</sup> Col. XXI, 20: « Ἀπλᾶ δὲ καὶ σύνθετα (*scil.* τῶν σωμάτων) λαμβάνομεν π(ρὸς) αἰσθητικῶν »; later on in ll. 29–32: « Ἡμῶν δὲ λεκτέον ὡς τ(ῶν) σωμάτων τὰ μ(έν) <(ἐστιν)> ἀπλᾶ, τὰ δὲ [c]ύνθετα, π(ρὸς) αἰσθητικῶν τούτων λαμβάνομεν. », (« By “simple” and “compound” we mean what appear so to our senses »); (« of our bodies some parts are simple and some are compound, as these are observed by our senses »). Trans. Jones (1947), p. 83.

<sup>586</sup> Aristotle *Mete.* IV 10, 388a 10–26.

<sup>587</sup> According to Galen this histologic classification is due to Erasistratus. Galen *In Hipp. Nat. Hom. comment.* Praef. [XV p. 8, 9 K.] = [CMG V 9, 1 p. 7, 4 Mewaldt]. Jouanna (2012i), p. 326.

<sup>588</sup> The *dictum* assigned to Herophilus was first addressed by H. Diels in Diels (1893b), p. 414 n. 1. According to the German philologist this *motto* could only be explained because of Herophilus's medical Methodism, this being why Diels contended that Herophilus was a Methodist physician. The same tenet is taken back up in Manetti (2003), pp. 336–337; (2013), p. 174. H. von Staden renders the sentence as follows: (« Let appearances be described as primary things even if they are not primary »); D. Manetti translates it in this way: (« parliamo dei fenomeni (di ciò che appare ai sensi) come primari anche se non sono primari »); and M. Vegetti in turn as: (« siano queste le cose prime, anche se non sono prime »). Cfr. von Staden (1989), p. 134 fr. 50a; Manetti (2003), p. 337; Vegetti (1993), p. 90 respectively.

<sup>589</sup> Galen *Meth. med.* II 5 [X 107, 15–16 K.]. In the same treatise Galen uses a very similar sentence to reject Herophilus's arguments, which shows the manipulation of the information in the sources the scribe used according to his own explanatory purposes.

furthermore, that the *Londiniensis* constituted the principal source that Galen consulted for his commentaries<sup>590</sup>.

The sentence is about the phenomena that anatomical dissection brings to light. The scribe makes use of Herophilus's saying in order to underpin a theoretical justification for the classification of the body parts, yet it could also be taken as the first and basic formulation of the principle on which hinges the majority of the arguments the scribe will expound hereafter in the third section. There must be some reasons accounting theoretically (λόγωι θεωρητὰ) for the phenomena, no doubt, but these alone do not suffice nor are valid enough to provide a full account of worldly phenomena. This is why the scribe tends to shore up his arguments by means of data which are in accordance with the senses (κατὰ τὸ αἰσθητὸν), and likewise, the reason why the scribe takes Erasistratus's views as unacceptable<sup>591</sup> since they lie mainly in reasons of theoretical order.

XXI, 23 – 25: Ὁ μ(έν) γ(άρ) Ἐρασί|ετρατος καὶ πόρρω τοῦ ἱατρικοῦ κανό|25νοσ προῆλθε·

Erasistratus's reluctance to accept the humoral theory as expressed in *The Nature of Man* can be interpreted as a wholesale rejection of the Hippocratism and as a failure to acknowledge any purposeful organization within the body<sup>592</sup> (i.e. Platonic teleology); this being a feasible reason for the scribe's contempt for Erasistratus.

XXI, 29: the verb παραιτητέον is a hapax in the treatise and has a very strong meaning: “to dispatch or dismiss someone who is regarded as inferior”<sup>593</sup>.

XXI, 30 – 32: ὡς τ(ῶν) σωματ(ων) τὰ μ(έν) <(έστιν)> ἀπλᾶ,|τὰ δὲ [c]ύνθετα, π(ρὸς) αἰσθησιν τούτ(ων) λαμβᾶ|νο]μέν(ων). : this division could be a reference either to Plato or to Aristotle<sup>594</sup>.

XXI, 32 – 33: τὰ ὁμοιο|μερῆ<sup>595</sup>

<sup>590</sup> Wellmann (1922), pp. 419, 421.

<sup>591</sup> Ll. 23 – 25: « Ὁ μ(έν) γ(άρ) Ἐρασί|ετρατος καὶ πόρρω τοῦ ἱατρικοῦ κανό|νοσ προῆλθε », (« For Erasistratus went far beyond the medical rule »). Trans. Jones (1947), p. 83. This is the first mention of Erasistratus in the papyrus. For more details about this physician one might consult Wellmann (1907), pp. 333 – 350.

<sup>592</sup> Nutton (2004), pp. 134 – 135.

<sup>593</sup> Jouanna (2016), p. 10 n. 4.

<sup>594</sup> Cfr. infra ch. V § 2. 1. Cfr. Plato *Phdr.* 270c – d; Aristotle *HA I 1*, 486a 5 – 487a 10.

<sup>595</sup> The scribe of the *Anon. Lond.* claims that what makes a thing to be of like parts, or by contrast, not homogeneous is what comes out when a part of that very thing is cut or sliced and then put in reliance with the whole to which it belongs. Cfr. Aristotle *Met.* IV 10, 388a 10 – 26. Cfr. also Hippocrates *Nat. hom.* V [VI p. 42, 3 – 5].

XXI, 35: by τὰ ὑγρά the author means the constitutive corporeal fluids. It could in a way be presumed that, following Aristotle, in the physiology held by the scribe the humours are considered as ὁμοιομερῆ parts<sup>596</sup>. The constitutive elements the scribe acknowledges are named in l. 45.

XXI, 38: τὰ ἀνομοιομερῆ<sup>597</sup>

XXI, 44: διε]ϛ[παρ]μένα,<sup>598</sup>

XXI, 45: Κ[αὶ διεσπαρμ(έν)α]<sup>599</sup>

XXI, 46: here the opinion that the scribe maintains about bile and phlegm is presumably expounded. From the given description, the author of *Anon. Lond.* regards both as simple (ἀπλᾶ) and homogeneous (ὁμοιομερῆ) parts<sup>600</sup>. The expression « πάντα τὰ ἐν ἡμῖν » to indicate the constitutive elements in the human body may well refer to Hippocrates *Morb. I* « τῶν μὲν ἐν τῷ σώματι ἐνέοντων »<sup>601</sup>.

XXI, 47: τὰ τούτοις ἐοικότα<sup>602</sup>

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<sup>596</sup> Manetti (1996a), p. 302.

<sup>597</sup> Aristotle *Mete.* IV, 10 388a 10 – 26. Cfr. Beckh - Spät (1896), pp. 30 – 31: « gleichartigen/ungleichartigen »; Jones (1947), pp. 83 – 84: « of like parts/ not homogeneous »; Ricciardetto (2014), pp. 16 – 17; (2016), p. 28: « homéomère/ anhoméomère ».

<sup>598</sup> Diels (1893a), p. 38: « Hic et 45 spatiis et vestigiis ductus dubitanter supplevi, ut particularum in illis flumen Platonica voce significetur ».

<sup>599</sup> D. Manetti's edition reads « [διεσπαρμ(έν)α] ». Manetti (2011a), p. 46. Diels's restitution of the perfect participle κεκερματισμένα is by dint of a blurry trace of what presumably looks to be an initial kappa. That is why in Jones' translation — that follows the *editio princeps* by Diels — instead of « [διε]ϛ[παρ]μένα » or « [διεσπαρμ(έν)α] » one is to find « κεκερματισμένα ». Cfr. col. XXI, 44 – 45 in Jones (1947), p. 84. The verb κερματίζω means 'to dice, to chop, to divide in pieces, to make something smaller by dividing', and in the middle passive voice 'to dissolve'; so that the final translation would be 'that has been dissolved into smaller parts'. διεσπαρμένα, by contrast, is well attested in Galen where it takes a somewhat more resultative meaning 'to be spread about, to be scattered, distributed'.

<sup>600</sup> Manetti (1990), p. 230.

<sup>601</sup> Hippocrates *Morb. I* 22 [VI p. 142, 13 – 14 Li.]. Manetti (1996a), pp. 301, 303.

<sup>602</sup> Diels (1893a), p. 90: « Enumerationem claudens ».

## Column XXII

### Description

In l. 5 the abbreviation « (ἐκτίv) » (i.e. / ) has been obtained on the basis of « γι( ) ». In l. 11 the privative « ἀψύχου » is the result of a clear mistake by the scribe (the papyrus actually reads εμψύχου); perhaps due to the presence of the adjective ἐμψύχου in the precedent line. In l. 13 for the expression « ἐμ[ ± 3 θερμα]σίας » H. Diels suggested « [ἐν ἡμῶν θερμα]σίας » while D. Manetti « ἐμ[φύτ(ου) θερμα]σίας ». In l. 29 the participle καταρραμμένον (P. καταραμμενον) was taken by H. Diels as belonging to καταρραίνω (to besprinkle, to sprinkle) while Manetti to καταρράπτω (to stitch on or over)<sup>603</sup>. In l. 41 the central part of the verb « ἐμηχανήσατο » is in the interlinear space « εμηχα\νησα/το ». In l. 49 the author wrote only διοικονομου, therefore « διοικονομοῦ<σαι> ». The usage of blank spaces in ll. 41 – 49 serves to highlight individual points of import in the argument<sup>604</sup>. In l. 50 the first letter starts with *ekthesis*.

### Explanation

XXII, 2: τὰ ὅμοια.<sup>605</sup>

XXII, 3: τὰ ἐ[οι]κότα.<sup>606</sup>

XXII, 8 – 9: ἀπὸ πάσης δὴ τοίνυν [c]υε[τάσεως ἀποφοραῖ<sup>607</sup> τ(ῶν)]|σωμάτ(ων) συνεχεῖς [γί(νονται)]

XXII, 19: ἀτμοειδῶς<sup>608</sup>

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<sup>603</sup> Liddell - Scott (1996), pp. 908 – 909.

<sup>604</sup> Manetti (2013), p. 175.

<sup>605</sup> Diels (1893a), p. 100: « ut enumeratio claudatur ».

<sup>606</sup> Diels (1893a), p. 90: « Enumerationem claudens ».

<sup>607</sup> Beckh - Spät (1896), p. 31: « Körperbestand »; Jones (1947), p. 85: « emanations »; Ricciardetto (2014), p. 17; (2016), p. 29: « émanations ».

<sup>608</sup> ἀτμοειδῶς and other related terms to the verb ἀτμίζω in the *Anon. Lond.* refer to the vaporous nature (ἀτμώδης) of the *pneuma*, the same that Galen states that Praxagoras held in regard to that element. Galen *An in art.* II [IV p. 707, 2 – 3 K.]: « Πραξαγόρας μὲν οὖν καὶ παχυμερέστερον αὐτὸ καὶ ἰκανῶς ἀτμῶδες εἶναι φησιν ». ἀτμοειδῶς is also used below in cols. XXV, 5; XXVI, 31. Diels (1893a), p. 85.

XXII, 22: ἐπὶ τ(ῶν) ἐκτός.<sup>609</sup>

XXII, 22 – 24: Διὰ ταῦτὰ [δὲ γίνεται] ἀποφορὰ π(ρὸς) τῆς θερμασί[α]ς ἀπὸ τῶν] ἡμετέρων  
σωμάτ(ων).: the author of *Anon. Lond.* gives an account of the way some emanations are generated  
in the bodies. With this first statement the scribe begins to nail down all the exposition that follows.

XXII, 25: δύναται ἀποφέρειν.<sup>610</sup>

XXII, 36: the scribe states that Erasistratus posited a continuous loss of *pneuma* from the arteries  
towards the body's surface<sup>611</sup>.

XXII, 41 – 43: Ὅθεν ἡ φύσις ἐμηχανήσατο ὀρέξειε τε τοῖς ζώοις καὶ ὕλην<sup>612</sup> καὶ δυνάμεις,

One might find in this sentence one of the many teleological hints the scribe displays in his  
writing<sup>613</sup>. Teleological thinking patterns are firmly anchored in Greek philosophy, but perhaps it is  
in Aristotle's philosophy where teleology pervades throughout<sup>614</sup>. The doctrine of internal finality  
within nature, and the conviction of a narrow link between the structure of the organs and their  
function (with its derived corollaries, i.e., there are no useless organs, it is better that every single  
organ carries out a single function etc.) are all aspects witnessed to some extent in the *Anonymus*  
papyrus<sup>615</sup>.

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<sup>609</sup> Diels (1893a), p. 90: « In rebus externis ».

<sup>610</sup> Diels (1893a), p. 84: « Evaporare. pass. evaporari ».

<sup>611</sup> Debru (1996), p. 147 n. 54.

<sup>612</sup> Beckh - Spät (1896), p. 32: « Stoff »; Jones (1947), p. 87: « material »; Ricciardetto (2014), pp. 17 – 18; (2016), p. 30: « la matière ».

<sup>613</sup> Cfr. e.g. infra col. XXXVI, 48 – 50: « Ἡ φύσις, φ(ασίν), τ[ηρ]ητικῆ κ[α]θέκτηκεν τοῦ τε δικαίου καὶ τ[ο]ῦ ἀ[κ]ο[υ] λούθου. »; col. XXXIX, 5: « ὡς ἡ φύσις τηρεῖ τὸ [δικ]αίον ». Along with the discussion on the scientific method, the criticism of teleology constituted one of the pillars of Hellenistic science. Giannantoni (1984), p. 48.

<sup>614</sup> Aristotle *de An.* II 4, 415b 8 – 20; *IA VIII* 708a 10 – 11: « τό τε τὴν φύσιν μηθὲν ποιεῖν μάτην »; *Pol.* 1253a 9 – 10: « οὐθὲν γάρ, ὡς φαμέν, μάτην ἢ φύσις ποιεῖ· λόγον δὲ μόνον ἄνθρωπος ἔχει τῶν ζώων. »; *Somn. Vig.* II 455b 16 – 17: « πρῶτον μὲν οὖν ἐπειδὴ λέγομεν τὴν φύσιν ἕνεκά του ποιεῖν »; *Resp.* III 471b 26 – 27: « ἕνεκά τινος τὴν φύσιν πάντα ποιεῖν »; *X* 476a 12 – 13: « ὥστ' ἐπεὶ μάτην οὐδὲν ὀρώμεν ποιοῦσαν τὴν φύσιν » etc. Cfr. Joly (1968), p. 249; Vegetti (1984), p. 437.

<sup>615</sup> Vegetti (1993), p. 79.

XXII, 49 – 52: there are three factors that prevent the continuous loss of substances through the entire surface of the body: the appetites, the restoring substances, and the faculties in charge of administering such substances<sup>616</sup>.

XXII, 51 – 52: Ἀλλὰ γ(ὰρ) ὕλην|50ὕπεβάλετο τροφήν τε καὶ πνεῦμα· |δύο γ(ὰρ) πρῶτα καὶ κυριώτατά (ἐκτιν), οἷς δ[ιοι]||\_\_κεῖται τὸ ζῶιον, ὡς φ(ησιν) ὁ Ἐρασίτρατο[c].

These two fundamental principles are mentioned *en passant* as regards Erasistratus's theory, according to Manetti because the author of the *Londiniensis* is more akin to Herophilus than to Erasistratus<sup>617</sup>; it must however be underscored that to a considerable extent the third section is concerned with the study of the assumption, administration and evacuation of these two main Erasistratean principles.

XXII 53 – 54: Ἐνιοὶ δὲ ἐγκαλοῦσιν αὐτῶι καὶ λέγουσιν ἐκεῖνο<sup>618</sup>

## Column XXIII

### Description

A high resolution picture of col. XXIII can be consulted in paper format<sup>619</sup>. The first line only preserves the traces of few letters and more than the half of the second is lost. In l. 11 the substantive « πνεύματο(ς) » is abbreviated as « πνευματ<sup>ο</sup> »<sup>620</sup>. The verb « κ(ατα)βέννυθαι » in l. 40 is abbreviated as « κ<sup>α</sup>ζβεννυθαι ». In l. 42 « ἀριστελες » consists of a mistake (haplography for « Ἀρι<το>τέλης ») that D. Manetti assigns to the scribe's fast writing style<sup>621</sup>.

<sup>616</sup> Debru (1996), p. 134 n. 18.

<sup>617</sup> Manetti (2003), p. 337.

<sup>618</sup> Diels (1893a), 89: « Proxime antecedentis vicem gerens ergo illud tantum ».

<sup>619</sup> *CPF* (2002), plate 62.

<sup>620</sup> This term is often abbreviated in P. For an elenchus of the abbreviations used in the *Anon. Lond.* see Diels (1893a), p. 117; Ricciardetto (2014), pp. XVIII – XXIII; (2016), pp. XXIII – XXXIII.

<sup>621</sup> Manetti (1994), p. 55.

## Explanation

XXIII, 8 – 25: the attribution of this testimony to Erasistratus is doubtful<sup>622</sup>.

XXIII, 10: διοικήσεως<sup>623</sup>

XXIII, 12: <καὶ> πρό[τε]ρον περὶ τῆς τοῦ πνεύματος(c) : the *pneuma* and everything that has to do with its administration is the tenet that the scribe addresses from this point up to col. XXIV, 19; afterwards the author of *Anon. Lond.* will shift his attention to nourishment, the second of the stated principles in every living being.

XXIII, 12 – 18: the subject under discussion is mainly concerned with the course of the air in the body, or to the question of whether some of the air we breath in remains in the belly or not. Since he contrasts his views on this subject to those held by Erasistratus, Manetti took this passage as a example of the authorial intervention by the scribe (καθ' ἡμᾶς).<sup>624</sup>

XXIII, 14: δι[ὰ τ]ῆς τρα[χε]ίας ἀρτηρίας

In his miscellaneous work *Attic Nights*<sup>625</sup> Aulus Gellius addresses some issues related to this part of the body in the chapter that bears the title: *That Plutarch in his Symposiacs Defended the Opinion of Plato about the Structure and Nature of the Stomach, and of the Tube Which Is Called τραχεῖα, against the Physician Erasistratus, Urging the Authority of the Ancient Physician*

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<sup>622</sup> Ricciardetto (2016), pp. CVIII – CIX n. 348, 132.

<sup>623</sup> Beckh - Spät (1896), p. 33: « Verwendung »; Jones (1947), p. 89: « maintenance »; Ricciardetto (2014), p.18; (2016), p. 30: « gestion ».

<sup>624</sup> Manetti (2013), p. 176.

<sup>625</sup> Aulus Gellius *Attic Nights* XVII 11 (1/6) [Hosius (1903), pp. 211, 18 – 213, 18].

*Hippocrates*. Aulus Gellius deals there with the criticism that Erasistratus of Ceos<sup>626</sup> makes of Plato for affirming (*Ti.* 44a) that liquid passes firstly to the lungs, and flowing through them in virtue of their spongy nature, finally reaches the bladder<sup>627</sup>. The theory of the passage of liquids into the lungs is an old doctrine, and a disputed concern among the physicians of the 5<sup>th</sup> and the 4<sup>th</sup> century BC. In the Cnidian school this opinion was widespread and admitted (hence we find it in Hippocrates *Morb.* I 12, a treatise generally put to the Cnidian school), while it was straightforwardly rejected among the Hippocratic physicians. From Cnidos the doctrine was transferred to the Sicilian school, and it is likely there that Plato (*Ti.* 70c – d) came to know about it<sup>628</sup>. Plato’s account of respiration is in accordance with neither Empedocles nor with Aristotle. To Empedocles both air and blood are the source of life and circulate alternately throughout the whole body in the vessels and the pores of the skin (περίωσις)<sup>629</sup>; for Aristotle the lungs are the organs of respiration, but the air is no longer useful to breathe, it is just a cold flow whose only function is to cool the heat of the heart<sup>630</sup>. Plato’s description of respiration had to be nonetheless perfectly feasible to the contemporary cultivated audience, as the explanations the Greeks gave to respiration were several and changed dramatically as time wore on<sup>631</sup>. The discussion that Aulus Gellius’s portrays is raised from the incompatibility between the two extant paradigms accounting for respiration. The ancient physicians (including Plato) posited that the function of the lungs was to let the liquid pass, the assumption probably owing to the spongelike (σπογγειδῆ) appearance of the lungs<sup>632</sup>. Wherefore, in an early period the lungs were not considered as having any relation to

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<sup>626</sup> Despite being abundantly quoted by Strabo, Celsus, Pliny (who preserved some fragments of his pharmacological works), Plutarch, Rufus, Caelius Aurelianus, and Galen (his bitterest opponent) it still remains unclear either when Erasistratus of Ceos lived or where (320 – 240 BC?) Cfr. von Staden (2000), p. 92. Erasistratus’s uncles — Medios and Cleombrotos — were physicians, and his teachers were Chrysippus of Cnidos and Metrodorus. Apropos of Metrodorus cfr. Diogenes Laertius *Vitae philosophorum* VII 186 [Marcovich (1999a), p. 558, 1 – 2]. To Chrysippus of Cnidos the contents in papyrus *P.* 38 have been attributed (3<sup>rd</sup> century BC *P. Gren.* II7b + *P. Ryl.* I 39 + *P. Heid.* inv. 401+ *P. Hibeh* II 190 r cart. = MP<sup>3</sup> 2343.1, coming from El Hibah) which deals with the theory of poral respiration and the ocular physiology. Cfr. Andorlini - Marcone (1995), pp. 468 – 469, 488. It is agreed that Erasistratus attended the courses taught by Theophrastus and Strato of Lampsacus. It is known that Erasistratus was the private doctor of the king Seleucos I Nicator. Vegetti (1984), p. 459; Byl (2011b), p. 19. Since none of his writings survive in more than fragments, we have to be content with the portraits provided by later authors or with a scarce handful of papyri that, preserved in mummies *cartonnage*, have handed down some passages of Erasistratus’s works. This perhaps is the case with *P. Köln* VIII 327 = *P. Colon.* inv. 20941 = MP<sup>3</sup> 2380.010. This papyrus contains fragments of a writing titled *Treatise on Fevers*. Cfr. Andorlini (2014), pp. 217 – 219. It can be consulted online at <http://www.uni-koeln.de/phil-fak/ifa/NRWakademie/papyrologie/PKoeln/PK20941r.jpg> (23. 12. 2016). Cfr. also Longrigg (1988), pp. 455 – 456.

<sup>627</sup> A possible opponent could bring up Plato *Ti.* 84d 2 ff. to undermine either Erasistratus’s criticism or the version of the facts as these are recounted by Aulus Gellius.

<sup>628</sup> Cfr. Bidez - Leboucq (1944), p. 24.

<sup>629</sup> Harris (1973), p. 120.

<sup>630</sup> Thivel (2005), p. 240.

<sup>631</sup> Plutarch *Symposiacs* VII 1 (3), 698e 16 – 700b 10 [Hubert (1971), pp. 213 – 217]. Cfr. Thivel (2005), p. 239.

<sup>632</sup> Hippocrates *Oss.* XIII [IX pp. 184, 14 – 186, 16 Li.].

respiration (as it seems to be the case in Hippocrates *Morb. Sacr.* VII.), but with the digestion of liquids. It seems that it was Solon the Sage (6<sup>th</sup> century BC) who first considered the lungs as an organ having to do with nutrition<sup>633</sup>. Namely, as the lungs received liquids they could not receive air, for this would have opposed resistance to the liquids to pass through. Thus, Aulus Gellius or the doxographical source on which he relied to introduce this medical topic was akin to Plato and showed general contempt for Erasistratus's explanation.

It will be necessary to wait for Aristotle to attribute a prominent respiratory function to the lungs; with Aristotle and his remarks on the function of the epiglottis, the belief that some liquid could pass into the lungs through the trachea was definitely overcome<sup>634</sup>. Erasistratus looks to be much closer to the Aristotelian view<sup>635</sup>, since he apparently draws from Aristotle the importance of the role played by the epiglottis in both processes, the inspiration of air and the ingestion of food. Erasistratus sets forth the existence of two different overlapping canals which, though having their origin in the rear part of the mouth, come to end in two different organs: one in the stomach (κάτω κοιλία), and the other in the lungs (τραχεία ἀρτηρία). In view of this, the windpipe lies along and in front of the oesophagus, the channel through which food actually passes into the belly. The epiglottis (ἐπιγλωττίδα)<sup>636</sup> is a cartilaginous lid that occludes the windpipe (τραχεία ἀρτηρία) while we are eating or drinking, thus preventing any food or drink may from fall therein<sup>637</sup>. In Erasistratus's view, then, the epiglottis has a plain discriminative function. From a contemporary perspective it turns out that Erasistratus's theory (i.e. the epiglottis does not allow any food or drink to go down through the trachea) describes the facts much better than Plato — or Erasistratus was closer to our of to representing how things happen than Plato. The point not only consisted in taking some authoritative opinions into account whenever these were useful in supporting one's arguments, but also in rejecting systematically and utterly the views of a particular author.

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<sup>633</sup> Cfr. Abel (1957), p. 104. As regards medical literature, more specifically, this view can be found in Hippocrates *Morb.* I 12. Grensemann (1975), p. 210 n. 15.

<sup>634</sup> Aristotle *Resp.* XI 476a 34 – 476b 5. Cfr. Grmek (1997), p. 89.

<sup>635</sup> Aristotle, however, was certainly well acquainted with Empedocles' theory of respiration. Cfr. *Resp.* VII 473b 9 – 474a 6. Jouanna (2012g), p. 219.

<sup>636</sup> This “natural device” is present in quadruped vertebrates and in man. Given that birds and oviparous quadrupeds lack an epiglottis, the way they achieve the swallowing of food is by contracting the windpipe. The epiglottis is also mentioned in the pseudoHippocratic treatise *Cord.* II [IX p. 80, 12 Li.].

<sup>637</sup> This is the reason why it is impossible to swallow and to breath at once. From the pseudoAristotelian treatise *Spir.* 482b 14 – 16 we learn that beside respiration and pulsation some conceded another particular movement of the breath in the trachea which acted upon the food: « Ἐπεὶ δὲ τρεῖς αἱ κινήσεις τοῦ ἐν τῇ ἀρτηρίᾳ πνεύματος, ἀναπνοή, σφυγμὸς, τρίτη δ' ἢ τὴν τροφὴν ἐπάγουσα καὶ κατεργαζομένη ».

XXIII, 15: ἔτι<sup>638</sup>

XXIII, 26: λέγω δὲ<sup>639</sup>: this is the only occurrence in the *Anonymus* where the scribe sets forward his own views by using the first person of the singular (the author would rather prefer the plural form ἡμεῖς, much more in consonance with a written than spoken style)<sup>640</sup>. For the purpose of our concern with A. Ricciardetto's hypothesis on the structure and nature of P.<sup>641</sup>, it might be important to note that the first person serves to reinforce the presence of the speaker before his audience. In all the treatises of the Hippocratic Corpus belonging to the genre of oral presentation or speech (i.e. oral works), we frequently find the use of verbs in the first person, if necessary supported by the presence of ἐγώ (ἔγωγε)<sup>642</sup>; we would like to point out here that the exceptional nature of this detail in the *Londiniensis* would apparently contradict Ricciardetto's hypothesis. For all purposes, however, the use of this form owes to the fact that the scribe wants to refute other theories of respiration previously expounded such as those by the Megarics.

XXIII, 36 – XXIV, 10: this fragment seemed to M. Wellmann to rely on the Pneumatic school of medicine<sup>643</sup>. In l. 39 the verb 'φ(α)τιν' has been taken by D. Manetti in the impersonal, while H. Diels, by comparison to a passage in Galen<sup>644</sup>, believed that the subject of the verb could be Erasistratus.

XXIII, 38 – 42: at this point the account in the *Londiniensis* is in full agreement with the Aristotelian assumption according to which respiration namely serves to cool down the pericardial heat<sup>645</sup>, which is actually the meaning of the verb κ(α)τὰ βέννυθαι in l. 40<sup>646</sup>.

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<sup>638</sup> Diels (1893a), p. 90: « Tertium nomen adiugens ».

<sup>639</sup> Diels (1893a), p. 97: « parenthesin explicativam incipiens ».

<sup>640</sup> Diels (1893a), p. 88. I.e. cols. II, 19, 31; XXII, 17; XXXVI, 44 etc. For a more detailed description of this aspect cfr. infra ch. I § 2.

<sup>641</sup> Cfr. infra ch. I § 5 – 6.

<sup>642</sup> Jouanna (2012c), p. 43.

<sup>643</sup> Wellmann (1922), p. 418.

<sup>644</sup> Galen *De resp. usu* I [IV p. 471, 8 – 9 K.].

<sup>645</sup> Manetti (1996a), p. 302 n. 17.

<sup>646</sup> Liddell - Scott (2006), p. 910. For a full description of the function of this verb in its immediate context see infra ch. VI § 2. 2.

XXIII, 42 – XXIV, 9: the papyrus makes reference to Aristotle's *De somno* III<sup>647</sup>. This passage was severally edited, translated into Italian<sup>648</sup> and commented on by D. Manetti<sup>649</sup> prior to her full edition of the *Londiniensis* in 2011.

XXIII, 51: κα[τάρρου]<sup>650</sup>

## Column XXIV

### Description

A high resolution picture of col. XXIV can be consulted in paper format<sup>651</sup>. The first line is completely lost. In ll. 5 – 6 D. Manetti suggests restituting « πλεονάζοντ[oc. 2/3]|τοι » with « [ἀλ(λ') οὔ]|τοι » because in her opinion it is the scribe, rather than Aristotle, who is speaking at that point<sup>652</sup>. In l. 20 the restitution by Diels « μετὰ [ταῦτα] » actually reads « \μετὰ[.....]/ ». In l. 26 part of the verb « ἀποικειοῦται » was written in the interlinear space: « αποικει\ου/ται ». In ll. 29 – 30 the scribe wrote « κ'γασιαc », therefore « κ(ατ)<ερ>|γασιαc ». In l. 32 the expression « ὡc τέμνεται » actually reads « \ωc/τέμνε[[εθ]]\τ/αι ». This time, the scribe seemingly wanted to use a sentence in the infinitive but then changed his mind transforming it into a “ὡc clause”, so that he deleted the ending of the verb and put it in the indicative, introducing afterwards in the interlinear space the conjunction « ὡc ». This correction has been taken by D. Manetti as evidence for the autographical character of the *Anon. Lond.*<sup>653</sup> In l. 34 it is a matter of a dittography corrected by the scribe « ουμην[[ουμην]] ». In l. 36 the infinitive « τυγχ(άνειν) » is abbreviated as « τυγ<sup>λ</sup> ». The

<sup>647</sup> The scribe develops a particular point in Aristotle *Somn. Vig.* III 456b 26 – 457b 32 that can be also put in connection with *GA* V 1, 778b 32 – 779a 8. Cfr. Manetti (1986), p. 69.

<sup>648</sup> Manetti's translation runs as follows: (« E il sonno, come dice Aristotele, si produce in questo modo: giacché il cuore è per natura caldo e il calore dipende da questo, mentre il cervello è freddo, ne consegue che intorno al cervello si condensa l'umidità sollevata dal calore che proviene dal cuore, la quale appunto, una volta condensatasi, si raffredda ed è di nuovo partita in basso dal [...], non potendo a causa del peso rimanere nello stesso luogo e [...] al cuore [...] e con la mescolanza il caldo. Così avviene il sonno. La veglia si produce invece quando si è consummata tutta l'umidità nella zona del cervello, in seguito, quando il calore è pienamente dominante. Eppure Aristotele (non) si loda per il fatto che in confronto agli altri ricerca la causa sia del sonno che della veglia, mentre quelli ricercano la causa solamente del sonno, preso a sé, e non si occupano ulteriormente anche della veglia »).

<sup>649</sup> *CPF* Aristoteles 22T, pp. 307 – 311. Cfr. infra ch. VI.

<sup>650</sup> Diels (1893a), p. 43: « fortasse κατάρρου vel <έν>κεφάλου ».

<sup>651</sup> *CPF* (2002), plate 62.

<sup>652</sup> *CPF* Aristoteles 22T, p. 308.

<sup>653</sup> Manetti (1994), p. 55.

expression that occupies two lines « καὶ|μεταβολῆς τῆς » is written on the right margin as « \καμετα|βολητης/ ». In l. 46 the word « ὕδα<τα> » is a haplography and not the resolution of an abbreviation as H. Diels interpreted; in Manetti's view it is a mistake due to the scribe's fast writing style<sup>654</sup>. Finally in l. 48 there is another correction. The scribe erased the group « τως » that he wrote twice by mistake after the abbreviation « ὀ » (standing for « οὔτος »), therefore P. reads « ὀ[[τωσ]] ».

## Explanation

XXIV, 18 – 19: διοι|κῆξεωσ<sup>655</sup>

XXIV, 22 – 24: τεμνομένη μ(έν) πρὸς τῶν προσθίων ὀδόν|των, τομεῖς καλοῦνται, καταλεινομέ|νη δὲ πρὸς τ(ῶν) μυλῶν,

The names and functions assigned to the different types of teeth were well known in Aristotle's time. The theories of teething seem to respond to a mechanistic thinking pattern related to atomistic views<sup>656</sup>. Though Aristotle makes some notable mistakes in regard to this subject, for instance, his claim that men have more teeth than women, by judging the way this concern is expounded in the *Londiniensis* we see that the scribe wants utterly to underline either the function or the finality of the teeth (final cause). Along the same line, he is also emphasising the relationship between the organ and its function<sup>657</sup>. One may assume therefore that it is not the organ that properly determines the function but the contrary; therefore Nature endows living creatures with the necessary organs according to the characteristics akin to their essence. Moreover, Nature also seems to operate by taking into account the logical and chronological correlation of the functions (this applies to all levels from the uterus); wherefore the cutting of food is prior to its division into

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<sup>654</sup> Manetti (1994), p. 55; Ricciardetto (2016), p. 135.

<sup>655</sup> Beckh - Spät (1896), p. 35: « Verwendung »; Jones (1947), p. 93: « maintenance »; Ricciardetto (2014), p. 19; (2016), p. 32: « gestion ».

<sup>656</sup> Musitelli (1996), pp. 225 – 229.

<sup>657</sup> A more detailed examination of the arguments that Aristotle maintained as regards this concern can be found in *HA* IV 10, 687a 7 ff.

smaller pieces. Erasistratus's theory of digestion is of particular interest in this sense<sup>658</sup>. Erasistratus maintained that once in the stomach food was subject to mechanical action and torn to pulp by the peristaltic action of the gastric muscles<sup>659</sup>.

XXIV, 24: μολῶν<sup>660</sup>

XXIV, 26 – 27: this is a clear case of ἀποικειοῦται<sup>661</sup>, that is to say, of an explanation on the grounds of the theoretical principle according to which assimilation takes place because of what is similar<sup>662</sup>. As such ἀποικειοῦται is a very rare verb, apart from the *Londiniensis* papyrus it occurs only in Hero of Alexandria<sup>663</sup>.

XXIV, 30 – 35: this fragment was edited, translated into Italian, and commented on by D. Manetti in a contribution<sup>664</sup> previous to her complete edition of the *Londiniensis* in 2011.

XXIV, 30 – 31: ὁ Ἀσκληπιάδης ὁ οἰνοδώτης<sup>665</sup>

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<sup>658</sup> It is said that Erasistratus's physiological views dwelled heavily on the pneumatic physics of Hero of Alexandria. Giannantoni (1984), p. 52; Longrigg (1993), pp. 208 – 209, 214; Vegetti (1995a), p. 467.

<sup>659</sup> This nutritious mass, Erasistratus held, was then squeezed out in the form of chyle through the walls of the stomach and intestines into the blood vessels communicating with the liver, where it was transformed into blood. During and along such a process, the biliary contents were separated off and passed to the gall bladder, while the pure blood from the liver was conveyed via the vena cava to the right ventricle of the heart. From that place the pure blood was pumped into the lungs through the pulmonary artery (φλέψ ἀρτηριώδης) and distributed generally through the venous system as nourishment to regain the bodily wastage which, as Erasistratus had so vividly demonstrated, took place not only visibly but to some extent invisibly. The supply of nutriment to each particular body part was effected by a process of absorption (διάδοσις) through extremely fine pores (κενώματα) in the walls of the capillary veins contained within it. The particles of nourishment were able to pass through these very fine and ultimate branches of the venous system to fill, in accordance with the principle of the *horror vacui*, those spaces left empty by the evacuations and emanations. Longrigg (1993), p. 215.

<sup>660</sup> Diels (1893a), p. 98: « Molares ». It is related with the substantive μῶλυνσις and the verb μολύνω (i.e. « to boil imperfectly, to scald »).

<sup>661</sup> I.e. « to assimilate, to absorb ». Cfr. *infra Comment.* on col. XXIV, 34 – 35.

<sup>662</sup> Debru (1999), p. 459.

<sup>663</sup> Hero of Alexandria *Spir. (Pneumatica)* I [Schmidt (1899), pp. 6, 27 – 8, 2]: « τὰ μὲν οὖν τῆς ψάμμου μόρια τοῖς τοῦ ἀέρος σώμασιν ἀποικειοῦσθαι ὑποληπτέον, τὸν δὲ ἀέρα τὸν μεταξὺ τῶν τῆς ψάμμου μορίων τοῖς μεταξὺ τοῦ ἀέρος κενοῖς ».

<sup>664</sup> Manetti (2003), p. 338: « E non (riteniamo), come sostengono Asclepiade e Alessandro Filalete, che il cibo sia solo triturato e reso liquido nel ventre e che ci sia una sorta di « predisposizione », ma non certo un adattamento a ciò che è proprio ».

<sup>665</sup> Pliny the Elder *HN* VII (37/37) 124 [Mayhoff (1967a), p. 43, 8 – 14]. Cfr. Diels (1893a), p. 44. The work on wine by Asclepiades that had given rise to innumerable commentaries has regrettably disappeared. Jouanna (2012f), pp. 174 – 175. The reason for the appellation or the surname οἰνοδώτης (giver of wine) probably owes to the fact that in ancient Greece wounds were generally rinsed and cleaned with wine or vinegar due to the bactericide and antiseptic power of both liquids (a property that, according to von Staden, the Egyptian doctors ignored). von Staden (1989), p. 15; Jouanna (2012f), p. 191. For a more generic reason of such an appellation cfr. Galen *Thras.* XXIV [V p. 846, 15 – 17 K.]. Ricciardetto (2016), pp. 134 – 135.

It is the first time that the scribe makes mention of Asclepiades in the *Londiniensis*. It is another way to refer to Asclepiades of Bithynia<sup>666</sup>, the physician who lived and carried out his medical activity in the 2<sup>nd</sup> century BC<sup>667</sup>. It is very likely that ‘Asclepiades, the wine-giver’ might be the same person known as ‘Asclepiades the Younger’<sup>668</sup>, to whom Galen refers as « the drug-giver » (ὁ φαρμάκιον)<sup>669</sup>.

Traditionally practiced and discussed by Greeks, the medical art was established firmly in Rome by the late 2<sup>nd</sup> century BC. Asclepiades of Bithynia was by far the most influential immigrant medical practitioner of Late Republican Rome. Asclepiades wrote in Greek<sup>670</sup>, although his message was largely intended for a Roman audience and his abilities were recognised across the linguistic divide. He probably came to Rome in 120 BC<sup>671</sup>. Asclepiades may have lived in the age of Pompey, which is where Pliny locates him<sup>672</sup>.

Asclepiades might have received his medical education in Alexandria, but there is an issue at this point, his ignorance of anatomy apparently points to the contrary. Asclepiades refused teleological explanations, but accounted instead for the functioning of the body in purely mechanistic and quantitative terms<sup>673</sup>. Asclepiades criticised the theory of knowledge of the Empirics and reworked Erasistratus’s corpuscular theory of matter<sup>674</sup>. The books that Galen specifically devoted to discussing Asclepiades’ doctrines are lost<sup>675</sup>.

Asclepiades believed that the body was built up of invisible divisible particles (ὄγκοι), and that health was a function of their free and balanced motion through the theoretical vascular ducts (πόροι) in the body<sup>676</sup>. Disease resulted from an imbalance, a blockage, or a flood. His mechanistic

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<sup>666</sup> Ricciardetto (2016), p. CV.

<sup>667</sup> Polito (1999), pp. 48, 65. Asclepiades was born at Cius (Prusias ad Mare) in Bithynia (N.W. Turkey to-day) in the later 2<sup>nd</sup> or early 1<sup>st</sup> century BC. Leith (2012), p. 164.

<sup>668</sup> von Staden (1989), pp. 451, 516, 547.

<sup>669</sup> Repici (2006), p. 85.

<sup>670</sup> It is only from Galen that we know that Asclepiades was the author of a treatise titled *On Elements*. Galen *De elem. sec. Hipp.* I 9 [I p. 487 K.].

<sup>671</sup> Perhaps immediately after the taking of Corinth (146 BC). Cfr. Gourevitch (1993), p. 129.

<sup>672</sup> Nutton (2004), pp. 167, 169 – 170; Repici (2006), p. 87.

<sup>673</sup> At *De nat. fac.* III 61 [II pp. 165, 15 – 166, 5 K.] Galen makes reference to Asclepiades’ theory that food does not undergo any concoction in the body.

<sup>674</sup> Polito (1999), p. 63.

<sup>675</sup> Galen *De libr. propr.* VIII [XIX p. 38 K.]. Cfr. Polito (1999), p. 61.

<sup>676</sup> Vegetti (1993), p. 112.

and materialistic explanation of kidney and bladder function owed much to earlier Hellenistic thinkers, notably Erasistratus and Heraclides of Pontus<sup>677</sup>, but Galen was almost certainly wrong to include Asclepiades among the Epicureans, despite the similarity between his ideas and their conception of the universe<sup>678</sup>. Themison of Laodicea (40-50 CE?), a pupil of Asclepiades, is credited with the foundation of the Methodical school of medicine. In relation to the *Londiniensis*, Asclepiades — the forerunner of medical Methodism — is an “important rival” for the scribe of the *Londiniensis*, as the latter takes serious issue seriously with him on many occasions (though occasionally can also find points of agreement)<sup>679</sup>.

XXIV, 31 – 32: Ἀλέξανδρος|ὁ Φιλαλήθεις διέλαβον,<sup>680</sup>

According to M. Wellmann Alexander was born in the beginning of the Christian era, and founded his own school nearby Laodicea<sup>681</sup>. The epiklesis « Philalethes » was common and widespread for a number of physicians and philosophers of the Hellenistic period<sup>682</sup>. H. Diels contended that the author of *Anon. Lond.* could only have been familiar with Meno’s doxography through another doxographic document attributed to Alexander Philalethes, the so-called Ἀρέσκοντα<sup>683</sup>. Since Alexander is the latest author quoted in the *Londiniensis*, he has been taken as the *terminus post quem* for the dating of the papyrus<sup>684</sup>.

XXIV, 33 – 34: the notion προδιάθεσις<sup>685</sup> (predisposition) is not attested in the rest of the extant fragments attributed to Asclepiades<sup>686</sup>.

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<sup>677</sup> Heraclides of Pontus (4<sup>th</sup> century BC) wrote a treatise titled Αἰτίαι περὶ νόσων. Van der Eijk - Francis (2009), p. 223.

<sup>678</sup> The divisibility and the extreme fragility of such primordial elements is what makes the system posited by Asclepiades different from (and perhaps unreconcilable with) the atomism of Democritus and Epicurus. Wherefore there cannot be identification of the ὄγκοι with atoms or of the pores with void, though both pairs have an analogous and co-ordinate relationship in both theories. Cfr. Gourevitch (1993), p. 130; Leith (2012), pp. 168, 173.

<sup>679</sup> Manetti (2003), pp. 347. Cfr. *infra Comment.* on col. XXV, 4 – 15.

<sup>680</sup> Diels (1893a), p. 87: « Opinari ».

<sup>681</sup> Diels (1893b), p. 412; Wellmann (1922), p. 412.

<sup>682</sup> Kudlien (1989), p. 362.

<sup>683</sup> Diels (1893b), p. 415; Manetti (1986), p. 60; (1999), p. 98. Cfr. *infra* ch. II § 4.

<sup>684</sup> Manetti (1994), p. 57.

<sup>685</sup> Beckh - Spät (1896), p. 36: « Vorbereitung »; Jones (1947), p. 95: « predisposition »; Ricciardetto (2014), p. 19; (2016), p. 33: « disposition préliminaire ».

<sup>686</sup> Manetti (2003), p. 338.

XXIV, 34 – 35: the expression « ἀποικείωσις ἐπὶ τὸ οἰκεῖ<ο>ν » is, according to D. Manetti<sup>687</sup>, a typical Hippocratic and Aristotelian thinking pattern that Galen inherited<sup>688</sup>. Nonetheless, the most important point to realize is that ἀποικείωσις constitutes an absolute hapax, that is to say, it cannot be found anywhere else in Greek literature<sup>689</sup>.

In light of the contents of the *Anonymus*, the ἀποικείωσις (i.e. the assimilation of what is proper)<sup>690</sup> succeeds because nutriment assimilates, or integrates, the properties it might come across in passing through certain places. Unfortunately, the lines where the scribe tackles the assimilation of nutriment in the papyrus are damaged to unintelligibility; it is impossible to know<sup>691</sup> the opinion the scribe might have held regarding this issue. We may infer that it had to be in contrast with Asclepiades' views. It is quite likely that the scribe would have held that the qualitative assimilation of nutriment occurs in virtue of the particular qualities and heat abiding in each and every part through which nutriment passes or stays<sup>692</sup>, this being the reason the scribe brings up the simile of water when passing through certain places.

XXIV, 43: ἀσφαλτώδεις: the term ἄσφαλτον is translated as 'bitumen' in Aristotle<sup>693</sup>. The medical properties of the bitumen were known from ancient times<sup>694</sup>.

XXIV, 45: θειώδεις: this is a very rare adjective, meaning something like "sulphureous yellow colour"<sup>695</sup>.

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<sup>687</sup> Manetti translates it as « trasformazione del cibo in ciò che è proprio a ciascuna parte ». Manetti (2003), p. 337.

<sup>688</sup> Galen *De fac. nat.* II 4 [II 89, 7 – 90, 4 K.].

<sup>689</sup> Jouanna (2016), p. 1.

<sup>690</sup> Debru (1999), pp. 457 – 464.

<sup>691</sup> Col. XXIV, 50 – 54.

<sup>692</sup> A. Debru underlines the fact that the *Anonymus of Brussels* draws heavily from this same assumption. Debru (1999), p. 462.

<sup>693</sup> Aristotle *Mir.* CXXVII, 842b 15: « bitumen ».

<sup>694</sup> Cfr. Marganne (2010), pp. 43 – 59 (the papyrus from the beginning of the 3<sup>rd</sup> century CE conserved in the Vitelli Institute in Florence quoted by M. -H. Marganne containing passages from Hippocrates *Aph.* IV and V is a recent *delendum* which now redirects to *P.Ryl.* 3.530 = MP<sup>3</sup> 543.400). In general asphalt was regarded as a stinking and disgusting substance. Totelin (2014), pp. 88 – 89.

<sup>695</sup> Cfr. Pliny the Elder *HN* XXXV (15\50) 174 – 175 [Mayhoff (1967c), pp. 295, 3 – 296, 1].

## Column XXV

### Description

In l. 4 the scribe wrote a sentence that he expunged almost completely in rewriting a new one above, thus « προκτίθεται τῷ ὅλῳ ζώματ[ι]. *sp. vac.* Καὶ μὴν » actually reads « [τη της κατεργασιας τυγγανει] \προκτιθεται τῳ ολῳ ζωματ[.]/ *sp. vac.* και μην ». In ll. 12 – 18 an irregular vertical stripe on the right side of the column is missing (the same applies to ll. 24 – 54), and with it an average of 3 letters per line. The word « ἀν[α]δός(εως) » in l. 14 is abbreviated as « αν[.]δο<sup>c</sup> », but in ll. 19, 25, and 36 as « ανα<sup>δ</sup> ». The addition « \ και αυταειρ<sup>-</sup>/ » in l. 18 is written on the right margin. In l. 28 there are several corrections and hesitations by the scribe while writing. Thus, in the syntagm « καθ' ὅσον » the last two letters are added in the interlinear space and the letter θ is written on a former « τ ». Afterwards, in the expression « μ(έν) τὸ {μ(έν)} » the first particle μὲν is written in the interlinear space, therefore « \μ<sup>ι</sup>/ ». The scribe first wrote « τομ<sup>ι</sup> » but in deciding to write the particle in the beginning he forgot to delete the second original μὲν. In l. 33 the expression « διὰ τ(ῶν) ἀραιω(μάτων) » is in the interlinear space as « \διατ<sup>α</sup>ραιω/ ». In ll. 33 – 35 one can distinguish 3 additions, one supra linear and the other two on the right margin, but they constitute a single addition which probably concerns l. 34. In this way, in P. the expression « πέσσεται | *sp. vac.* ἐν κοιλίαι· πέψις γ(άρ) (ἔστι) μεταβολή κ[αὶ χύλω]σις {ἐπὶ τῷ.ι}·|καὶ » is written as follows: « πεσεται \[[κ[...]]αι]/ | εν κοιλιαι· πέψις γ<sup>ι</sup>/ \[[κατα...λου[ ± 7].ω...]]/μεταβολη κ[.....]σις\επι τῳ .ι/ και »<sup>696</sup>. In l. 36 after the word « ἀλ(λά) » there is to be found a long supra linear addition which extends on the right margin of the column: « \ πασης της τροφης ἀλ[ ± 10] ειπεται και φερ<sup>e</sup> | εις τα εντερ[( )] | και εν του<sup>f</sup> | ανα<sup>δ</sup>/ και εν τοις εντεροις [ ± 6]οις ». The last sentence in the addition could be an unnecessary repetition that should be suppressed, hence the elimination « {καὶ ἐν τοῖς ἐντέροις [± 6] οἰοις} ». In l. 46 « ιδιότη<το>c » is another case of haplography, for P. reads « ιδιοτης ». At the end of l. 46 the author introduces an addition which extends into the right margin and bears relation to the complete passage comprised in ll. 31 – 46: « \ [.]τι τροφη/ εν τοι<sup>c</sup> | εντεροις εξ<sup>ω</sup> βλεπε / »<sup>697</sup>. The first letter in l. 47 starts with *ekthesis*; the end of the line has been unsatisfactorily deciphered: « † προρονκατ[....]ενθ( ) † ».

<sup>696</sup> Cfr. Ricciardetto (2016), p. 137.

<sup>697</sup> Cfr. *infra Comment.* on « *The Two Additional Notes on the Recto of the Papyrus* ».

## Explanation

XXV, 4 – 15: Καὶ μὴν|5[καὶ] ἀτμοειδῶς διὰ τῶν ἀρ[αιωμ]άτ(ων)|[τῶν] ἐν τῇ κοιλίᾳ ἀναλαμβάνεται ἢ τροφή|καὶ ἐξ ὠμῶν γί(νεται) ἢ π(ρόσ)θεσις τῷ ὄλῳι σώματι,|ὥς ἂν δὴ καὶ ἐξ ὠμῶν γινομένης τῆς| ἀναδόσεως. Καὶ ἐν τῷ στόματι δὲ ληφθεῖ|10της τῆς τροφῆς παρὰ ταῦτα ἀνάδοσ<ις> γί(νεται) ἀπ' αὐ|τῆς, ὥς ἂν δὴ πάλιν καὶ ἐξ ὠμῶν γινομένης|τῆς ἀναδόσεως. Ταύτη δὲ κα[ῖ] οἱ κ(ατά)ξηρα| ἔχοντες τὰ στόματα διακ[λυς]άμενοι|μαλακώτερα φέρονται, ὥς [ἂν] δὴ ἀν[α]δόσ(εως)|15παρὰ ταῦτα γινομένης.

This passage has been edited and translated into English in one of the latest contributions by D. Manetti<sup>698</sup> with a view to showing the common usage of the structure « ταύτη δὲ καὶ » by both the scribe of the *Londiniensis* and the thinker Hierocles, with the aim of introducing a particular example to make an argument clearer.

This notwithstanding, the fragment is of value because it in some ways introduces an argument that makes the scribe closer to Asclepiades than would generally be thought from the contents of the papyrus<sup>699</sup>. In fact, the scribe adds an interesting observation whereby he states that the assimilation of the food not only occurs through the blood vessels that are connected with the mesentery and the belly, but also through the porosity (ἀραιώματα) of the belly and through the porosity of the mouth; what prompts us to claim that to a certain extent (if easily divisible into particles small or liquid enough) the scribe could have admitted the direct assimilation of raw food — in the manner of Asclepiades. Therefore, solid food needs to be processed through digestion in order to acquire the ideal texture to be duly assimilated<sup>700</sup>. But leaving this aspect aside, perhaps another even more important assumption follows from the description, namely the scribe's firm belief in the porosity of the body, in the existence of pores through which matter can actually pass, which permits and makes possible the continuous flux of matter between our body and the external world. Therefore the hint the scribe puts forward proves of the utmost import, for in a way it introduces the concern that he will address from this point onwards (dare, we say indeed to the end of the papyrus), again: the existence of continuous invisible emanations from every kind of body<sup>701</sup>.

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<sup>698</sup> Manetti (2013), pp. 164 – 165.

<sup>699</sup> The scribe expresses on many occasions that he disagrees and is at odds with Asclepiades, e.g. cols. XXIV, 30 – 35; XXV, 34.

<sup>700</sup> Manetti (2003), pp. 339 – 340.

<sup>701</sup> Manetti (2003), pp. 343, 346.

XXV, 5: ἀτμοειδῶς: this is an adverbial form of a supposed adjective ἀτμοειδής, whose employment in technical and scientific language is coextensive with those terms ending in -ώδης (i.e. intending ‘to appear, to look like, to have the quality of’ etc.)<sup>702</sup>. To our mind ἀτμοειδῶς cannot mean ‘vaporous’ in the sense of “having gained the state of a gas” because the object thus qualified would be deprived of all eventual nourishing power. ἀτμοειδῶς rather suggests the state of a smoky soup, or for the sake of accuracy a ‘concocted chyme’.

XXV, 7: ἐξ ὠμῶν: in the papyrus the term ὠμός does not take the meaning of ‘raw food’ in the sense of food that has not been baked or cooked, but rather the rawness of any food which is still not ready nor suitable for absorption; it amounts to saying that in some theories of digestion food is somehow considered ὠμός from the mouth all the way to the intestines — where the absorption of the nutrients is said to take place.

XXV, 22: πέψις<sup>703</sup>: there is a direct relationship between πέψις and σήψις; σήψις is in fact the first way to term what we actually mean by ‘digestion’. However, either from a diachronic approach or from the context itself it appears that πέψις is no longer interchangeable with σήψις, σήψις means ‘putrefaction’, taking on a prominent nosological sense, while πέψις (*concoctio*) namely means ‘digestion’, in particular, the ‘concoction of raw food’ that takes place in the stomach; so that the term πέψις has more to do with nutrition than illness.

As a substantive πέψις is built from the prefix of the reduplicated perfect tense (i.e. –πε) in combination with the basis of the verb ψίω or ψίζω, and the abstractive ending –σις (literally: ‘the “that / food” that has been chewed’); the formation of the term πέψις could also be explained on the basis of the verb πέσσω (later πέπτω) ‘to ripen, to cook or to change by means of heat’<sup>704</sup>. This altogether should suffice to render the general meaning of the notion. The point, however, lies not only in the fact that in the middle voice πέψις means ‘to chew’ whereas in the passive voice it means ‘to be fed’; the problem also arises when it comes to finding a concept suitable enough in our modern languages to assign to πέψις. As far as it goes, the notion of πέψις in the papyrus apparently

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<sup>702</sup> Zaragoza - Gonzalez (1989), pp. 207, 210.

<sup>703</sup> Steckerl (1958), p. 32. In Pseudo - Aristotle *Pr.* XIV 9, 909b 28 the term σήψις means ‘rotting, decomposition’. Cfr. Marengi (1965), p. 136. In col. XXV, 34 – 35 digestion is likened to a transformation, to a liquefaction: « πέψις γ(άρ) (έστι) μεταβολή κ[αὶ χύλω]σις {ἐπὶ τω.ι.}·|καὶ διαίρεσις γ(άρ). ». In the *Anonymus Parisinus* the σήψις is by far the most distinctive cause that Praxagoras puts to the origin of illnesses; whilst to that very purpose Hippocrates attributes the causation of disease to the ἐκχύλωσις. Cfr. Van der Eijk (1999b), pp. 313 – 314. For a detailed account of digestion in Aristotle see *infra* ch. II § 5.

<sup>704</sup> Cfr. Liddell - Scott (2006), pp. 1396, 2023.

alludes to the common or non-technical way to refer to the digestive process, or more concretely, to a particular step in the digestion process, the stage that comes after the intake of some food or liquid but preceding the absorption of the aliment in the intestines.

XXV, 22 – 27: Ἐξ ὧν φανερόν ὡς καὶ πέψις γίνεται καὶ ἐν κοιλίαι,|καὶ ἐξ ὠμῶν δὲ ἡ ἀνάδοσις. [Τ]αύτη δὴ|καὶ τοῦ Ἀσκληπιάδου διοίκομ[(εν)· οὗ]τος γ(άρ)|ἐξ ὠμῶν αὐτὸ μόνον λέγει γί[(νεσ)θ(αι) τ]ῆν ἀνάδ(οσιν),|ἡμεῖς δὲ καὶ ἐξ ὠμῶν μ(έν) καὶ ἐκ π[έψ]εωσ|\_\_\_τῆς ἐν κοιλίᾳ γι(νομένης).

This passage was edited, translated into Italian, and commented on by D. Manetti in a previous contribution<sup>705</sup> to her full edition of the *Londinienis* in 2011.

XXV, 28: with the expression « μ(έν) τὸ {μ(έν)} » the scribe introduces a substantive difference apropos of Erasistratus's theory of blood as the ultimate source of nutriment; the author of *Anon. Lond.* is of the opinion that raw food can also be considered in that way.

XXV, 34 – 35: πέψις γ(άρ) (ἐστι) μεταβολή κ[αὶ χύλω]σις {ἐπὶ τω.ι.}·|35καὶ διαίρεσις<sup>706</sup> γ(άρ).

As has been seen above in col. XIII, 43 H. Diels suggested translating ἀνάδοσις as « digestio cibi »<sup>707</sup>. But the fact is that by such a translation the intended definition of digestion becomes circular in the immediate context of the sentence, and therefore somewhat useless. If finally we have opted for translating διαίρεσις as *differenziazione* — and not for other possible translations like *divisione*, *trasformazione per divisione* etc. — it is because *differenziazione* is most suitable for an antonym to ἀνάληψις (i.e. ‘absorption’ below in col. XXV, 48). Thus, by διαίρεσις (*differenziazione*) it is meant the process of the division of food in the stomach in order for food to be eventually absorbed, or the process in virtue of which a chyme is yielded apt to be absorbed (χύλωσις); whereas by ‘absorption’ ἀνάληψις (*assimilazione*) is meant the process of absorption of food in the intestines once the aliment has been duly divided and transformed (μεταβολή) in the stomach, and finally treated in the intestines to become a chyle suitable to be absorbed or incorporated.

<sup>705</sup> Manetti (2003), pp. 339 – 340: « Da ciò è chiaro sia che avviene la cozione sia che la distribuzione (del cibo) avvia nel ventre e da cibi crudi. Su questo punto ci differenziamo anche da Asclepiade, perché egli sostiene che la distribuzione si realizza solo da cibi crudi; noi invece riteniamo che avvenga sia da cibi crudi sia della cozione che avviene nel ventre ».

<sup>706</sup> Beckh - Spät (1896), p. 38: « Zersetzung »; Jones (1947), p. 99: « a kind of division »; Ricciardetto (2014), p. 20; (2016), p. 34: « division ». Cfr. Pseudo - Galen *Def. med.* XCIX [XIX p. 372, 9 K.].

<sup>707</sup> Cfr. Diels (1893a), p. 87.

XXV, 41 – 46: Γί(νεται) δὲ] καί τι τοῦ|c[π]έρματος. Καὶ γ(ὰρ) τοῦτο κατασκευά[ζε]ται|π[ρὸ]c τῆς ιδιότητος τῆς ἐν τοῖς c[περ]ματικ(οῖς)|πόροις μεταβαλλούσης τὴν φε[ρομέ]ν(ην)|ῶς αὐτοῦς τροφήν. Ο(ὔτως) δὴ καὶ τὸ κ[3/4]αταλλ( )|πρὸς τῆς ἐν ἐκάτῳ ιδιότη<το>c γί(νεται) [τροφ(ή)].

M. Wellmann took up this passage as evidence of the scribe's ascription to the Pneumatist medical school<sup>708</sup>. Both Alexandrian philosophers and doctors were fond of speculating about the origin of human seed. The author of *Anon. Lond.* is of the opinion that a part of the aliment is transformed and becomes sperm<sup>709</sup> by virtue of the inherent property that abides in the spermatoc channels. This subject has been studied in more detail in the chapters that follow this commentary<sup>710</sup>.

The term *ιδιότητος* is the epistemological clue of the passage, in the sense that it is by means of this concept that the transformation the nutriment experiences in the spermatoc ducts is explained. The belief in the effective agency of natural properties allocated in certain parts of the body can be found in col. XXX, 12 « ἐνυπαρχούσης δυνάμεως », but apropos of the urine.

XXV, 48: ἀνάληψις.<sup>711</sup>: apart from 'absorption', which is the sense the term has in the papyrus<sup>712</sup>, the kindred term ἀναληπτικόν takes on as it seems another technical sense in the medical literature prior to Galen and also in Galen himself; namely, it was the way by which 'the Young physicians' termed that part of the medical art oriented to the maintenance of a healthy condition when the patient is still under the weather, or not fully recovered from the affection he has undergone; what amounts to saying, the part of the medical art mainly concerned with the administration of the necessary cures in order to prevent the patient to get sized again by disease<sup>713</sup>.

<sup>708</sup> Wellmann (1922), p. 418. The former and leading essay on this topic is doubtlessly Wellmann (1895). Cfr. Kudlien (1974), p. 456. M. Wellmann was the first scholar to state a clear and straightforward relationship between Stoicism (e.g. Posidonius of Apamea) and the Pneumatic medical school (whose founder was Athenaeus of Attalia, in the middle of the 1<sup>st</sup> century BC). Cfr. Wellmann (1895), p. 68; Kudlien (1962); Kudlien (1974d), p. 311; Diller (1936), pp. 182, 194. Athenaeus's *Βοηθήματα* (*Helpful Advices/Remedies*), of at least 30 books, was in Galen's opinion the best general medical treatise of his time. Nutton (2004), p. 203.

<sup>709</sup> Debru (1999), p. 461. For a fuller account of this topic in ancient Greek science cfr. *infra* ch. V § 3. 1.

<sup>710</sup> Cfr. *infra* ch. II § 5; ch. V § 3. 1; ch. VII § 3.

<sup>711</sup> Beckh - Spät (1896), p. 38: « Aufnahme »; Jones (1947), p. 99: « absorption »; Ricciardetto (2014), p. 20; (2016), p. 35: « absorption ».

<sup>712</sup> In his translation into English at this point W. H. S. Jones does not make any distinction between ἀνάληψις and ἀνάδοσις. Jones (1947), p. 99.

<sup>713</sup> Cfr. e.g. *Anonymi medici* VI 3 (26) [Garofalo (1997), p. 48, 23]; or Galen *De san. tuenda* V 4 [VI p. 330, 5 – 6 K.]: « καλεῖται δὲ ὑπὸ τῶν νεωτέρων ἰατρῶν τοῦτι μὲν τὸ μέρος τῆς τέχνης ἀναληπτικόν ».

XXV, 49 – 53: « Τὸ μ(έν) γ(άρ) ἐν τῷ λεπτῷ [ἐν]τέρῳ|παρακείμενον λεπτότερον τ' ἐστ[ι] καὶ ὑγρότερον, τὸ δὲ ἐν τῷ ἀπευθυ[μέ]νῳ|ξηρότερόν τε καὶ παχύτερον, ὡς ἂν δὴ|ἀπ[ὸ] τούτ(ων) ἀναδόσεως γεγεγ[ημ]ένης ».

We take this passage on purpose to study the notion of ἀνάδοσις. Though it has occurred previously (col. XXV, 19), we deem that it is precisely in this fragment where the scribe makes plain what he intends by ἀνάδοσις and the concept then comes to light. ἀνάδοσις is a key concept touching on the physiology of nutrition, since the discussion mainly focused on the way and the instances involved in the distribution of nourishment. A good deal of the contents in the third section of the *Anonymus* is centered on the distribution of the aliment. It is not far from true to say that in the *Anonymus* papyrus the scribe means by ἀνάδοσις the particular step in the digestive process (πέψις) that comes after the division (διαίρεσις) in the stomach but previous to the absorption of the nutrients in the intestines (ἀνάληψις). In this way, and properly speaking, the distribution is about the lightness or coarseness of the matter resulting from the division occurring in the stomach. In view of their nature some parts of the division (the smallest, lightest, or most liquid) are directed to the small intestine (τῷ λεπτῷ [ἐν]τέρῳ), while others (the greatest, coarsest, or most solid) pass to the large intestine (τῷ ἀπευθυ[μέ]νῳ)<sup>714</sup>; this particular differentiation or distribution to one intestine or the other by virtue of the qualities of the elements concocted in the stomach being precisely what we deem stands for ἀνάδοσις in relation to the digestion process as described in the *Anon. Lond.*

Thus far, and to recap the whole thing, in its simplest version the physiology of the digestive process described in the *Londiniensis* seems to consist of the following steps: trituration, mincing, and smoothing of the food (in the mouth by dint of the teeth and saliva), a first distribution towards the oesophagus, division and liquefaction (in the stomach), distribution (into the small or large intestine depending on the characteristics of the food that comes of the stomach), absorption of the nutrients (in the intestines towards the veins through the passages and interstices therein), evacuation (through the bladder in form of urine, through the rectum in form of stool). From the descriptions provided by the scribe we learn that there is an issue among the different medical schools and authors at this point to admit whether a predigestion (or digestion) can actually take place in the mouth and not just in the stomach, or to concede that some absorption also occurs in the walls of the stomach, the issue remains as well at the reason adduced to explain the transformation

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<sup>714</sup> Cfr. Tacchini (1996b), p. 99.

of the food we intake into different kinds of residual. This latter subject matter brings up a further discussion in the *Londiniensis*, intimately related to the balance there must be between what is assumed and what is excreted, which mainly consists in proving the existence of emanations.

XXV, 54 – XXVI, 19: this passage was provisionally edited, translated into Italian and commented on by Manetti in a contribution<sup>715</sup> previous to her full edition of the *Londiniensis* in 2011. The scribe reduces *ad absurdum* the thesis whereby it is affirmed (or Erasistratus affirmed) that the residuals do constitute a source of nutriment and growth .

## Column XXVI

### Description

The expression « π[(ρὸς)] αὐτ(ῶν) » in l. 3 actually reads « παυτ´ ». In l. 4 the word « αὐτ(ῶν) » acts as a postclitic of the preceding animals deprived of reason in ll. 1 – 3 « τ(ῶν) ἀλόγων ζῴων ». In l. 10 the term « περιπτώματα » is abbreviated as « περιπ<sup>ω</sup> », and περι[cc]ωμάτ(ων) in l. 12 as « περι[...].τ´ ». In l. 16 the word « θανάσιμα » is abbreviated as « θαν<sup>ω</sup> ». In the next line the term « τροφήν » is written in the interlinear space « \τροφην/ ». The term « λό(γον) » in l. 34 does not respect the bilinear symmetry and is abbreviated by inserting a lowercase omicron in the blank space of a capital lambda<sup>716</sup>. Some initial parts of ll. 39 – 49 in col. XXVI have been partially restituted on grounds of their correspondence with F. G. Kenyon and H. Diels's fr. 7<sup>717</sup>. In l. 41 the expression « [κατὰ] τὰς ἀρτηρίας » actually reads « [ κ̂τας ] \[...]τας/αρτηριας ». In l. 47 the expression « δι' αὐτ(ῶν) μὲν κενούται » is written as « διαυτ' \μην/κενούνται ». On the right (a – b)

<sup>715</sup> Manetti (2003), pp. 340 – 342: (« Inoltre i residui divengono cibo di altri esseri viventi: (e in particolare) sono cibo degli animali irrazionali. Sotto questo aspetto (?) i residui sono cibo degli animali irrazionali e questo a sua volta, ingerito da loro, si trasforma in carne di alcuni e di essi (...). Ma noi mangiamo le carni degli animali irrazionali come p.es. uccelli e simili e da questi siamo nutriti e accresciuti. Per lo stesso ragionamento, [si dice], i residui dell'uomo sono cibo. Se dunque i residui devono essere cibo dell'uomo, dal momento che gli animali irrazionali si nutrono dei residui e si accrescono, e noi ci cibiamo degli animali irrazionali, con questo ragionamento diremo che anche il legno e le pietre e le cose simili sono nutrimento perché tutto si trasforma in tutto. Ma questo è assurdo. E infatti diremo che i veleni mortali sono nutrimento, dal momento che le quaglie, che si cibano della cicuta, nutrono gli uomini. Ma basta così su questo »). One might find a parallelism with this fragment in Caelius Aurelianus *Cel.* I 14 (114) [CML VI 1, 1 p. 86, 8 – 10 Bendz]: « praeterea excrementa uentris, Graeci scybalā dicunt, negat aliena esse natura, siquidem etiam ex ipsis corpora augeantur. quaedam denique, inquit, animalia ex ipsis solummodo nutriuntur ». Cfr. Manetti (2011a), p. 58.

<sup>716</sup> Ricciardetto (2016), p. 142. The same type of abbreviation occurs in col. XXXIV, 41.

<sup>717</sup> Fr. 7 Kenyon - Diels (1901), pp. 1320, 1323. It is in actual fact the longest fragment of all the 23 collected and the 7 preserved, but it is not concerned with the long addition in l. 48 a - f.

and bottom side (c – f) of l. 48 one finds the longest addition on the recto of the papyrus<sup>718</sup> which, again, has been taken by D. Manetti as a proof of the incompleteness of the *Londiniensis*<sup>719</sup>. The last word in the addition « ἀγγει<sup>ο</sup> » was probably corrected by the scribe himself, hence the difficulties in its deciphering.

## Explanation

XXVI, 1: ἀλόγων ζώων. Manetti takes this reference to the τὰ ἄλογα as a promptness by the author to put man in the broader context of living beings and the external world<sup>720</sup>. In ancient Greek the concept ζῷον included human kind, but with the privative adjective ἀλόγων in this context such an inclusion is prevented. In actual fact, what really makes the difference between the irrational and the human being is the latter's faculty of language, that is, the ability to articulate sounds in a meaningful way. In Aristotle we find a well based opposition between the adult man and on the other hand the animal, child, teenager, and slave<sup>721</sup>.

XXVI, 16 – 19: Ἄλογον δὲ τοῦτο· καὶ γ(ὰρ) τὰ θαν(άσιμα) | τῶν [φαρμ]άκων ἐροῦμ(εν) τροφήν, ἐπειδήπερ οἱ ὄρτυ|γες ζιτούμενοι τὸ κόνειον τρέφουσι | \_\_\_[το]ῦς ἀνθρώπους.

τὸ κόνειον is hemlock, or water hemlock (*Cicuta virosa* L.), famous in the philosophical tradition for having been the way chosen by Socrates to put an end to his days<sup>722</sup>. The scribe is at

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<sup>718</sup> « \τωι δε συναν<sup>ε</sup>|στομωσθαι τας φλεβας|εις τας αρτηρι<sup>α</sup> | και κενον[...]\τωι μη |δυγασθαι | κενον | αθρουσ απολιπεσθαι τοπον μετα την π[...]\υματος κεν<sup>ο</sup> | παρεμπειπτον το αι[.]α εκ τ' φλεβων [...] τας αρτηρι<sup>α</sup> | δια μ' [.] αρτηριων [.]ποκρινεται ου μη[...]\ξ αυτ' ἀγγει<sup>ο</sup>/ ». Cfr. Ricciardetto (2014), p. XXIV; (2016), p. 143.

<sup>719</sup> Manetti (1994), p. 51 n. 18.

<sup>720</sup> Manetti (2013), p. 164 n. 18.

<sup>721</sup> Aristotle *EN* III 2; VI 2; VIII 11; *Pol.* I 2, 1253a 9; *PA* II 10; IV 10. Cfr. Vegetti (1984), p. 454. This is also why at *Ep.* VII 324b 8 – c 1 Plato affirms that, as many other ephebes, he wanted to enter into politics as soon as he was able to master his own acts (εἰ θᾶπτον ἑμαυτοῦ γενοίμην κύριος). Aristotle states in several passages that children, as happens with animals, are in constant search for pleasure and satisfaction; therefore, pleasure can neither be taken as true happiness nor children into consideration in Ethics. Cfr. Aristotle *EN* II 3, 1104b 11 – 13; X 6, 1177a 1 – 3. On the other hand, Aristotle was convinced of the mental weakness of the slaves; to Aristotle's mind the slaves were incapable of making their own decisions or putting forward their own arguments. Cfr. Fisher (2001), p. 95.

<sup>722</sup> In the 1<sup>st</sup> century CE the methodist physician Thessalus of Tralles attempted to build a new science, a sort of "Astrobotanics", on the basis of the links he found and established between the planets, zodiac signs, and attributes in plants. He therefore ascribed the poisonous power of hemlock to Mars and put both in relation to the zodiac sign of Scorpio. Cfr. Repici (2006), p. 83.

this point apparently disagreeing with Erasistratus's argument<sup>723</sup> according to which one may pose a kind of infinite trophic chain which leads — in the scribe's view — to a fallacious argument (*reductio ad absurdum*). It should be underscored however that in this particular Galen probably would have been aligned with Erasistratus and against the author of the *Londiniensis*. In his treatise called *Hygiene*<sup>724</sup> the physician of Pergamon makes reference to the laxative properties of the milk from calves fed either on scammony or on any other of the mallows, and underlines that a poisonous vegetable like the hellebore is food for some animals. The tenet seems to have constituted a common place in the past, since it was well attested in the philosophical tradition<sup>725</sup>; in actual fact it was the belief that quail and starling meat could easily constitute the cause of intoxication<sup>726</sup>.

XXVI 23 – 24: ἀνάδοctic is translated here in Italian as *diffusione*<sup>727</sup>.

XXVI, 31 – 48: the topic under discussion in this passage is whether the arteries only contain and convey air or not<sup>728</sup>. D. Manetti has signalled that it is a strong point of dissension between the author of the *Anonymus papyrus* and Erasistratus<sup>729</sup>.

XXVI, 34: πνεῦμα<sup>730</sup>.

As for the expression « οὐχ ὑγιῶς ἰκτάμεν(ος)<sup>731</sup> λό(γον) », for a more detailed study of the scribe's personal assessment of the arguments of the authors he reviews and the value we have attributed to them we direct the reader to ch. I below<sup>732</sup>. The expression reflects both, according to

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<sup>723</sup> Insofar as the passage seems doubly related to Erasistratus, firstly by the objection supra in col. XXV, 27 – 28: « τοῦ Ἐρασι[στρά]του δὲ|διοίκοι(εν), », and secondly by the expression below in col. XXVI, 31 – 32 : « Ὁ μ(έν)τοι γε Ἐρασίετρα|τος οὐκ οἶξεται ».

<sup>724</sup> Galen *De san. tuenda* V 7 [VI p. 345, 13 – 15 K.]; VI 3 [VI p. 395, 8 – 11 K.]. Cfr. Green (1951), pp. 211, 242.

<sup>725</sup> Pseudo - Aristotle *De plantis* I 5 820b 3 – 6 [Apelt (1888), p. 20]; Diogenes Laertius *Vitae philosophorum* IX 80 [Marcovich (1999a), p. 688, 10 – 14].

<sup>726</sup> Ricciardetto (2016), pp. 140 – 141.

<sup>727</sup> Manetti (1986), p. 69

<sup>728</sup> Cfr. Manetti (1999), p. 136, Longrigg (1993), p.

<sup>729</sup> Cfr. Manetti (1996b), pp. 307 – 317; (2003), p. 337 n. 10.

<sup>730</sup> Beckh - Spät (1896), p. 40: « Pneuma »; Jones (1947) p. 103: « breath »; Ricciardetto (2014), p. 21; (2016), p. 36: « souffle ».

<sup>731</sup> In the middle voice it signifies *statuere*. Diels (1893a), p. 93.

<sup>732</sup> Cfr. infra ch. I § 3 n. 36; § 6. 4.

Manetti, the scribe's interest in giving to his argumentation a particular format, and also in a way the dialectical factor as a dominant trait in the *Anonymus* writing<sup>733</sup>. The rhetorical, or non-practical, turn that Greek medicine took in the Imperial period is also manifested if it is taken into account that the very same concern the papyrus addresses at this point is treated by Aulus Gellius in the *Attic Nights*<sup>734</sup> (i.e. by a non-practitioner in a non-medical writing).

XXVI, 35: ὡς ἀποδείξοι(εν): it is a matter of an immediate future. The scribe goes over the detailed confutation of the objections and the possible refutations that his adversaries (Erasistratus and later on also the Erasistrateans) may put, an argumentation technique that appears here for the first time in the treatise. It is interesting to note that throughout the argument the scribe will express himself by using the first person plural.

XXVI, 35 – 38: εἴπερ μὴ παρέκει|το ἐν [ἀ]ρτηρίασις κ(ατὰ) φύσιν αἷμα, ἐχρήν|δισι[ρ]ουμέν[(ων)] ἀρτηριῶν αἷμα μὴ ἀποκρίνε(σθαι)·|\_\_\_ἀποκρίνεται δὲ γε· ὥστ[ε] καὶ τροφή ἐν ταύταις.

C. A. Viano is one of the scholars who, to our knowledge, has paid most attention to the issue discussed in this passage. In one of his contributions<sup>735</sup> Viano addresses the problem expounded in col. XXVI, 31 – 48 for more than 50 pages; yet, given that he neither says a word about nor mentions the London papyrus at any point, Viano was not aware of the fact that the *Anonymus Londinensis* contains the argument he studies; this is perhaps the only (but remarkable) reproach that one could make to the article that Viano devoted to the concern.

As we have seen, Erasistratus, and Herophilus first, was convinced of the fact that the arteries conveyed only *pneuma*, and no blood at all<sup>736</sup>. It is in fact one of the three cornerstones on which Erasistratus forges and hinges his theory of the *τριπλοκία*<sup>737</sup>. However Erasistratus could not deny what is evident: some blood comes out when an artery is sectioned. In order to explain the phenomenon which clearly challenged his view of the body Erasistratus did not change the

<sup>733</sup> Manetti (1996a), p. 305 n. 25.

<sup>734</sup> Aulus Gellius *Attic Nights* XVIII 10 (8) [Hosius (1903), p. 250, 10 – 12]. Aulus Gellius affirms he devotes all of his leisure to the reading of medical books.

<sup>735</sup> *Perché non c'era sangue nelle arterie? La cecità epistemologica degli anatomisti antichi*. Viano (1984), pp. 297 – 352.

<sup>736</sup> It is actually a part of the theoretical background that featured anatomy developed in Alexandria, or in other words, the assumption that every “diffusive” system neither rigid nor with mechanical function should be regarded as a vessel filled with some kind of liquid. Viano (1984), p. 302.

<sup>737</sup> Cfr. *supra Comment.* on col. XXI, 18 – 47.

principles of his theory nor come to think that it was weak and rejectable; he sought instead an argument *ad hoc* with which he could explain the evidence away saving the phenomena (σώζειν τὰ φαινόμενα)<sup>738</sup> according to his theoretical principles. To do so Erasistratus introduces another theoretically observable physiological structure, *synanastomosis*<sup>739</sup>, and comes up with the following explanation: it is actually the *pneuma* (invisible by definition) that first goes out when an artery is cut, and blood comes out afterwards because of the need to fill the void left<sup>740</sup> by the invisible *pneuma*<sup>741</sup>. Erasistratus believed that such interchange took place by means of the finest and imperceptible passages connecting the arteries with the veins; this is how Erasistratus explained the bloodletting when an artery is sectioned: the blood only reaches the arteries when they are cut, and they let pour out first the *pneuma* which cannot be directly observed and are immediately filled with the blood that proceeds from the veins through the *synanastomoseis*. The model Erasistratus put forth calls for the theoretical charge of observation, or in other words, for the extent to which observational data depend, in the last instance, on theoretical assumption.

By means of an experiment some centuries later Galen tried to demonstrate the falsehood of Erasistratus's standpoint in relation to the interaction between blood and *pneuma*<sup>742</sup>, that is to say, that the arteries of living creatures conveyed blood continuously and that this was their normal condition and not the result of disease or damage. Galen's objection is mainly on grounds of a 'negation of the antecedent'<sup>743</sup>, the very same logical figure that the scribe of the *Anonymus* applies

<sup>738</sup> Giannantoni (1984), p. 67; Vegetti (1984), pp. 452 – 453 n. 22; (1993), p. 107.

<sup>739</sup> In Erasistratus's view of the body *synanastomosis* is an assumption of theoretical order (a theoretically observable structure) by virtue of which the system of the arteries and the system of the veins become intertwined in the periphery of the body (*partes acra*) by means of some invisible apertures that enabled their communication (with it, the conveyance of *pneuma* and blood) between the arteries and veins. Cfr. Wilson (1959), p. 299; Vegetti (1993), p. 107; (1995a), p. 465; Debru (1996), p.194; Manetti (1996b), pp. 311, 314. It is said furthermore that by hypothesising the existence of *synanastomoseis* Erasistratus placed the foundation for the capillaries. The term *ἀναστόμωσις* in the single edition of the *Anonymi medici* remains untranslated e.g. ch. XXVI 1 (1); XXXII 1 (1); XXXVIII 1 (1) [Garofalo (1997), pp. 141, 3; 171, 15; 199, 7 respectively].

<sup>740</sup> This physical principle has been termed as *πρὸς τὸ κενούμενον ἀκολουθία* (PTKA). It evinces the *horror vacui* present in the physical theories of most ancients authors. Cfr. von Staden (1989), p. 304 n. 229; Longrigg (1993), pp. 210, 215. Underlying Erasistratus's views is the axiomatic principle that if matter is vacated from any contained space, or, whenever there is a loss of matter in an organism whatsoever, then other matter — especially of a contiguous type — will rush in to take its place, since a massed void is believed to be impossible. Galen *In. Plat. Tim. comm.* III 17 [CMG Suppl. p. 23, 11 – 13]; Viano (1984), p. 337; Vegetti (1993), p. 103. Although formulated less explicitly, such a principle also occurs in the *Timaeus*. Cfr. Plato *Ti.* 79b 1 – 10; 81a 1 – 4. In the former passage the principle hinges on Plato's objection against the existence of void; in the second Platonic passage a PTKA-like process is said to obey the law whereby every substance moves towards its kind.

<sup>741</sup> Viano (1984), pp. 302 – 303.

<sup>742</sup> Galen *An in art.* VI [IV pp. 723, 14 – 724, 9 K.].

<sup>743</sup> Galen *An in art.* I [IV pp. 703, 1 – 706, 4 K.]. Galen's criticism « τὰ δ' ὑπ' Ἐρασιστράτου περὶ κινήσεως τῶν ἀρτηριῶν εἰρημένα ψευδῆ παντελῶς ἔστιν » is actually built on the syllogistic figure of the *modus tollendo tollens* ( $A \rightarrow B, \neg A = \neg B$ ). Harris (1973), pp. 379 – 388; Garofalo (1988), p. 77 fr. 51; Manetti (1986), p. 70; (1996b), p. 316; (2011b), p. 168 n. 20.

to confute Erasistratus's theory of the exclusive presence of *pneuma* in the arteries<sup>744</sup>. The scribe concedes the presence of blood in the arteries while containing only a few parts of *pneuma*.

XXVI, 39 – 48: the passage was reconstructed by F. Kenyon who put the lacunae in the papyrus in relation to fragment 7<sup>745</sup>.

XXVI, 44: ὡς καὶ πρὶ τῶν ἐκτός<sup>746</sup>.

XXVI, 45: ἐκ τῶν κρουνῶν.: the preposition « ἐκ » contrasts with the preposition « διὰ » and helps to stress the distinction the scribe is introducing, for in his opinion there is a telling difference between 'flowing through' and 'flowing from'<sup>747</sup>.

XXVI, 48d: παρεμπύπτον

*Parempytosis* (and kindred terms) was formerly rendered into Latin as '*intercurrentis*'; B. Fuchs translated the notion into English as 'transfusion'<sup>748</sup>. In Erasistratus's physiological system the *parempytosis* is a deep structure underlying many infirmities, indeed the primary and foremost cause of disease. While in medicine previous to Erasistratus the disease was generally attributed to an imbalance in the qualities of the constitutive elements of the body, Erasistratus put the causation of the disease down to the mixture of blood with *pneuma*, the two main types of matter (ὑλαί) in the body<sup>749</sup>. Thus, fever and inflammatory diseases are explained on the basis of the fact that an excess of blood in the veins is driven into the arteries, resulting in the arteries administering *pneuma* incorrectly<sup>750</sup>. Since in actual fact there is no *synanastomoseis* from the veins to the arteries it is necessary to pose that such transfusion takes place at a theoretical level, at the level of the τριπλοκία (*omnis theoria est theoria*)<sup>751</sup>.

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<sup>744</sup> Col. XXVI, 35 – 48. Cfr. Manetti (1996b), p. 307; (1999), p. 136.

<sup>745</sup> Manetti (1996b), pp. 311 – 313.

<sup>746</sup> Diels (1893a), p. 90: « In rebus externis ». Cfr. supra col. XVII, 6.

<sup>747</sup> Manetti (1996b), p. 314.

<sup>748</sup> *Anonymi medici XLIII* 1 (1) [Garofalo (1997), p. 219, 10]. Cfr. also col. XXVII, 7.

<sup>749</sup> Cfr. French (2000), p. 86; Byl (2011b), p. 23.

<sup>750</sup> Vegetti (1993), pp. 108 – 109.

<sup>751</sup> Grmek (1993), p. XXVII; Vegetti (1995a), pp. 465 – 466.

XXVI 49 – 51: ἀ μ(έν) γ(άρ) τὰ ἡμέ|τερα σώματα τοῖς ἀσυμπτότοις<sup>752</sup> ἔοικε[ν ε]ώμασι[ν] ὡς εἰρωσί τε καὶ ζτάμνοις·<sup>753</sup>

In Jones' translation the term ζτάμνοις is understood as καλάμοις. By way of this simile the scribe sets forward two opposing physiological views in which the two main types of channels in the body, veins and arteries (and particularly the latter), can be conceived of as bodies likely to collapse or not. In Aristotle's *Metereologica*<sup>754</sup> this detail is reckoned either as a faculty or as one of the possible passive properties common to every simple body (i.e. ὁμοιομερής)<sup>755</sup>. The objection the scribe makes against Erasistratus and his heirs<sup>756</sup> is that in his opinion our organism, and consequently our arteries, is rather not likely to collapse body (ἀσυμπτότοις), therefore, our body is like a tube or a jar in which a void cannot occur.

XXVI, 48: the example is attributed to Asclepiades and is used against the Erasistrateans<sup>757</sup>.

## Column XXVII

### Description

In l. 4 the term « πνεύμ(ατος) » is abbreviated as « πνευμ »<sup>758</sup>. In l. 9 the substantive « κ(ατ)οχήε » is abbreviated and written as « κ^ο/χηε », and the next expression « καὶ|προσαναπληρῶ(σαι) <τὸ> κενῶθ(έν)· » actually reads « \και|προσ|αναπληρῶ|κενωθ^/ ». In this line and the following there is another interlinear addition, thus, « ὥστε <τὸ> αἴτιον παρορᾶν|δεῖ » is written as « \ωστε αιτιον παροραν δεῖ/ »; furthermore a *spatium vacuum* precedes the affirmation « Ναί ». In l. 14 the term « ἀποκρί<νει> » is another case of haplography, for the scribe

<sup>752</sup> Beckh - Spät (1896), p. 40: « hohlen Gegenständen »; Jones (1947) p. 105: « collapse »; Ricciardetto (2014), p. 21; (2016), p. 37: « affaiser jamais/ qui ne s'affaissent jamais ». Cfr. also col. XXVII, 12, 27.

<sup>753</sup> Diels (1893a), p. 50: « Prima littera ut cursiva et mutilata difficilis lectu, cetera vestigiis satis apta ».

<sup>754</sup> Aristotle *Mete.* IV 8, 385a 17; 9, 386b 1 – 11.

<sup>755</sup> Col. XXI, 32 – 33: « Ἀπλᾶ μ(έν) οὖν (ἐστι) τὰ ὁμοιομερῆ ». For an Aristotelian description of the bodies having parts like each other and the whole cfr. Aristotle *Mete.* IV 10, 388a 10 – 26.

<sup>756</sup> Erasistratus envisaged the organism as a fluid an elastic system, as a dispositive activated by fluids kept under pressure in vessels capable of dilating and contracting. Cfr. Vegetti (1995a), p. 469.

<sup>757</sup> Manetti (1986), p. 69.

<sup>758</sup> The same abbreviation appears in cols. XXVIII, 7, 34, 36, 38, 49; XXXII, 1, 22, 24. However, in col. XXXI, 35 « πνευματ<sup>ο</sup> » stands for « πνεύματο(ς) ».

wrote « αποκρει ». The term « [τ]ελευτ(ῶν) » in l. 22 could correspond to « τετελευτ<ηκό>τ(ῶν) » as in col. XXXI, 33. Also in l. 22 the substantive « ὑμέ(νια) » is abbreviated as « υμε<sup>ε</sup> ». In the following two lines, the expression « αἱ δὲ φλέβ(εσ) | [c]ύμπτωτοι » is in the interlinear space as « \αιδεφλεβ̄ | [.]υμπτωτοι/ ». By the remaining traces of the ink, the first letters in l. 24 were superposed over some previous and expunged letters. In l. 25 the expression « οἱ [E]ρα[ciac]ρ(ἀτειοι) » reads « οι[.]ρα[....]ρ̄ ». The sentence « ἐπεὶ τοῦ ἀκ{κ}κοῦ τὸ ἐν[ὸ]ν κενώ(θειή) » in l. 29 is to be found in P. as « επιτουακ\κουτο/εν[.]γκεν<sup>ω</sup> ». In l. 30 the marginal addition « \και ουχι κενος αθρους τοπο[.] / » has been taken by D. Manetti as a proof of the *Londiniensis*'s incompleteness<sup>759</sup>. The participle « ἀποκρινο(μένου) » in l. 37 is abbreviated as « αποκριν<sup>ο</sup> ». As regards the partially restituted expression « λε....[.].[.].. και συνέρχες[θαι] τούτο » in l. 43, it was written as « \λε....[.].[.].. και/ συνέρχες[....] τούτο ». The participle in the passive « κενω(θέντος) » in l. 45 is abbreviated as « κεν<sup>ω</sup> ». The expression « ἀλ(λά).....[.] απο[.]μ....[.]ου » in l. 46 is an addition on the right margin practically illegible today. As for the expression « τού<του>c|τε{v} » in ll. 47 – 48, the last three letters were added on the left margin preceding the first word in l. 48, therefore P. reads « \τε{\v}/ ». Still in l. 48, the expression « κενούται {μενον} » appears as « κενου\ται/μενον » in P. The group « εν » in the verb « κενου\ται/ » seems to be a correction of the abbreviation for εἶναι (i.e. \). The author added « ται » above « μενον », but he forgot to delete the ending (A. Ricciardetto has seen some tiny traces of a deletion for the first two letters)<sup>760</sup>. In l. 53, after having written by mistake « πρωθη » the scribe inserted « τη » in the interlinear space, yet he forgot anew canceling the ending « θη »; so that in P. the adjective « πρώτη {θη} » reads « πρωτη/{θη} ». Finally in l. 54 « † ρονετοϛ. » manifests the uncertainty of the deciphering at this point.

#### Explanation

XXVII, 6: ὡσπερ κἀπὶ τ(ῶν) ἐκτός.<sup>761</sup>

<sup>759</sup> Manetti (1994), p. 51 n. 18.

<sup>760</sup> Ricciardetto (2016), p. 147.

<sup>761</sup> Diels (1893a), p. 90: « In rebus externis » .

XXVII, 19, [23]: from a lexicographic point of view σύμπτωτος, the adjectival form of the substantive σύμπτωσις<sup>762</sup>, is in general used in the privative ἀσύμπτωτος.

XXVII, 18 – 22: πρὸς δὲ καὶ τοῦτ' εἴποιμ(εν) διότι οὐ [το]ῖς οὔς[ι] συμπτώτοῖς ἔοικεν|20τὰ ἡμέτερ[α] ρώματα,|ἀλλὰ τοῖς δὴ ἀσυμπτότοις. [Καὶ] τὰ[ῦ]τα|δῆλα ἐπὶ τ(ῶν) [τ]ελευτ(ῶν).<sup>763</sup>

The scribe goes on to develop and assess the argument whereby he wants to demonstrate, against the Erasistrateans, the mistake of likening the arteries to collapsible bodies (συμπτωτοι), for corpses — he adduces — show that the case is rather the contrary. Apropos of the last sentence in ll. 21 – 22, an argument supporting the belief that the scribe is at this point talking about human corpses consists in the specification « ζῶιον »<sup>764</sup> that he adds to give a picture of the argument that the Empiric physicians raise to explain that neither an addition to a body nor a subtraction from a body necessarily imply that the body in question becomes heavier or lighter. At any rate, the arguments based upon dead bodies bring about some epistemological problems; for instance, what is actually the relationship between a corpse and a living body?; to what extent can the dissection of a dead body provide any solid information about a living body?; is the passage from dead to alive epistemologically legitimate and consistent? etc. According to Erasistratus even the minimal modification to the body is liable to modify, and in fact does modify, the theoretical organization in the body; hence he was compelled to look for explanations *ad hoc*. The distinction between veins and arteries as a set of two close and independent nets of vessel could have roots in the observation/ dissection of corpses<sup>765</sup>.

Another important detail to consider is that the *Anonymus* papyrus is dated almost 300 years after the supposed dissections or vivisections took place in Alexandria. Furthermore, dissection is a step fraught with problems, not least because it breaches a long-standing Greek taboo on touching, let alone mutilating, a human corpse; religious laws also imposed a ban on interfering with a dead

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<sup>762</sup> As substantive it is extremely rare. It is unattested before Aristotle. As far as medical literature is concerned, the term σύμπτωσις is attested few times in the Corpus Hippocraticum: *Epid.* II 1.6 [V p. 76, 12 Li.]; *Epid.* IV 35 [V p. 178, 15 Li.], 46 [V p. 188, 11 – 15 Li.]; *Epid.* VI 3.1 [V p. 292, 11 Li.]; *Hum.* V [V p. 482, 11 Li.]; *Aph.* I 3 [IV p. 460, 3 Li.]. Cfr. Jouanna (1989), p. 66 n. 21.

<sup>763</sup> Fortasse τετελευτηκότων.

<sup>764</sup> Cfr. col. XXXI, 33: « [τ]ετελευτηκότ(ων) ζῶιον ».

<sup>765</sup> In corpses the left ventricle and the arteries prove almost bloodless and full of gas by the effect of the putrefaction. Vegetti (1993), p. 82; Grmek (1997), p. 79.

body and continued this way in Greece long after the arrival of human anatomy<sup>766</sup>, even into the Roman Imperial period<sup>767</sup>.

XXVII, 26: εὐκυμπτότοις<sup>768</sup>

XXVII, 30 – XXVIII, 11: ἐπικύμπτοις<sup>769</sup> the scribe is still dealing with Erasistratus's views. As has been said, Erasistratus had not failed to observe that the arteries of living creatures spilled blood when cut. In order to account for this phenomenon Erasistratus worked with the principle of *horror vacui* and maintained that when an artery was severed the *pneuma* it contained escaped unperceived and created a vacuum whose pull drew blood from the veins through certain fine capillaries<sup>770</sup>.

XXVII, 43: συγκρίσει: M. Wellmann took the occurrence of the term συγκρίσει (also in col. XXXIV, 3, 10) as evidence of Soranus's authorship of the *Londiniensis*<sup>771</sup> due to its being forged in the tradition transmitted by Herophilus and Asclepiades.

## Column XXVIII

### Description

One of the main traits of col. XXVIII are the numerals (Α', Β', Γ') heading each point adduced by the scribe while he argues for the primacy of the veins in regard to the distribution of nourishment in the body. Also present in the previous column, such discursive marks are, in Diels's eyes, the typical teacher's way of expounding<sup>772</sup>. In l. 3 the expression « πρὸ τ(ῶν) ἀρτη(ριῶν) » is written in the interlinear space as « \προτ' αρτ' / ». In l. 6 the scribe wrote « [.]π\αυ/τ' » for the

<sup>766</sup> Nutton (2004), p. 129.

<sup>767</sup> Cfr. Viano (1984), pp. 300 – 301, 305.

<sup>768</sup> Beckh - Spät (1896), p. 41: « zusammenklappenden »; Jones (1947) p. 107: « easily collapsible »; Ricciardetto (2014), p. 22 ; (2016), p. 38: « facilement flexibles ».

<sup>769</sup> Beckh - Spät (1896), p. 41: « Zusammenklappen eintritt »; Jones (1947) p. 107: « a collapse takes place »; Ricciardetto (2014), p. 22; (2016), p. 38: « se produit un affaissement ».

<sup>770</sup> Longrigg (1993), p. 210.

<sup>771</sup> Wellmann (1922) p. 428.

<sup>772</sup> Diels (1893b), p. 414.

expression « [ἀ]π' αὐτ(ῶν) ». In l. 9 « λέγω ὡς »<sup>773</sup> is an addition in the interlinear space. In l. 10, in the beginning of the interlinear space and extending into the right margin, there is another addition that reads « \και δεσποζοντι του ζωιου μ[...]ω| ». As regards l. 11 the expression « πολλῶν γ(άρ) διαιρουμέν(ων) ἀρτηριῶ(ν)|οὐδεῖς ἀπέθ[ανεν] » is also in the interlinear space: « \πολλων γ' διαιρουμεν' αρτηριω| ουδεις απεθ[ ] ». In l. 13 the sentence « καὶ γί(νεται) διὰ τὰς ἀρτη| ρία{ω}c » reads « \και/ Γ.δ[[ιοτ]]ια[[τ]]ταc/ αρτηρια\ωc/ ». The elimination has at least two possible readings, or else the scribe wanted to put « αρτηρια » in the plural; or, as D. Manetti suggests, instead of ἀρτηρία<sup>774</sup> perhaps φλέβαc should be understood. The sentence « κ(ατὰ) τὰς|ἀρτηρίαc ἀπεδείξαμ(εν) » in ll. 14 – 15 reads « κ^ταc/[αρ][τηριων]\αρτηριαc/[προ]απεδειξαμ' ». In relation to ll. 16 – 17 the sentence « ἡ ἐν ταῖς φλεβῖ ἀνάδοσις ἤπερ ἐν ταῖς ἀρτηρίασι, ὡς ἀποδείξομ(εν). » actually reads « η[[απο τ'] ] \εν ταιc/ φλε[[βων]\ψι/ αναδοσιc ηπερ [[απο τ'] ] \εν/ταιc αρ|τηρι[[ων]\αιc/ ωc αποδειξομ' ». It seems, the author first wrote « ἡ ἀπὸ τῶν φλεβῶν ἀνάδοσις ἤπερ ἀπὸ τῶν ἀρτηριῶν », but realised that the preposition should be changed so he modified the construction on the basis of the preposition ἐν. This kind of change is far from being a mere mechanical mistake<sup>775</sup>, but rather is the expression of the scribe's opinion apropos of the issue in question (again, whether the assimilation of nutriment is greater 'in' the veins or in the arteries)<sup>776</sup>. The first letter in l. 34 starts with *ekthesis*. In l. 41 the scribe repeats the word « πλεῖον », thereby « πλεῖον {πλεῖον} ».

## Explanation

XXVIII, 10: δεσπόζοντι τοῦ ζώιου μ[ορίω]ι, : in the papyrus the heart is featured as « the dominant part of the living being » so that, presumably, along with Aristotle<sup>777</sup>, Dexippus<sup>778</sup>, and the Stoics<sup>779</sup>

<sup>773</sup> Ricciardetto (2016), p. 148.

<sup>774</sup> Ricciardetto (2016), p. 149.

<sup>775</sup> Manetti (1986), p. 59.

<sup>776</sup> Cfr. col. XXVI, 43 – 44.

<sup>777</sup> Abel (1957), p. 100.

<sup>778</sup> Cfr. Col. XII, 8 – 36. Dexippus was a disciple of Hippocrates. Diels (1893a), p. 114. Dexippus also maintained a cardiocentric physiological stance. Cfr. Wellmann (1903b), pp. 294 – 295; Debru (1996), p. 188.

<sup>779</sup> Grmek (1997), p. 160. This is not the case with Herophilus, since he posited the fourth ventricle of the cerebellum (ἐπενκράνις, παρενκέφαλις) as the seat of intellectual activity and the center of voluntary motion. Longrigg (1993), pp. 211 – 212; von Staden (2000), p. 89.

the author of the *Londiniensis* also held a cardiocentric view of the body<sup>780</sup>. As opposed to encephalocentrism<sup>781</sup>, ‘cardiocentrism’ refers to the theoretical assumption that the main physiological functions and psychical activities are assigned to the heart<sup>782</sup> (or the diaphragm)<sup>783</sup>. To Aristotle the heart has ontological primacy<sup>784</sup>, and is related to the incitement of the movement, the production and distribution of blood, and also with sensation<sup>785</sup>. The heart is furthermore deemed to be the seat of innate heat<sup>786</sup>, one of the principles in every living form along with *pneuma*<sup>787</sup>. Given its very medial placement in the body, the heart is held as the source of heat in vertebrates (or sanguineous animals)<sup>788</sup>.

XXVIII, [11]: ἀπέθ[ανευ]· : this works almost as a gnomic aorist.

XXVIII, 29 – 30: μονοχίτωνες<sup>789</sup>

<sup>780</sup> M. Asper coined the expression ‘Auktoriales Ich’ in order to indicate the traces, traits, and features in the *Anon. Lond.* whereby the scribe manifestly gives his own opinion about different issues. Asper (2007), pp. 299 – 300. Cfr. Debru (1999), pp. 458 – 460; Manetti (2013), pp. 159, 162, 169 – 171; Ricciardetto (2012), p. 44; (2014), pp. XVI, XXIV. We claim that the contents in col. XXVIII, 10 ff. fit perfectly with Aspers’s category, wherefore, we assume that the scribe is at this point expounding his own view about the role and import of the heart. Cfr. infra ch. I § 2 n. 25.

<sup>781</sup> Aristotle expounds the reason for this double view in *PA* II 10, 656a 29 – 11, 657a 12.

<sup>782</sup> Insight into the History of Science points to Diogenes of Apollonia as the physician who put forward the theoretical cardiocentrism that Aristotle would eventually assume. Galen *De plac. Hipp. et Plat.* II 8 [V p. 282, 8 – 15 K.]. Diogenes was of the opinion that the heart was the place where *pneuma* and blood (*scil.* the nutritive principles) had their abode (ὁ δὲ πρῶτον τροφῆς καὶ πνεύματος ἀρύεται, ἡ καρδία). Diogenes neither distinguished these two nutritive sources nor ascribed each one to a different apparatus (say the digestive and the respiratory), but placed both in the heart; so much for Aristotle insofar as he conceived respiration as a natural cardiac movement. Cfr. Aristotle *Resp.* XX 479b 17 – 19.

<sup>783</sup> The moot point consists in giving the exact location — the chest, the diaphragm, the heart, the hypochondria (literally ‘the part under the cartilage’), the so-called φρήν etc. — of the hegemonic part (τὸ ἡγεμονικόν). The issue becomes odder because the location and particular properties allotted to the commanding psychical part vary from author to author even in the frame of the very same philosophical trend. Cfr. Jouanna (1992), p. 419; Van der Eijk (2005), p. 120; also supra *Comment.* on cols. IV, 13 – 17; XVI, 36 – 38.

<sup>784</sup> Aristotle *Juv.* III 468b 28 – 29. The order of the formation of the parts in a body has a functional and structural reason, hence for Aristotle in sanguineous animals the heart is formed first. Accordingly, the progressive development occurring in the matter of the embryo is said to begin with the formation of the organ where the vital activity has prevalence and priority.

<sup>785</sup> Aristotle *Somn. Vig.* II 456a 1 – 5; *Juv.* III 469a 10 – 13, IV 469b 6 – 7. Cfr. Laín Entralgo (1987), pp. 134 – 136. At Pseudo - Aristotle *Pr.* XXXIII 15, 963a 28 – 32 one might find however one textual witness that drifts from the main cardiocentric view in the Aristotelian tradition. Cfr. Wiesner (1978), p. 269.

<sup>786</sup> Aristotle *Juv.* IV 469b 10 – 12; *Resp.* XV 478a 23 – 24, XVII 479a 1. Cfr. Abel (1957), p. 105. This is the reason why M. Vegetti terms Aristotle’s body view as ‘thermal-cardiocentric’. Vegetti (1993), p. 79.

<sup>787</sup> Aristotle *PA* II 10, 656a 28; *Juv.* III 468b 28 – 469a 1; *Resp.* XVII 478b 31 – 479a 1.

<sup>788</sup> Aristotle *Resp.* XVI 478a 29 – 30.

<sup>789</sup> Diels (1893a), p. 98: « φλεψ ».

XXXVIII, 15 – 43: this is perhaps an even more noteworthy passage to find traces of authorship by the scribe<sup>790</sup>. By means of three different arguments, and against Herophilus<sup>791</sup>, the author of *Anon. Lond.* claims that the assimilation of food is greater in the veins than in the arteries<sup>792</sup>. But it is mainly from the third argument that we know that the scribe’s opinion (again, that in the arteries and in the veins both *pneuma* and blood are present, though in different proportion) coincides with the opinion held by Diocles<sup>793</sup>.

XXVIII, 25 – 30: αἱ μ(έν) ἀρτηρίαι, μείζονες οὖσαι κ(ατὰ) τὴν περιοχὴν, αὐτὸ μόνον φανήσονται τῷ τετραχίτωνος (εἶναι) καὶ συνεστάναι ἐξ εὐρώστων τ(ῶν) χιτών(ων). Αἱ δὲ φλέβες ἀσθενέστεραι ὑπ(άρχουσαι) κατὰ τὴν περιοχὴν τῷ μονοχίτωνος εἶναι ὁμοῦς εὐρυκοιλιώτεραι

As has been said, the distinction between arteries and veins on the grounds of their respective contents (*pneuma* and blood respectively) was apparently formulated for the first time by Praxagoras<sup>794</sup>; but the real distinction of the two bodily vessels on the grounds of the different number of layers in each one belongs to Herophilus<sup>795</sup>.

XXVIII, 33 – 43: Τὸ δὲ γ'· αἱ μ(έν) ἀρτηρίαι πλεῖον ἔχουσι τὸ παρακεῖμενον ἐν αὐτ(αῖς) πνεῦμα, ἢ τ(ὸν) δ]ὲ τὸ αἷμα, αἱ δὲ φλέβες πλεῖον [ἔχου]σι τὸ αἷμα, ἐλάχιστον δὲ τὸ πνεῦμα. Ἀρέσκει γ(ὰρ) ἡμῖν καὶ ἐν ἀρτηρία καὶ ἐν φλεβίκατὰ φύσιν παρακεῖσθαι καὶ αἷμα καὶ πνεῦμα, [οὔτ]ως δὲ ταῦτα παρακεῖσθαι, κα[θὼς] πρόκειται. Πλὴν ἐπεὶ ἐν μ(έν) ἀρτηρία πλεῖον {πλεῖον} τὸ πνεῦμα, ἐν δὲ φλεβί [ἐλαττω]ν τοῦτο, πιθανώτερον πλείονα γί(νεσ)θ(αι) ἐν φλεβί τὴν ἀνάδοσιν ἢ περ ἐν ἀρ(τηρία).

The fragment reproduces the third argument that the scribe sets forth against the sole presence of *pneuma* in the arteries. He asserts that in the arteries the presence of *pneuma* prevails and in the veins the presence of blood, so that although in an uneven proportion, both material principles are to be found in either vessel. The same idea is recollected in the *Anonymus of*

<sup>790</sup> “Authoriality” according to the model ‘A, or inclusive’ as it is coined by D. Manetti in order to show that the scribe regards himself as partaking in a scientific community or, indeed, in a particular medical school. Cfr. Manetti (2013), p. 169.

<sup>791</sup> Manetti (2003), p. 337 n. 11.

<sup>792</sup> Cfr. von Staden (1989), p. 265.

<sup>793</sup> Viano (1984), p. 330.

<sup>794</sup> Vegetti (1993), p. 82; Nutton (2004), p. 126.

<sup>795</sup> Vegetti (1993), p. 93.

*Brussels*<sup>796</sup>. According to Erasistratus such a claim would seem to concede that nature has produced two vessels for the same purpose, which straightforwardly belies the assumption that nature never operates in vain<sup>797</sup>.

At any rate, the scribe continues the discussion by offering another kind of argument, this time drawn from Herophilus, but in order to confute it. The scribe affirms that Herophilus conceived of arteries and veins as having an equal desire for nourishment, and therefore an equal power to absorb nutriment<sup>798</sup>. In light of this view, Herophilus could have admitted the presence of some blood in the arteries, namely, to feed the layers of the arteries<sup>799</sup>. But because arteries dilate and contract, whereas veins do not, a greater absorption takes place in the arteries than in the veins; so that according to Herophilus the arteries are in the end the main distributors of nutriment to the tissues<sup>800</sup>. However, the scribe argues conversely, that is to say, he claims that absorption in the veins is greater than absorption in the arteries since they contain more blood and less *pneuma*<sup>801</sup>.

XXVIII, 46 – XXIX, 23:<sup>802</sup>

## Column XXIX

### Description

Col. XXIX presents substantial differences between Manetti and Ricciardetto's editions. In l. 2 the author transformed « ἐξ αὐτῶν » into « εἰς αὐτὰς » by doing the same operation two times: « εἰς αὐτὰς αὐτὰς ». In l. 41 the second word in the expression « λαμβανομένη τροφή » is written on the right margin; P. actually reads « λαμβανομένη τροφή ».

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<sup>796</sup> Debru (1999), p. 464 n. 38.

<sup>797</sup> PA II 13, 658a 8 – 9; IV 12, 694b 13 – 14. Cfr. Vegetti (1984), p. 437; Viano (1984), pp. 308, 332.

<sup>798</sup> At this point the scribe takes up the matter of whether the distribution of aliment in the body is greater in the arteries or in the veins. The discussion lasts in col. XXIX, 12.

<sup>799</sup> Vegetti (1993), p. 93. In the 1<sup>st</sup> century CE Rufus of Ephesus was apparently of the same opinion. Cfr. Daremberg - Ruelle (1879), p. IV.

<sup>800</sup> Manetti (2011b), p. 164 n. 10.

<sup>801</sup> von Staden (1989), pp. 265 – 266 fr. 146.

<sup>802</sup> This concrete passage is assessed in von Staden (1989), pp. 324 – 325 [T. 146].

## Explanation

XXIX, 3 – 9: Δεύτερον δέ· αἱ μ(έν) ἀρτηρίαί, φ(ησί), συστέλλον|ταί τε καὶ διαστέλλονται τόν τε σφυγμὸν<sup>803</sup>|ἀποδιδοῦσιν<sup>804</sup>, αἱ δὲ φλέβες οὔτε συστέλλον|ται οὔτε διαστέλλονται οὐδὲ σφυγμοδῶς|κινουῦνται. Ἐπεὶ τοιγ(άρ)τοι αἱ μ(έν) ἀρτηρία(ι)|[c]σφυγμοδῶς κινουῦνται, αἱ δὲ φλέβες|οὐ κινουῦνται [c]σφυγμοδῶς, ταύτη ἐπὶ τ(ῶν)

It might be worth seeing the topic addressed in this passage as relying on the booklet titled *Σύνοψις περὶ σφυγμῶν*<sup>805</sup> (*Compendium pulsuum*), since this brief work bears evidence of the state of the art concerning the pulse and its role in medical diagnosis at the end of the 1<sup>st</sup> century CE. Ch. Daremberg underscores that this anonymous treatise is ascribed to Rufus of Ephesus<sup>806</sup>. In the beginning, the *Σύνοψις* refers to a certain personage called Aegimius, who is credited as the first physician to have taken the pulse<sup>807</sup> into consideration. In many Hippocratic treatises the existence of a pulse<sup>808</sup> is manifest and recognised. It is generally admitted that this treatise is a later work, strongly imbued with Stoicism. Though no use was made of this knowledge in any treatise of the Hippocratic collection, it must not be inferred from this that the Hippocratic writers were ignorant of pulse(s); it is rather that they did not use it for practical purposes until the Hellenistic period<sup>809</sup>. Anyway and anyhow, in the *Σύνοψις* it is remarked that Aegimius made no distinction between *παλμός* (palpitation) and *σφυγμός* (pulse)<sup>810</sup>. The personage in question could be the physician from Elis, in Arcadia, mentioned in cols. XIII, 21 – XIV, 3[?], but from the description in the *Londiniensis* papyrus such a coincidence remains a mere guess.

All the developments and theories of the heart and pulsation depend on the major medical view by which the veins are envisaged conveying blood and the arteries *pneuma*. According to this

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<sup>803</sup> Beckh - Spät (1896), p. 44: « ziehen sich die Arterien zusammen und dehnen sich wieder und erzeugen den Puls »; Jones (1947), p. 113: « contract and expand so producing the pulse »; Ricciardetto (2014), p. 23; (2016), p. 40: « se contractent, se dilatent et produisent le pouls ».

<sup>804</sup> Diels (1893a), p. 84: « Efficere ».

<sup>805</sup> Daremberg - Ruelle (1879), pp. 219 – 232.

<sup>806</sup> Daremberg - Ruelle (1879), p. 219.

<sup>807</sup> In *Ti.* 70c Plato defined *παλμός* as a « πήδησις καρδίας », (« a heart's leap »). According to the description that Galen provides on the concern, by *παλμός* Aegimius understood every movement of the arteries, that is to say, by *παλμός* Aegimius took what Praxagoras and Herophilus would later term *σφυγμός*, this last word being the commonest way to make reference to the pulse. Cfr. Steckerl (1958), p. 61. Ever since Galen the denomination *παλμός* would be applied, however, only to abnormal cardiac movements. Cfr. Daremberg - Ruelle (1879), p. 618.

<sup>808</sup> Hippocrates *Epid.* VII 83 [V p. 438, 23 K.].

<sup>809</sup> Jones (1984a), p. XXXII; Jouanna (1993), p. 48.

<sup>810</sup> Cfr. Anonymus *Compendium pulsuum* Praef. 2 [Daremberg - Ruelle (1879), p. 219, 2 – 5].

theoretical frame, during the systole the heart takes *pneuma* from the lungs through the left ventricle and by its own natural beating during the diastole sends *pneuma* into the arteries<sup>811</sup>. The pulse is by definition the diastole and systole of the heart and arteries inasmuch as both beat at once (ἰσοχρόνως). Accordingly, they were regarded as the only body parts with a proper sphygmical movement. Thus, in a narrow sense, the pulse is deemed to be the involuntary (ἀπροαιρέτως)<sup>812</sup> and natural movement of the heart and arteries when these are in sound condition: the pulse corresponds to the filling of the arteries and the emptying of the heart.

The Alexandrian<sup>813</sup> doctors went further and distinguished three other kinds of beating: palpitation (παλμός), spasm (σπασμός), and trembling (τρόμος). While Praxagoras considered this triple difference in quantitatively his disciple Herophilus considered it qualitatively. Herophilus claimed, moreover, that only pulsation was properly a movement of the heart and the arteries, as the three other aforementioned movements belonged to the muscles and nerves. The *Compendium pulsuum* transmits the following definition of the pulse according to Herophilus: « the involuntary contraction and distention of the heart and arteries »<sup>814</sup>. Herophilus had a certain obsession with the rhythm(s) in the body; this led him to build “a poetical sphygmology”<sup>815</sup>. Herophilus believed that the rhythm of pulsation varied case by case, depending on the age and condition of the body. In light of these variable factors Herophilus established a correspondence between the pulse, age, and different prosodical meters or poetic feet (perhaps because the musician Aristoxenus of Tarentum might have exerted some influence on him). Therefore, since a newborn’s pulse was short (fast) the meter that fitted most was the pyrrhic; among young ones the pulsation resembled a trochaic, amid adults a spondee, and finally he likened elder people’s pulsation to an iamb<sup>816</sup>.

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<sup>811</sup> Wilson (1959), p. 298.

<sup>812</sup> Cfr. Anonymus *Compendium pulsuum* II 2 [Daremborg - Ruelle (1879), p. 221, 5].

<sup>813</sup> Often introduced as equivalent, the categories ‘Alexandrian’ and ‘Hellenistic’ should not be confused, wherefore expressions like ‘Alexandrian period’ should be utterly avoided and substituted for more sound formulae. Thus, M. - H. Marganne suggests for instance expressions like ‘the medical school of Alexandria’ when the time comes to make reference to the group of physicians settled in Alexandria from the beginning of the Hellenistic period to the muslim conquest of the city. These physicians’s research and innovations promoted by the Ptolemaic dynasty at first were disseminated in form of writings, books, philological works and teachings. Cfr. Marganne (2002), pp. 364 – 365.

<sup>814</sup> von Staden (1989), p. 535.

<sup>815</sup> Cfr. Anonymus *Compendium pulsuum* IV 4 – 5 [Daremborg - Ruelle (1879), pp. 224, 15 – 225, 10]; Vegetti (1993), p. 94.

<sup>816</sup> Grmek (1997), p. 74.

XXIX, 10: εὐ[λο]γόν (έτσι) πλείονα|γί(νεσ)θ(αι) τήν|ἀνάδοσιν ἤπερ τήν ἐπὶ τ(ῶν) φλεβῶν διὰ τήν| εἰρημένην αἰ(τίαν).

There seems to be at most two reasons for the scribe's claim that the distribution of food is greater in the veins than in the arteries. The first is because the pulsation of the arteries turns the food delivery into an interrupted or syncopated process, whereas in the veins (because of deprived of pulsation) the deliverance *a priori* occurs in a much more continuous way. The second possible reason is connected to the different number of layers of the vessels, since the arteries have more layers than the veins the concavity of the arteries is less and likewise the power to convey and transmit the nutriment.

XXIX, 34 ff.: the scribe claims that not all ingested food is assimilated, but a kind of selection between what is suitable and what is unacceptable in food operates along the digestive process, the latter is transformed into excrement<sup>817</sup>. It is likely that at this point the author is presenting an abridged version of the production of urine according to Asclepiades, a theory that Galen strongly refuted and bitterly criticised<sup>818</sup>.

XXIX, 49 – XXX, 40 : the passage discusses the nature and origin of urine<sup>819</sup>. It is the only fragment in the third section of the *Anon. Lond.* where the scribe still follows the doxographical approach that he had applied to the second section<sup>820</sup>. The passage covering cols. XXIX, 49 – XXX, 19 has been edited, translated into Italian and commented on by D. Manetti on the basis of fr. 9<sup>821</sup>.

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<sup>817</sup> Manetti (2003), p. 343.

<sup>818</sup> Galen *De fac. nat.* I 13 [II p. 30 K.]. Cfr. Manetti (2003), p. 343 n. 18.

<sup>819</sup> For a more thorough study of this subject cfr. infra ch. VII.

<sup>820</sup> Manetti (1999), p. 135; Ricciardetto (2014), p. XLVI.

<sup>821</sup> Cfr. Manetti (1997), pp. 150 – 152; Ricciardetto (2016), p. 152.

## Column XXX

### Description

A high definition picture of col. XXX can be consulted in paper format<sup>822</sup>. A thin strip of papyrus that traverses the whole column (coinciding with the juncture between two κολλήματα) was detached and lost; consequently some letters are missing at that point in the majority of lines. In plate IX, which contains cols. XXIX - XXXI, the third column is placed a bit lower in respect to the other two. Ll. 4 – 10 could be restituted by means of the discovery of the right placement of fr. 9 by D. Manetti. In l. 12 the participle « ἐνυπαρχο[ύσης] » is written in the interlinear space as « \ἐνυπαρχο[/ » . In l. 34 the scribe wrote a line in full that he canceled to rewrite a new one, though quite lacunar. Between ll. 39 – 40 there is a *paragraphos* that neither H. Diels nor D. Manetti had signalled; the first letter in l. 40 begins with *ekthesis*.

### Explanation

XXX, 15 – 24: ὅτι (ἐκτί) δριμύ τε καὶ ἀλμυρόν. [Ἄλλ' ἐκεῖ]|νο ρητέον ὅτι ἐπὶ τοῦ πρώτ[ου ἐκκει]|μένου γίνονται οἱ πλείου[ε τ(ῶν) ἀρχαί]ων|καὶ εἰς τοῦτο ὑποδείγματι χρῶν[ται τῆ θα]|λάσση καὶ τῶι ἡλίω· οὗτο[ε γ(ὰρ) τῶι ἄναμ]|μα νοερόν<sup>823</sup> ἐκ θαλάε[εης εἶναι ἀπὸ]|τοῦ νοετίμου τοῦ κ(ατὰ) τὴν θ[άλασσαν]|τρέ[φ]εται, ἀναλαμβάνων μ[ὲν τὸ λεπτόν, τὸ δὲ]|ἀργότερον καὶ παχύτερον κ[αὶ ἀλμυρόν (κατα)λεί]|πων ἐν τῆι θαλάσση.

This passage was severally edited, translated into Italian, and commented on by D. Manetti<sup>824</sup> prior to her full edition of the *Londiniensis* papyrus in 2011. According to the Italian philologist there is no need to introduce a strong contrast between what has been expounded (on the origin of urine) and this new topic, but rather the metaphor the scribe presents is a way to put the precedent explanation in clearer terms. The definition of ‘sun’ as « ἄναμ]|μα νοερόν » takes up, as H. Diels already noted, a Stoic assumption — though in some doxographies it is attributed to Heraclitus.

<sup>822</sup> CPF (2002), plate 61.

<sup>823</sup> Diels (1893a), p. 83: « Stoice sol » .

<sup>824</sup> Col. XXX, 15 – 24 corresponds to CPF Stoici 3T, pp. 796 – 797. The translation provided by D. Manetti reads as follows: (« Ma bisogna dire che sulla prima posizione si trovano la maggior parte degli antichi e utilizzano per questo l'esempio del mare e del sole: questo infatti, che è un “oggetto intelligente che si accende dal mare”, si nutre della parte buona che si trova nel mare, assumendo ciò che è leggero, e lasciando invece nel mare ciò che è inutile e pesante e salato »). Cfr. infra ch. VII § 1.

In *On Sleep and Waking*<sup>825</sup> Aristotle makes the comparison between evaporation that takes place on the surface of the sea because of the sun, as compared to evaporation that reverts in form of rain when the evaporated water gets the cold regions in the atmosphere<sup>826</sup>, with emanations that arise from badly digested food on account of the heat in the heart, as compared to emanations that, as they rise to the brain — which in Aristotle’s opinion is the coldest organ in the body — end up prompting sleep due to the body’s general cooling.

XXX, 32: the substantive ἀπου[ρήματα (i.e. urine) is a hapax, while the term ἀπούρησις (col. XXX, 6) appears in the *Anonymus* as well as in Soranus of Ephesus<sup>827</sup>.

XXX, 40 – 43: at this point (up to col. XXXIV, 6) the author introduces, presumably according to an Empiric premise, the claim that emanations occur in each and every level of matter<sup>828</sup>. Beginning with the inert world, then with plants, afterwards with animals, and finally with man it turns out that the whole argument takes the format of a plainly Aristotelian scheme that would eventually characterise the thought of the Romantics or Idealist thinkers; especially F. Schelling’s natural philosophy. Two further details also featuring this teleological standpoint could be found in col. XXXVI, 48 – 50: « Ἡ φύσις, φ(αίν), τ[ηρ]ητικῆ κ[α]θέκτηκεν τοῦ τε δικαίου καὶ τ[ο]ῦ ἀ[κ]ο[υ]λουθου.» ; and in col. XXXIX, 5 « ὡς ἡ φύσις τηρεῖ τὸ [δίκ]αιον ». In light of the nature of the argument that the scribe sets forward, the expression in ll. 42 – 43 « Πειρῶνται δὲ κ(ατα)κευάζειν ὅτι ἀπὸ παγ[τὸς τοῦ] σώματος συνεχεῖς γί(νονται) ἀποφοραῖ»<sup>829</sup> could well have a general sense, that is to say, it could mean “from a body whatsoever” rather than ‘from all the body’; yet, for the sake of sticking closely to the text we translate the expression in a literal way.

It is difficult to establish to whom the scribe is actually making referring, for the subject of the verb πειρῶνται (or ἐροῦσι in col. XXX, 40 – 41, 46 respectively) could be: 1) ‘the ancient philosophers’ (col. XXIX, 52: « τοῖς ἀρχαίοις τ(ὼν) φιλοσόφων»); 2) those among the latter who deemed that in the fluid taken a dual nature exists (col. XXIX, 53: « [οἱ] μ(ὲν) »); 3) those among the ancient philosophers who posited instead that all fluid is homogeneous (col. XXX, 7: « Οἱ δὲ »);

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<sup>825</sup> Aristotle *Somn. Vig.* III 547b 30. Cfr. infra ch. VII § 2.

<sup>826</sup> The same simile is to be found in Hippocrates *Aer.* VIII [II pp. 32, 17 – 36, 19 Li.].

<sup>827</sup> Soranus of Ephesus *Gynaeciorum* I 57 (5) [CMG IV p. 42, 27 Ilberg].

<sup>828</sup> D. Manetti assumes that the exposition of this demonstration (i.e. there is an imperceptible movement of matter from the body outwards) extends up to col. XXXVI, 43. Manetti (2011b), p. 169 n. 23.

<sup>829</sup> Beckh - Spät (1896), p. 46: « Stoff »; Jones (1947) p. 117: « emanations »; Ricciardetto (2014), p. 25; (2016), p. 43: « émanations ».

4) the majority of the ancient philosophers (col. XXX, 17: « οἱ πλείου[ς τ(ῶν) ἀρχαί]ων »); in this case then 4) would coincide with 2). Furthermore the reference to the Empirics below in col. XXXI, 26 must be taken into account: « Π(ρὸς) τούτους τοὺς λόγους ἀντιφέρονται οἱ Ἐμ(πειρικοί) λέγοντες »), a denomination that the scribe uses to refute the theory that the unknown subject in question puts forward<sup>830</sup>. The point overcomplicates when the expression « οἱ πλείους τ(ῶν) φιλοσόφων|λέγουσι » in col. XXXI, 41 (reported speech assigned to the Empirics) is brought up into discussion. In the case that the scribe would have equated « οἱ πλείου[ς τ(ῶν) ἀρχαί]ων » to « οἱ πλείους τ(ῶν) φιλοσόφων| » it could be then affirmed that in the *Anonymus* papyrus the vague expression “the majority of the ancient philosophers” means a group necessarily other than the Empirics who attributed a dual nature to the fluids we take in, but the equation is not clear at all.

## Col. XXXI

### Description

As in the previous column, in Ricciardetto’s edition col. XXXI presents a number of divergent readings when compared to Manetti’s. In l. 8 the comparative « βα<ρ>τερα » constitutes a new case of haplography, since P. reads « βατερα ». Manetti attributes this mistake to the scribe’s fast writing style<sup>831</sup>. In l. 11 after the word « κουφότερον » there is a *spatium vacuum* that the two former editions of the papyrus did not signal. From l. 16 to l. 48 the papyrus presents a defect, consisting in a thin strip of papyrus that traverses the horizontal fibers; however, it was not an impediment for the scribe as he still wrote on it. The first letter in l. 17 starts with *ekthesis*; in the next line — preceding the article « οἱ » — there is, anew, a *spatium vacuum* that neither Diels nor Manetti signalled. The same phenomenon occurs in l. 29 after the verb « γί(νεται) » as well as in l. 50 preceding the verb « π(ρὸς)τίθεμ(εν) ». The denomination « Ἐμ(πειρικοί) » in l. 26 is abbreviated as « εμ<sup>π</sup> »<sup>832</sup>. In l. 38 the adjective « κοῦφόν » is written on another word that cannot be deciphered. The expression « ὡς εἰ ἢ | θυρὶς ἀφαιρέσει μείζ(ων) γί(νεται), π(ρὸς)θέσει δὲ μικροτέρ(α) » in l. 43 consists of a marginal addition on the right side<sup>833</sup> of col. XXXI that reads «

<sup>830</sup> For a more detailed explanation of this concern cfr. infra ch. VII § 3. 1.

<sup>831</sup> Manetti (1994), p. 55.

<sup>832</sup> Manetti (2013), p. 172.

<sup>833</sup> D. Manetti takes it as more proof of the incomplete nature of the *Londiniensis*. Cfr. Manetti (1994), p. 51 n. 18.

\ωσει η θυρις|αφαιρεσει μις Γ|π'θεσει δε| μικροτερ / ». Also in l. 43, the reading « ἦ<v>τινα » owes to R. Hackforth<sup>834</sup>. Lastly the first letter in l. 52 starts with *ekthesis*.

## Explanation

XXXI, 8: ὀλιγοτροφώτερα: the adjective ὀλιγοτρόφος occurs only once in the Corpus Hippocraticum<sup>835</sup>, but it is widely attested in Aristotle or Theophrastus.

XXXI, 10: ἀποψίασ· : it is a *terminus technicus* among the Empirics (i. e. ‘observation’), but in the immediate context it takes the sense of “evidence to the senses, to the sight”. σταθὲν<sup>836</sup>.

XXXI, 6 – 16: fresh meat was said to be heavier and more nourishing than hanged (dried) meat<sup>837</sup>. Literature on regimen was abundant at Aristotle’s time, as is clear in the second book of *Regimen* (wrongly ascribed to Hippocrates) which contains a long catalogue of light and heavy meats with their different properties<sup>838</sup>.

XXXI, 20: ἀλεῖπται<sup>839</sup>

XXXI, 21 – 22: that warm bread is more nourishing than cold is an opinion that could owe to the physician Philistion<sup>840</sup>. The issue concerning the nutritive properties of the different kinds of food is a commonplace of discussion in the tradition of dietetics. It is said that warm bread and fresh meat have more nutritive power because the dispersion (ἀποφοραί) operating in these has yet to take place. If hot loaves of bread are more nutritious than cold ones it is because the latter have lost matter through imperceptible emissions<sup>841</sup>.

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<sup>834</sup> Ricciardetto (2016), p. 157.

<sup>835</sup> Hippocrates *Prorrh.* II 3 [IX p. 12, 1 Li.]. Cfr. García (1995), p. 545.

<sup>836</sup> Diels (1893a), p. 93: passive voice « pendere ».

<sup>837</sup> Grmek (1997), p. 77.

<sup>838</sup> Hippocrates *Salubr.* II 46 – 56 [VI pp. 544, 17 – 570, 7 Li.]. Cfr. Jaeger (1957), p. 59; Jouanna (2012e), p. 138.

<sup>839</sup> Diels (1893a), p. 82: « Athletarum institutor ».

<sup>840</sup> Cfr. supra *Comment.* on col. XX, 25. Wellmann (1901), p. 113; Pseudo - Aristotle *Pr.* XXI 5, 927a 35 – b 6. Cfr. Manetti (1986), p. 71. The nutritive power of pure bread and its benefits in the diet of athletes is also attested in Galen *De san. tuenda* V 7 [VI p. 343, 3 – 4 K.].

<sup>841</sup> Manetti (2013), p. 172.

XXXI, 25 – 47: this passage was addressed by D. Manetti in order to show the different authorial levels displayed in the *Anonymus*<sup>842</sup>. The argument, which the scribe assigns to the Empirics, can be summarised as follows: according to the Empirics it is not true that whenever an addition to an object is made produced that object necessarily becomes heavier, nor does any removal from an object automatically imply that the object becomes lighter. The scribe will proceed to reject the position of the Empirics by dint of a series of numerated objections (i.e. XXXI, 48 – XXXII, 26 ). The term βαρυτης in l. 45 is a typical substantive stemming from an adjective, obtained by adding the suffix -της. In Greek literature the first occurrence of βαρύτης is in the Corpus Hippocraticum<sup>843</sup>.

XXXI, 26: Ἐμ(πειρικοῖ)<sup>844</sup>: this is first time that this medical sect<sup>845</sup> is mentioned in the *Anonymus*. The Empiric medical school was founded by Philinos of Cos and Serapion of Alexandria<sup>846</sup>. They are credited with touting a revival of the ancient ways in the acquisition of the medical art: this is perhaps the reason why it is almost impossible to distinguish the Ancients from the Empirics at certain points in the scribe's exposition<sup>847</sup>. The Empiric school was founded shortly after the death of Herophilus<sup>848</sup>, in a way as a schism in the medical trend that Herophilus led. The methodology grounding the views of the Empirics could be summed up in the trinomial 'empiria' (αὐτοψία), 'metabasis' (ὁμοίου μετάβασις), and 'history' (ἱστορία)<sup>849</sup>. By definition medical Empiricism sought to minimize logic and argumentation. The Empirics rejected all kind of speculation on the causation of disease, focusing instead on the most proper and effective ways to palliate a disease and recover health<sup>850</sup>. The Empirics claimed that medical knowledge had its roots in observation (αὐτοψία),

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<sup>842</sup> Manetti (2013), pp. 172 – 173.

<sup>843</sup> « βάρεος » in Hippocrates *Prorrh.* XVIII, CIII [V pp. 514, 13; 540, 7 Li.]; « βαρύτης » in Hippocrates *Coac.* II 26 (471); II 27 (483) [V pp. 690, 5; 692, 17 – 18 Li.]. Cfr. Kühn - Fleischer - Alpers (1989), p. 121. The references given in Rousseau (2014), p. 166 are incorrect.

<sup>844</sup> In P. this denomination is written by means of an abbreviation, a kind of circumflex sign above the first two letters: « εμ̄ ».

<sup>845</sup> From an historiographic point of view, the notion of 'medical sect' (that is to say, a group that follows a master and accepts his teaching constituting a school in the long run) appeared in Alexandria in the 3<sup>rd</sup> century BC. What was at issue among the main medical sects of the Antiquity was the best method of acquisition of medical knowledge, its sources and scope. Gourevitch (1993), pp. 121 – 122, 124, 127.

<sup>846</sup> Marganne (2002), pp. 363 – 364.

<sup>847</sup> Grmek (1997), p. 92; Marganne (2002), p. 367.

<sup>848</sup> von Staden (1989), p. 123.

<sup>849</sup> Gourevitch (1993), pp. 128 – 129. The second of the fundamentals (the passage from one particular case to a similar one in virtue of the purported similarities between one and the other) constituted one of the main points of dissension with the Erasistrateans, as the latter did not search for such similarities in observable properties or empirically proven effects the way the Empirics did, but in the bodily δυνάμεις. Giannantoni (1984), p. 70.

<sup>850</sup> Celsus *De medicina* I Praef. 38 [Daremborg (1891), p. 7, 3 – 4]: « quia non intersit quid morbum faciat, sed quid tollat ». Cfr. Vegetti (1995b), 73 – 76; Ricciardetto (2014), p. XLVIII.

more particularly in a kind of “imitative observation”. That is, the Empirics put their effort to singling out the morbid agent, presumably on the grounds of similar previous cases; afterwards they prescribed the same therapy or remedy that proved effective in similar cases to the patient<sup>851</sup>. The accumulation of such successful observed experiences was shaped in patterns and theorems of frequency (ἱστορία) and served to ground their medical practice.

XXXI, 40 – 41: ὄ[τι] (ἐστίν) ζῶμα ἢ ψυχὴ οἱ πλείους τ(ῶν) φιλοσόφων λ[έγ]ουσι: this sentence is in plain conflict with Aristotle’s view<sup>852</sup> whereby the essence of the soul cannot be corporeal.

XXXI, 42: ἀχώματον<sup>853</sup>

XXXI, 43: θυρί<sup>854</sup>

XXXI, 51: if we consider that above (col. XXI, 15 – 16) the scribe stated that he left concerns about the soul to philosophers, from this line up to col. XXXII, 6 the scribe seems somewhat compelled to take the issue back up in order to refute the Empirics.

## Column XXXII

### Description

The term « εὐλόγως » is a marginal addition between ll. 3 – 4. In l. 6 the first two letters in « ὄλον » are written on a former « ζῶι »; in this same line « \χώμα/ ». In l. 7 the author forgot to cancel the first three words that he wrote by mistake, hence « {αποτ(ων)αλ(ων)} ἀπὸ τ(ῶν) ἄλλων (ἐστίν), τοῦτο δὲ ἀπὸ »<sup>855</sup>. In l. 18 « αἰαν » was deleted ([αἰαν]) after the expression « μ(έν)τοι γε

<sup>851</sup> It is, in short, what Aristotle states at *Metaph.* I 1, 981a 5 – 9 which, in its turn, resembles what Plato expounds in *Grg.* 448c.

<sup>852</sup> Cfr. e.g. Aristotle *Juv.* I 467b 13 – 14.

<sup>853</sup> The soul. Diels (1893a), p. 85.

<sup>854</sup> Beckh - Spät (1896), p. 48: « Thüre »; Jones (1947) p. 121: « window »; Ricciardetto (2014), p. 26; (2016), p. 45: « fenêtre ».

<sup>855</sup> Manetti (1994), p. 56 n. 34.

». In l. 25 the verb γί(νεται) is abbreviated as « γί<sup>θ</sup> » which actually stands for the abbreviation of the passive infinitive « γί(νec)θ(αι) ». In l. 28 the verb « (ε)ict) » (currently abridged as « \ » in P. ) is corrected on a former « / », the abbreviation for (έcti). In l. 46 the term « ρυζόκαρ(φα) » (= ρυζοκαρ<sup>-</sup> P.) was suggested by H. Diels from a passage in Dioscorides where the physician speaks about the properties of the cinnamon<sup>856</sup>. On the right of l. 48 one might read « \αποτοϋ/ ». Between cols. XXXII, 55 – XXXIII, 1 there is a *paragraphos* that has not been previously signalled in any of the three former editions of the *Londiniensis*.

## Explanation

XXXII, 1 – 2: ὅτι καὶ πνεῦμα ἢ ψυχὴ

Xenophanes of Colophon (6<sup>th</sup> - 5<sup>th</sup> century BC) asserted the soul (ψυχή) was made up of *pneuma*<sup>857</sup>. Since Xenophanes believed that everything which comes into being is liable to perish, by this general law the sense that Xenophanes attributed to ψυχή was something like “perishable breath”.

XXXII, 9: γεώδου<sup>858</sup>

XXXII, 15 – 21: the scribe contends that the soul is the agent keeping the body at the particular pitch or tension necessary for its operation. In Plato such a function is ascribed to the sinews, responsible for the cohesion of the human frame as well as the physical source of movement in man (via tension and relaxation)<sup>859</sup>. In l. 20 the term αἰωροῦν can mean either ‘to be slightly hung’ or ‘to lift some moderate or light weight’. In case of the first meaning this verbal form would constitute a hapax<sup>860</sup>. The second meaning was used in medicine to refer to the passive exercises, that is, non intensive or extenuating workouts. Related to the infinitive αἰωρεῖν, in the *Anonymi medici* the nominalised form αἰώραξ is put beside massages, vocal exercises, and some techniques of retention

<sup>856</sup> Dioscorides *Mat. med.* I 14 [Wellmann (1958a), p. 19, 16 – 17]

<sup>857</sup> Diogenes Laertius *Vitae philosophorum* IX 19 [Marcovich (1999a), p. 644, 11 – 12]: « πρῶτός τε ἀπεφώνησεν ὅτι πᾶν τὸ γινόμενον φθαρτὸν ἐστὶ καὶ ἡ ψυχὴ πνεῦμα. », (« (*scil.* Xenophanes) was the first to declare that everything which comes into being is doomed to perish, and that the soul is breath »). Trans. Hicks (1950b), p. 427.

<sup>858</sup> Beckh - Spät (1896), p. 49: « Erdige...Element »; Jones (1947) p. 123: « earthy element »; Ricciardetto (2014), p. 26; (2016), p. 45: « élément terreux ».

<sup>859</sup> *Ti.* 74b. Burgess (1998), p. 25. At *Phd.* 86b 9 – c 3 Plato claims that our body is kept in tension and held together by heat, cold, dryness, moisture and the like, and our soul is a blending and acquisition of these same things when they are mixed with each other in due proportion.

<sup>860</sup> Ricciardetto (2016), p. 158.

of respiration such as therapeutical indication<sup>861</sup>. In l. 21 ‘bodies’ should be understood in the expression « τὰ νεκρά »<sup>862</sup>.

XXXII, 41: τ(ῶν) ἀναπλασσομέν(ων) κολλυρίωγ<sup>863</sup>

XXXII, 42 – 55: the examples from flowers, plants, and trees do not pursue any medical purpose at all but are rather rhetorical. The scribe does not speak about the properties of these plants, nor the way to pick them, and he does not discuss the convenient measures to take in order for them to maintain their attributes. What happens with flowers and herbs when they are cut is only mentioned with a view to reinforcing more solidly the argument held by the Empirics which, seemingly, also tallies with the opinion that the scribe also defends: there are continuous emanations from all kinds of bodies<sup>864</sup>.

The term ῥυζόκαρ(φα) in l. 46 is extremely rare. On the grounds of this exceptionality H. Diels considered that the *Anonymus* was likely written at Domitian or Trajan’s time<sup>865</sup> (1<sup>st</sup> century CE) when the use of the word became more frequent.

XXXII, 55 – XXXIII, 1: it is impossible to figure out who the subject is of a number of verbs in the third person plural in this passage, perhaps it is the followers of Erasistratus’s opponents<sup>866</sup>.

## Column XXXIII

### Description

In the first line, above the article « τὸ » and with *ekthesis* one may distinguish the letters « του » that the scribe expunged. In the next line before « πλ/ειων » the scribe deleted « ου », therefore « [ου] ». As regards the interlinear addition «\μῆταβαινουσι/» in l. 15, A. Ricciardetto told

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<sup>861</sup> E.g. *Anonymi medici* XXXV 3 (1) [Garofalo (1997), p. 190, 6].

<sup>862</sup> Diels (1893a), p. 98: « *scil. κόματα* ».

<sup>863</sup> Beckh - Spät (1896), p. 50: « aufgelegten Breiumschlägen »; Jones (1947) p. 123: « poultices plastered on »; Ricciardetto (2014), p. 27; (2016), p. 46: « collyres façonnés ».

<sup>864</sup> As we have seen, the argument is taken up in col. XXX, 40 and gets its completion in col. XXXIV, 6.

<sup>865</sup> Diels (1893b), p. 413.

<sup>866</sup> Manetti (1986), p. 73.



(particularly from animals), the scribe recollects an experiment made by Erasistratus<sup>873</sup> in order to reinforce the long argument by the Empirics about the existence of such emanations. Prior to Ricciardetto's translation, the passage with the experiment was formerly versed into French by M. D. Grmek<sup>874</sup>. The experiment as such presents a double interest. First of all on a historiographical level: as much as Galen does not say a word about it, the experiment would fall into oblivion<sup>875</sup> in medical history until the discovery of the *Londiniensis*. Secondly, if we call it an 'experiment' it is because the procedure of the experiment described in the papyrus meets all the requirements to be taken in that sense<sup>876</sup>.

The scribe has heretofore expounded different types of arguments on the basis of different "degrees of experience", these ranging from forms of popular lore to others of a certain experimental complexity<sup>877</sup>. From *Anon. Lond.* we learn that to give an account of his "emanationist" theory Erasistratus proposed the periodical weighing of a bird or another similar animal with its excrements under controlled conditions. By doing so Erasistratus introduced some of the most important epistemological assumptions in medical science nowadays: that biomedical phenomena must be measurable, in other words, the outcomes obtained in Biomedicine have a stronger possibility after experimental procedure. This amounts to saying that biomedical phenomena are liable to be considered in light of the methodology that governs the so-called Experimental Sciences<sup>878</sup>. Hence in Erasistratus's experiment one finds first a hypothesis (one aims to test the feasibility of a proposition, .e.g., emanations take place from animals), and then a particular artificial scenery is created for that purpose (the choice of an animal, the choice of a vessel or pot where the bird will remain, the prohibition of feeding it etc.). Although the experiment is in fact intended to demonstrate that something is always flowing away from the body, the point to be realized is that this assumption is reinforced by deciding not to feed the bird in the pot. This os

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<sup>873</sup> Vegetti (1993), p. 119 n. 79.

<sup>874</sup> Cfr. Grmek (1997), pp. 71 – 77. Cfr. also von Staden (1975), pp. 180 – 186; Garofalo (1988), p. 86; Longrigg (1993), p. 215; Debru (1996), p. 185 n. 31; Byl (2011), p. 23. However, this is not the only evidence of Erasistratus's experimental activity. By inserting a cannula into an artery Erasistratus is also credited with having done another experiment to determine whether pulsation was a property of the arterial tunics or the result of the *pneuma* being driven into the arteries by the beating of the heart.

<sup>875</sup> Thus, when in the 17<sup>th</sup> century the Italian physician Santorio Sanctorius performed some similar experiments he apparently was unacquainted with Erasistratus's.

<sup>876</sup> The procedure followed by Erasistratus is described by means of the verb *πειρᾶται*. In the beginning of his book, mainly devoted to showing that traces of systematical experimentation in ancient Greek science cannot be found, M. D. Grmek discusses precisely the meaning of this verb in the *Londiniensis*. Cfr. Grmek (1997), p. 19. Grmek is in this sense on the side of those who — starting with F. Bacon and finishing by B. Russell — admit that Greeks were neglectful of experiment. Cfr. von Staden (1975), pp. 178 – 180.

<sup>877</sup> Cols. XVI, 3 – 4; XXXII, 42 – XXXIII, 43.

<sup>878</sup> Angeletti (1998), pp. 297, 301.

because eating and drinking are what ultimately provide the matter<sup>879</sup> that the body will eventually evacuate, since the emanations are one of the multiple possible forms of evacuation. Along the same lines, in the experiment the variables are also taken into account (the animal and the visible stools are systematically controlled and weighed), the differences in weight are periodically measured (one actually notes a diminution in the weight of the bird after the experiment), and from this one can draw compelling conclusions (i.e. it becomes plain that emanations take place).

From all these facts it follows that the enterprise transmitted in the papyrus can be called and considered an ‘experiment’ in its own right. Erasistratus’s test bears evidence of the passage from the visible to the invisible, and accounts for what is perceptible by senses to what is perceptible only by reason; yet, ultimately and at the end of the day the experiment on the bird in the pot is the first step in the demonstration that what has been tested and proved with an animal<sup>880</sup> is likely to happen analogously on man.

A few words and clarifications are needed apropos of the term ἀποφορά and the physiological process related to it: insensible perspiration (*occulta/insensibilis perspiratio*)<sup>881</sup>. Besides sweat<sup>882</sup>, insensible perspiration was deemed the result of superfluous substances inevitably formed in the body due to the fact that not all food taken in is completely assimilated, a perspiration in virtue of which the body was said to become purified. This hygienic view is doubtlessly bound to the ancient theory of the balance between physical activity and alimentation<sup>883</sup>, and on the other hand, to a particular view of body wherein the body is considered an open entity exposed to the effect and agency of the air<sup>884</sup>. Neither produced in the intestines nor eliminated through any of the conventional ways (stools, urines etc.), insensible perspiration was furthermore regarded as a genuine kind of residual. Therefore, it was believed that it was formed in all the parts of the body

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<sup>879</sup> It must be borne in mind that Erasistratus posited two main material principles in the body: air and blood.

<sup>880</sup> Grmek (1997), p. 78.

<sup>881</sup> The idea of the continuous exchange of matter between organism and its environment can be found to some extent in Heraclitus, Anaxagoras, and Democritus. Horne (1963), p. 323. The theory of sweat (*sudor*) and invisible perspiration was formulated and settled in Aristotle’s time, and it became a kind of appendix to medical physiological theories. Cfr. Debru (1996), p. 193. The hypothesis of insensible perspiration was an issue often discussed by Hellenistic physicians. Grmek (1997), p. 77.

<sup>882</sup> The purported origin of sweat varies from author to author. Thus, whilst some maintained that sweat originated from the separation of the fluid part of blood, others from the residuals of food, or even from the liquefaction of the bodily fluids. Debru (1996), p. 187.

<sup>883</sup> Cfr. col. IX, 20 – 36 apropos of Herodicus. The author of *Regime I* recognises that such correct balance depends on each individual; hence he claims that one might have a complete and exact knowledge of health for men if it were possible to discover the μέτρον of food and the ἀριθμός of exercise for each individual. Cfr. Hippocrates *Vict. I 2* [VI p. 470, 14 – 17 Li.]; Lloyd (1968), p. 75 n. 17.

<sup>884</sup> Cfr. Hippocrates *Loc. Hom.* XXVII [VI p. 318, 18 – 19 Li.]; Aristotle *Mete.* IV 7, 384b 18 – 19.

from the juices that nourish the body<sup>885</sup>. Such invisible perspiration must be distinguished from the “expiratory” phase of the cutaneous or poral respiration (διαπνοή)<sup>886</sup> that takes place throughout the body — as can be found for instance in Empedocles, and especially, in Philistion of Locris<sup>887</sup>. Thus, whereas poral respiration<sup>888</sup> (as with oral) serves to refrigerate and keep the body in thermal balance, invisible perspiration is a way of evacuating residuals produced during the digestion process, this it is mainly related to nutrition<sup>889</sup>. The reasons for the confusion between poral respiration and perspiration are several, but they could be reduced to three: both are produced throughout the body, both take place through the skin, and both are produced constantly from birth to death. By way of contrast, the differences between poral respiration and invisible perspiration are at the level of the quality (heat in the body), quantity (residual matter in the body), and finality or nature of what is excreted (warm air or the excess of unprocessed food)<sup>890</sup>.

XXXIII, 52 – XXXIV, 2: this passage was provisionally edited, translated into Italian, and commented on by D. Manetti in one of her contributions<sup>891</sup> prior to the full edition of the *Londiniensis* in 2011.

XXXIII, 53 – XXXIV, 1: οἱ τε γ(άρ) πίνοντες ἀρώματα|καὶ οἱ σκορδοφαγήσαντες ὁμοιον ἔχουσι|τῷ δὲ διὰ τ(ῶν) ἰδρώτ(ων) κενούμενον τοῖς π(ροσ)ενη||νεγμένοις,:

That those who have consumed food with strong flavours or smells give evacuations (through their sweat) that resemble what they have taken in is something that can be found in the Hippocratic collection<sup>892</sup>.

<sup>885</sup> Galen *De san. tuenda*. I 2 [VI pp. 66, 14 – 67, 5 K.]. Cfr. Debru (1996), pp. 186 – 187.

<sup>886</sup> The former definition of this term can be found in Pseudo - Galen *Def. med.* CIX [XIX p. 375 K.].

<sup>887</sup> Col. XX, 25 – 50. In the description dealing with the respiration process at Plato's *Ti.* 79c 5 – d 6 Timaeus suggests that air enters and leaves the body not only through the nostrils and mouth, but also through imperceptible pores all over the skin, an idea that Plato might have taken from Philistion (or from Empedocles). Cfr. infra ch. V § 3.

<sup>888</sup> Cfr. e.g. col. XVIII, 21 – 28.

<sup>889</sup> A. Debru assigns this distinction to Galen, e.g. *De atra bile* II [V p. 107 K.]; *De san. tuenda* I 10 [VI p. 53 K.]; *Meth. med.* XIV [X pp. 950, 968, 995 K.]; but E. T. Renbourn seems not to attribute this fundamental difference to the physician of Pergamon: « Although the early physicians wrote a great deal on sweat its relationship to insensible perspiration was, as might be expected, far from clear; and this relationship was to remain obscure to almost recent times ». Cfr. Renbourn (1960), p. 136. The distinction could have its roots in Erasistratus (cfr. e.g. col. XXII, 49 – 52) but the main argument for this can be found in cols. XXXIII, 52 – XXXIV, 6. The details recounted in this latter passage indicate that the distinct causes and divergent effects attributed to respiration and digestion were known and operative when the *Anon. Lond.* was written, so that the distinction between poral respiration and perspiration is presumably prior to Galen.

<sup>890</sup> Debru (1996), p. 186.

<sup>891</sup> Manetti (2003), pp. 343 – 344: (« Si utilizza nell'argomento anche un esempio tratto dell'uomo; infatti quando si bevono sostanze profumate o si mangia dell'aglio, si ha poi un sudore che ha le stesse caratteristiche di ciò che si è ingerito, perché appunto c'è stata una *apophora* del cibo in modo osservabile con il ragionamento »).

<sup>892</sup> E.g. Hippocrates *Morb.* IV 56 [VII p. 608 Li.].

## Column XXXIV

### Description

A number of decipherments in col. XXXIV were first suggested by D. Manetti in one of her contributions<sup>893</sup>. In the first line, before « ὥς », there is a *spatium vacuum* that is neither signalled in Diels's nor in Manetti's editions. In l. 9 the omission in « ἡμ<ετ>έρῃ. » is due to P. reading « ἡμερῃ ». In l. 11 the verb « συναντιλαμβ(άνεσθαι) » is abbreviated as « συναντιλαμβ<sup>-</sup> ». L. 31 brings up another case of dittography: « φ[έρεσθ]αι {φέρεσθαι} ». According to A. Ricciardetto the first letter of this line should have started with *ekthesis*. In l. 39 after the term « αἴσθησις » the scribe expunged the expression « σκαντιλαμβ<sup>-</sup> », therefore « [ σκαντιλαμβ<sup>-</sup> ] ». In l. 45 the scribe forgot to write the ending of the verb πέψηται, then « πέψη<ται> ». In l. 49 the participle « Τὰ — ὑπ(άρχοντα) » is abbreviated as « υ<sup>π</sup> ». Ricciardetto states that the letter alpha in « Τὰ » is this time easily legible, so that perhaps the principal participle « ὑποπίπτον » on which « Τὰ — ὑπ(άρχοντα) » depends should be modified (i.e. ὑποπίπτον<τα>).

### Explanation

XXXIV, 6 – 20: this passage was provisionally edited, translated into Italian and commented on by Manetti in one of her contributions<sup>894</sup>. It mainly consists in applying the logical figure of *tollendo tollens* to refute Asclepiades' position on aromas and their qualities in the body. The structure of the argument is as follows. If aromas could conserve their qualities when they are inside our bodies we should be able to perceive them, but we cannot, and therefore aromas neither conserve nor maintain their qualities. As regards the passive participle ἐξαματω|[θέντα in ll. 13 – 14, even though it does not constitute a hapax it is a very rare term, in fact only witnessed in Aristotle's *On Sleep and Waking*<sup>895</sup>, in Philo of Alexandria and in Galen.

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<sup>893</sup> Cfr. Manetti (2003).

<sup>894</sup> Manetti (2003), pp. 344 – 345: (« Asclepiade tenta di rinovare l'argomento: le sostanze aromatiche, dice, e l'aglio perdono le loro qualità entrando nella nostra costituzione; se infatti conservassero le loro qualità all'interno della nostra costituzione, sarebbe necessario che anche noi le percepissimo e fossimo consapevoli delle qualità mentre essa passa attraverso tutto quanto il corpo. Sostanze del genere una volta assunte e trasformate in sangue, si distribuiscono ad ogni parte del corpo [e anche] alle narici. [...] Ma questo non avia, infatti non percepiamo le qualità con le narici... »).

<sup>895</sup> Aristotle *Somn. Vig.* III 456b 4.

XXXIV, 42: Ἡμεῖς δέ φ(αμεν): by expressing himself in the first person plural, the scribe manifests his own opinions while dissenting from Asclepiades.

XXXIV, 44 – 49: ὄν γ[(ἄρ)] τρόπο[ν] τὸ περσὸ|με[ν]ον ἐν οικείῳ τόπῳ δεῖ (εἶναι) ἵνα πέψη<ται>| καὶ [ὄ]ν τρόπον τὸ ἐξαιματούμενον δεῖ ἐν οικείῳ|τόπῳ γενέσθαι εἰς τὸ ἐξαιματοθῆναι, ο(ὔτω) καὶ| τὸ ὁδμώμενον ἐν οικείῳ τόπῳ δεῖ (εἶναι)|εἰς τὸ ὁσφρηθῆναι.

It is a good example of the so-called οἰκειῶς τόπος theory. In accordance with a teleological thinking pattern, the scribe presumes that there is a goal in nature.

XXXIX, 53: Λέγουσι: the verb in the third person plural again raises the issue of its subject; is it ‘the ancient philosophers’? The Empirics above in col. XXXI, 26? It looks that the presumed subject here cannot be equated to Asclepiades or Herophilus as it happens in col. XXXVI, 48 – 50.

## Column XXXV

### Description

The writing on the right part of col. XXXV is very weak and faded, at many points practically illegible. In l. 4 the omission « ψυ<χρό>τερα » is due to P. reads only « ψυτερα ». According to D. Manetti it is a mistake that owes to the scribe’s fast writing style<sup>896</sup>. In the next line, the second tau in « θερμότητος » is written on a sigma, which seemingly suggests that in the first instance the scribe wrote « θερμότης ». In l. 14 the scribe’s shortcoming in the participle « ὀρε{υ}γόμενοι » perhaps owes to a visual error. The scribe corrected the participle, the letters « γο » are in fact rewritten onto what seems to be a letter μ<sup>897</sup>. In l. 19 the omission « μόν<ον> » constitutes another case of *lapsus calami*, for P. reads only « μον ». As regards l. 26 the sentence « ὡς απ(εδείξαμεν) » is abbreviated in the interlinear space as « \ωσαπ/ ». In l. 29 D. Manetti has seen in the expression « διὰ {μη} μήτρας » a possible case of dittography<sup>898</sup>. In l. 30 above the expression « ]ιαφέρον[ » one might distinguish the addition « \]στ..[ ± 4]ε! ». In ll. 33 – 35 the expressions « τοιάδε [ὑποσ]τασεις ἔχον(τα) » or « ἐπι|νέφελά » were restituted on the basis of some

<sup>896</sup> Manetti (1994), p. 55.

<sup>897</sup> Ricciardetto (2016), p. 165.

<sup>898</sup> Manetti (1994), p. 56 n. 34.

passages in the Hippocratic collection dealing with the nature of the urine<sup>899</sup>. In l. 46 the word « ἀποφορ[...] » is written in the interlinear space, therefore « \ἀποφορ[...]/ ».

## Explanation

XXXV, 19 – 29: the History of Science is full of cases accounting for the existence of different types of bodies before they were actually discovered (ἄδηλα), of bodies proven first by necessity and later by evidence<sup>900</sup>. This particular subject is related to the extant tension between the epistemological categories of theoretical/observational (also “sayable”/visible). In this way, the expression « κατὰ τὸ λόγῳ θεωρητόν »<sup>901</sup> serves the scribe in the purpose of turning what is at a mere hypothetical level into truth. In the *Anonymus* papyrus the expression κατὰ τὸ λόγῳ θεωρητόν has the meaning of ‘theoretical possibility of observation, viewed by reason, perceptible to reason’ etc.<sup>902</sup> What is intended by such an expressions is the existence of entities and structures which cannot be observed through anatomical analysis but that constitute, in turn, *conditio sine qua non* for the full breadth of the theories that hold these “unobservable phenomena”. In Erasistratus’s physiological theory, the τριπλοκία is a netlike structure of this kind (only theoretically observable)<sup>903</sup>. The scribe uses the expression to shore up his conviction in the existence of continuous emanations and intromissions through invisible passages in the body. However, and perhaps constituting more proof of his empiricism, the scribe does not content himself in proving the existence of such passages at a mere theoretical level. Instead, he insists on the necessity of the visible character of such structures either empirically or, much more interesting, if they are not directly observable they must then be equally accountable by means of observable models or metaphorical referents<sup>904</sup>. In sum, the scribe apparently takes some theories as fully proved if, and

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<sup>899</sup> E.g. Hippocrates *Coac.* VII 34 (564) [V 712, 8 Li.]; *Progn.* XII [II p. 138, 15 Li.]. Cfr. Diels (1893a), p. 66.

<sup>900</sup> Giannantoni (1984), p. 59; Viano (1984), p. 333; Debru (1996), p. 264. The case of atoms in Democritus’s theory is a good example. While in the mind of the former Greek atomists atoms were theoretical concepts imperceptible to the senses (only perceived logically), for scientists today the atom is a “real entity” in its own right, which is subject to observation and can indeed be photographed in vacuum conditions. Cfr. Horne (1963), pp. 319 – 320.

<sup>901</sup> Cfr. supra *Comment.* on col. XIII, 27 – 28.

<sup>902</sup> von Staden (1975), p. 180; Viano (1984), p. 338; Ricciardetto (2016), p. CXIV.

<sup>903</sup> Viano (1984), p. 337; Vegetti (1995a), p. 463; von Staden (2000), pp. 88, 92 – 93.

<sup>904</sup> Cfr. Vegetti (1995a), p. 462 n. 4. Hippocrates *Vet. med.* XXII [I p. 626, 17 – 18 Li.] reads as follows: « one should learn this (*scil.* the knowledge of the internal organs) from unenclosed objects that can be seen ».

only if, there is agreement between reason and sensibility, if the *quid* under consideration can be satisfactorily explained by virtue of the sensibility and the rational feasibility<sup>905</sup>.

XXXV, 52: κ(ατὰ) τήν φαντασίαν<sup>906</sup>.

## Column XXXVI

### Description

Col. XXXVI is one of the longest columns in the papyrus as for the number of preserved lines. Col. XXXVI also presents many divergent readings between Manetti and Ricciardetto's respective editions. According to H. Diels the integration « < παρὰ τὴν διαφορὰν > » might be necessary after « (ἐστὶ) » in l. 8. In P. the word « κ(ατ)<ε>ργασίαν » in l. 10 is abbreviated as « κ̂ργασίαν ». In l. 18 the appellative « Ἐρασιτρ(ατείου) » is written by means of the abbreviation « ερασιτρ̄ »<sup>907</sup>. The omission « <γ(ὰρ)> » in l. 20 was suggested by D. Manetti. On the right margin of l. 29 the author added in an abridged form the verb « καταλ(είπουσιν) » as « \καταλ̄/ »; likewise below in l. 35 the verb « κ(ατ)ακκευάζο(ουσιν) » is shortened to « κ̂κκευάζο̄ ». In relation to the restitution « γίγον[ται πολλ]αῖ » in l. 42, since it clearly exceeds the available space it is likely that the scribe would have simplified two repeated consonants within the word, thus « γίγον[ται πολ<λ>]αῖ »<sup>908</sup>. In l. 44 the omission in « ποι<κί>λα » owes to the fact that in P. it is only written « ποίλα »; this being a type of mistake that D. Manetti ascribes to the scribe's fast writing style<sup>909</sup>. The expression in l. 47 « κ[αὶ θ]αυμ[α]ζτοὶ καὶ Ἡρ(όφιλος) καὶ Ἀσκληπιάδης » in P. reads solely as « κ[... ]αυμ[.]ζτοι και ηρ( ) και ασκληπιαδης », the restitution of the gaps was again suggested by Manetti by means of the discovery of a new textual witness concerning Herophilus<sup>910</sup>. The presence of the physician of Chalcedon besides Asclepiades has revealed that the saying that

<sup>905</sup> Col. XXXVI, 44 – 45: « κ(ατὰ) τὸ λόγῳ[ι]θε[ω]ρ(ητὸν)|κ[αὶ] κ(ατὰ) τὸ αἰ[σθητ]ῶν ». Cfr. Aristotle *GA* III 10, 760b 28 – 32.

<sup>906</sup> Beckh - Spät (1896), p. 56: « ☉ »; Jones (1947), p. 133: « appearance »; Ricciardetto (2014), p. 30; (2016), p. 52: « apparence ».

<sup>907</sup> Diels (1893a), p. 117; Ricciardetto (2016), p. XXIX.

<sup>908</sup> Cfr. *supra Comment.* on col. XII.

<sup>909</sup> Manetti (1994), p. 55.

<sup>910</sup> Ricciardetto (2016), p. 171.

comes next is not by the Bithynian but by Herophilus. From l. 47 to l. 58 (and also 49 – 58) two vertical ink stains blur some letters on the right part of the column; in the space between cols. XXXVI – XXXVII a similar accidental ink stain can be observed. In l. 48 after « τοιαύτης » there is a *sp. vac.* that had not been signalled by Diels nor by Manetti. In l. 51 the scribe forgot to write the article τὸ before the expression « λόγῳ θεωρητὸν »; thereby « κατὰ <τὸ> λόγῳ θεωρητὸν ». The same mistake is reproduced below in col. XXXVII, 6 – 7. In l. 52 the second half of the expression « δὲ ἀπεφέρετο καὶ διάφορα » is in the interlinear space, so that P. reads « δὲ ἀπεφέρετο \καὶ διάφορα/ ». In l. 51 the words « λόγῳ|θεωρ(ητὸν) » are abbreviated on the right margin of the column as « \λογῳ θεωρ̄/ ». Also in l. 56 and preceding the term « πρῶτον » there is an expunction: « [..]δη[...].ν] ». The deciphering of the word « αἰονήματα » in l. 56 (faulty deciphering †ατωντι|μαπατ(ων)†) owes to D. Leith<sup>911</sup>.

#### Explanation

XXXVI, 3 – 4: ἀπλοῦν τι καὶ|μονοειδές<sup>912</sup>: as  
opposite to σύνθετος.

XXXVI, 18 – 19: these lines have been put in connection with Pseudo-Galen *Medical Definitions*<sup>913</sup>.

XXXVI, 27 – 29: παρὰ τὰς δια|θέξεις καὶ παρὰ [τ]ὰς [φ]ορὰς καὶ κινήσεις διάφορος|ἢ ἀποφορά<sup>914</sup>.

XXXVI, 35: κ(ατα)κευάζο(υτιν)-<sup>915</sup>

<sup>911</sup> Cfr. Ricciardetto (2016), p. 172.

<sup>912</sup> Beckh - Spät (1896), p. 56: « Einfaches und Eingestaltiges »; Jones (1947), p. 133: « simple and uniform »; Ricciardetto (2014), p. 30; (2016), p. 52: « simple et d'une seule sorte ».

<sup>913</sup> Pseudo - Galen *Def. med.* XCIX [XIX pp. 372, 9 – 373, 5 K.].

<sup>914</sup> Beckh - Spät (1896), p. 57: « Lebensweise, Neigungen, Bewegungen »; Jones (1947), p. 135: « modes of life, motions and movements »; Ricciardetto (2014), p. 30; (2016), p. 53: « des dispositions, des comportements, et des mouvements ».

<sup>915</sup> Diels (1893a), p. 95: « Idem efficere ».

XXXVI, 48 – 50: «Ἡ φύσις, φ(αίν), τ[ηρ]ητικῆ κ[α]θέετηκεν τοῦ τε δικαίου καὶ τ[ο]ῦ ἀ[κ]ο[υ] λούθου»<sup>916</sup>.

XXXVI, 54 – 55: διάφορα εἰκρινθήσεται εἰς|ήμᾶς<sup>917</sup>

## Column XXXVII

### Description

A high resolution picture of col. XXXVII can be consulted in paper format<sup>918</sup>. Two vertical creases along the column have made some letters disappear in every line. In the third line the author forgot to write « vo » in « Οὐ μό<vo>v » because in P. it is written « ουμον ». In l. 24 the omission « <ἐπι> » restitutes the snaky sign that D. Manetti was unable to decipher; the restitution has been made by seeing the expression as relying on some passages in Galen<sup>919</sup>. In ll. 32 – 33 the participle « κα|ταλυομένας » was corrected by the scribe himself who in the first place wrote « κα|ταλελυμένας », and therefore P. reads « κα|τα[[λε]]λυ\ο/μένας ». The first letter in l. 33 starts with *ekthesis*. In ll. 34 – 35 the term « Κἀγαῦ|θά » reads « κα\ταυ|θα ». Since the letter γ is clearly written on a former iota and the θ on a former letter tau it is likely that the scribe wrote « κα|τα ». In l. 35 for the abbreviation « φ/ » Manetti prefers the reading « φ(αίν) » to the singular « φημί ». In l. 41 the expression « αὐτὸν ἀπομόσαι κα[ι] » is written in the interlinear space: « \αυτον απομοσαι κα[.]/ ». In l. 43 the elimination « {γι( )} » constitutes another case of dittography in the expression « {γι( )} καὶ ὁ Δ[ημόκρι]τος » which is written in P. as « Γ[[καιοδημοκριτο[c]] ». In relation to the faulty deciphering in l. 50 « † προκει[[μενο(v)]] † » the scribe wrote first « προκειμενον » and afterwards expunged each one of the letters of the participle, i.e. « [[μενον] »; as a result the word in P. is incomprehensible.

<sup>916</sup> Beckh - Spät (1896), p. 58: « die Natur liebt es das Rechte und Entsprechende zu erhalten »; Jones (1947), p. 137: « nature habitually preserves law and consistency »; Ricciardetto (2014), p. 31; (2016), p. 54: « La nature vigilant préserve ce qui est just et conséquent ».

<sup>917</sup> Beckh - Spät (1896), p. 58: « mannigfache Stoffe...in uns »; Jones (1947), p. 137: « different accretions penetrate into us »; Ricciardetto (2014), p. 31: « une (difference) s'insinue en nous »; (2016), p. 54: « des différences s'insinueront en nous ».

<sup>918</sup> CPF (2002), plate 62.

<sup>919</sup> Galen *De simpl. med. temp.* VIII 15 [XII p. 122, 19 – 20 K.].

## Explanation

XXXVII, 1: διαλύει<sup>920</sup>

XXXVII, 5: from here onwards the expression « λόγῳ θεωρητοὶ πόροι » becomes a stereotyped junction<sup>921</sup>. The scribe affirms that on account of its porosity skin is liable to absorb the properties of certain drugs<sup>922</sup>.

XXXVII, 13 – 14: ἐνεργέτατον παγτὸς καθαρτικὸν<sup>923</sup> (εἶναι) | τὸ ἐλατήριον:

By the superlative ἐνεργέτατον the scribe underlines the most drastic purgative power<sup>924</sup> of the elaterium. The elaterium (ἐλατήριον)<sup>925</sup> is a very bitter extract of fruit<sup>926</sup> of the wild cucumber (σίκνον ἄγριος) that was used as a purgative in the case of icterus. The squirting cucumber (*Ecballium elaterium* L.), whose purgative properties are well established, might have been used as an emmenagogue or an oxytotic as much for symbolic as for practically evaluated reasons: its capacity to eject its seeds forcefully made it an appropriate plant to use when wishing to expel an unwanted conception, an afterbirth, or a suppressed menstrual period<sup>927</sup>. As regards the recommended posology of the elaterium, in l. 17 the scribe emphasizes that due to the powerful effect of the elaterium half an obol (ἡμιωβέλιον) is enough, that is, 0, 33 gr. Ancient Greek pharmacology developed a system of symbols in order to express the measures and the commonest substances employed in abridged form. Thus, for the drachma, amounting to 6 obols, the correspondent symbol was « < »; for one obol « - »; for two obols « = »; whereas for half an obol — as is the case for the elaterium — the symbol was « ∩ »<sup>928</sup>.

<sup>920</sup> Diels (1893a), p. 87: « *De fomenti* VI ».

<sup>921</sup> It is repeated in cols. XXXVII, 29; XXXVIII, 22, 24, 31, 52; XXXIX, 3, 15, 22, 31. Cfr. Podolak (2010), p. 102 n. 243.

<sup>922</sup> Debru (1996), 199.

<sup>923</sup> Diels (1893a), p. 93: « *Purgamentum* ».

<sup>924</sup> After having been tested (*probatum est*), the extraordinary effectivity of a particular remedy or drug is noted in papyri as old as the Ebers (1534 BC). In the Greek world, Galen tends to stress the effectiveness of a substance by means of verbal forms like χράομαι or ἐπιτετεύμενον. Cfr. Andorlini (2006), pp. 143 – 144.

<sup>925</sup> Guardasole (1997), p. 230.

<sup>926</sup> Whereas some deem it the juice extracted from the leaves and the roots, not the fruit. Cfr. Ricciardetto (2014), p. LIV n. 402.

<sup>927</sup> Nutton (2004), pp. 98 – 99.

<sup>928</sup> Since 2 obols amount to 1, 33 gr. The natural substances regularly used in the composition of drugs were expressed in the genitive (as is in the *Anonymus Londinensis*) and were also abbreviated: καθ<sup>μ</sup> stood for zinc (καθμίας), κομ<sup>μ</sup> for Arabic gum (κόμμεος), ὕ<sup>δ</sup> for ὕδατος and so forth. Cfr. Andorlini (2006), pp. 150 n. 17, 160, 162, 166; Ricciardetto (2014), p. LIII.

XXXVII, 17: Ὁ μ(ἐν) [οὔν] ἐλλέβορος

In the Corpus Hippocraticum the hellebore<sup>929</sup> is indicated as a purgative for abdominal pain and pains in the loins<sup>930</sup>, but it was mostly prescribed as the best remedy against madness. It was also used by Herophilus (330 – 250 BC)<sup>931</sup>. In accordance with one of the main principles in the medical practice (ὠφελέειν, ἢ μὴ βλάπτειν; *primum non nocere*)<sup>932</sup>, the majority of the drugs and therapeutical treatments used by ancient physicians were not harmful nor could they worsen the state of the ailing patient by means of their direct effects. As for hellebore, one of the strongest drugs administered by the Hippocratic physicians, only the right indication and doses made the difference between a beneficial therapy and a powerful venom — hence the double meaning (drug/poison) of the term φάρμακος in Greek. Command of the therapeutical usage of the hellebore was for the ancients an important step in the acquisition of the medical art<sup>933</sup>. The indicated posology to administer should have posed some problems. It is from a Hippocrates' relative of the 5<sup>th</sup> century BC, the physician and historian Ctesias of Cnidos, that we know that the right mixture, quantity, and measurement in which hellebore had to be administered were all still ignored at his father and grandfather's time; so that the prescription of hellebore entailed a real peril for the patient. Ctesias remarks nevertheless that in his own days all the necessary knowledge concerning hellebore had fortunately been fixed and achieved<sup>934</sup>.

XXXVII, 19: the κ[αμ<μ>]ώνεια<sup>935</sup>

XXXVII, 25 – 26: ὅτε μ(ἐν) ἄνω|καθαίρει, ὅτε δὲ κάτω<sup>936</sup>

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<sup>929</sup> Cfr. infra ch. I § 3. 2. 1 n. 53.

<sup>930</sup> Hippocrates *Coac.* II 16 (304) [V p. 650, 15 – 17 Li.].

<sup>931</sup> Vegetti (1993), p. 73; Nutton (2004), p. 133.

<sup>932</sup> Hippocrates *Epid.* I 2 (5) [II pp. 634, 8 – 636, 1 Li.]: (« In disease, two things must be done: be useful, or do no harm »). Trans. Jouanna (2012h), p. 263. Cfr. also Jones (1984a), p. XVIII; Jouanna (1993), pp. 4 – 5, 55; (2012b), p. 22; (2012h), p. 265; Perilli (2006), p. 38.

<sup>933</sup> Grmek (1997), pp. 116 – 118.

<sup>934</sup> Hippocrates *Introduction* [I p. 69 Li.]; Oribasius *Collectionum medicarum* VIII 8 (182) [CMG VI 1, 1 p. 261, 20 – 25 Raeder]. Cfr. Jouanna (1993), p. 12.

<sup>935</sup> Cfr. infra ch. I § 3. 2. 1.

<sup>936</sup> Cfr. infra ch. I § 3. 2. 5.

XXXVII, 30 – 31: ὁ λευκὸς ἐλλέβορος [ἀ]ποθυμῶμε|νος γυναιξὶ ἀγωγὸ[ς]<sup>937</sup> γί(νεται) τ(ῶν) καταμηγίων διὰ τὴν|\_\_\_αὐτὴν αἰ(τίαν).

It is likely that the relationship between the hellebore and the menstruation could have been drawn from the Hippocratic treatise *Diseases of Women*, where hellebore is often mentioned as an ingredient for the composition of drugs; yet in such a pseudo-Hippocratic treatise the variety which is mentioned is the black, generally mixed either with water or sweet wine.

XXXVII, 32 – 46: the passage was edited, translated into Italian<sup>938</sup>, and commented on by D. Manetti<sup>939</sup>. The same anecdote on Democritus was also recollected by Diogenes Laertius<sup>940</sup>. L. 32 « εἰλυό[με]νοι »<sup>941</sup>; l. 34 « θέμενοι »<sup>942</sup>; l. 41 « φ(αίν), »<sup>943</sup>; l. 42 « κατα[ ± 7 ]αιτοῦτο »<sup>944</sup>.

Apparently against Aristotle<sup>945</sup>, it is on account of the existence of pores in our flesh that the scribe of the *Londiniensis* papyrus judges the tale featured by Democritus plausible. The anecdote is staged during the Thesmophoria festival. The atomist philosopher Democritus of Abdera (5<sup>th</sup> century BC) was about to die from starvation after having no food for four days, but Democritus is believed to have recovered his strength just by smelling the vapors rising from some hot loaves of bread<sup>946</sup> that he ordered. The perusal of the Aristotelian description of the bodies capable or liable of emitting exhalations<sup>947</sup> might lead to the conclusion that even Aristotle could have considered the tale recounted in the *Anonymus* papyrus as possible. According to Aristotle only those bodies

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<sup>937</sup> *scil.* « ἀγωγός τῶν καταμηγίων ».

<sup>938</sup> CPF Democritus [7T], pp. 12 – 13: (« Allora anche coloro che sono prostrati e hanno quasi sfinite le forze, le rivivificano annusando (?) vicino ad un vapore. A questo proposito (Asclepiade) dice che, secondo la tradizione, Democrito, dopo aver digiunato per quattro giorni, era prossimo a morire. Ed egli, chiesto da alcune donne di resistere alcuni giorni (in vita?) affinché esse non fossero escluse dai misteri – capitava infatti che in quel tempo si celebrassero le Tesmoforie – dicono che giurò di non morire e ordinò di portargli dei pani caldi e questi [...]. E Democrito, inspirando l'esalazione prodotta dal pane, rin vigorì le sue forze e [...] »). Cfr. infra ch. VII § 2 n. 655.

<sup>939</sup> Cfr. Manetti (1986), p. 73; CPF Democritus 7T, pp. 11 – 15.

<sup>940</sup> Diogenes Laertius *Vitae philosophorum* IX 43 – 44 [Marcovich (1999a), pp. 660, 8 – 661, 6 ]. Cfr. also Diels (1893a), p. 70.

<sup>941</sup> Manetti (1986), 73 – 74: « εἰλυ[σπώμε]νοι ».

<sup>942</sup> Manetti (1986), 73 – 74: « ὀ[μώμε]νοι ».

<sup>943</sup> Manetti (1986), 73 – 74: « φησιν ».

<sup>944</sup> Diels (1893a), p. 95: « Spirare vaporem contra Democritus ». Manetti (1986), 73 – 74: « ατα[.....].ατοῦτο ».

<sup>945</sup> According to Aristotle, among the Pythagoreans there were some who mistakenly believed that some animals were able to be nourished by smells. *Sens.* V 445a 17 – 18, 27 – 29. At *Resp.* VI 473a 1 – 2 Aristotle argues that respiration cannot be for the sake of nourishment.

<sup>946</sup> Cfr. col. XXXVIII, 19 – 22.

<sup>947</sup> Aristotle *Mete.* IV 9, 387a 22 – 387b 14.

containing humidity can actually emit exhalations, but when acted upon by the action of the heat such humidity does not evaporate separately from the body itself, but rather it seems that there is simply a change of physical state; so that Aristotle drew a distinction between evaporation and exhalation.

XXXVII, 47: « διεξαρκ..[ ±9 ε]ῖπομ(εν)» as regards the verb διεξαρκεῖν (to be enough, to suffice) A. Ricciardetto<sup>948</sup> has signalled that besides the *Anonymus* this verb is solely attested in *De mutatione nominum* and *De specialibus legibus* by Philo of Alexandria.

XXXVII, 51: τὸ κατόρειον<sup>949</sup>

## Column XXXVIII

### Description

A singular trait in col. XXXVIII is, compared with the preceding columns, the great number of abbreviations and omissions; in a way it is as if the scribe were at this point in a hurry and did not pay much attention to his writing. In ll. 3 – 4 the expression « {π(ρoς)} . | Ἀλ(λὰ) » reads as « {π´} [κατατασσονται|τωιζωματι]α<sup>λ</sup> ». The scribe wanted to delete the four former words in the sentence but he forgot to do it with the first (hence the elimination {π(ρoς)}); the next three words are crossed out by a horizontal trace of ink. In the fourth line also the sentence « ὥσπερ εἶπον » figures as an addition on the right margin « \ωσπερ ειπον/ ». The first letter in l. 16 begins with *ekthesis*. The elimination « {ι} αἰ » in l. 20 owes to the fact that the scribe firstly wrote « ἰδι » and transformed the delta into an alpha to get the article « αἰ » but he forgot to cancel the first iota. In l. 38 the ending in the word « μ(έν)<τοι> » is omitted. In l. 52 the substantive « πόροι » is added in the right margin, thereby « ποροι ». The ending of ll. 57 – 59 is lost because at this point the papyrus is mutilated. The word « ἀμαρτήματι » was deciphered by D. Leith. D. Manetti is of the opinion that after l. 59 there had to be one or two more lines. It should be also assumed that the name « Ἀσκληπιάδης » was written in l. 60 because of the verb π(ρoς)χρῶνται, in the plural, and the fact that in P. ‘Asclepiades’ is often mentioned beside ‘Alexander’<sup>950</sup>.

<sup>948</sup> Ricciardetto (2016), p. 175.

<sup>949</sup> Liddell - Scott (2006), p. 882. It was a drug that was made from the extraction of a substance present in the genital organs of certain rodents. Cfr. infra ch. I § 7. 1 n. 146.

<sup>950</sup> Cfr. col. XXXIX, 1.

## Explanation

XXXVIII, 7: Γελοῖος δ' (ἐστὶν) ἀνήρ.<sup>951</sup>

XXXVIII, 10: ὁ τιλμὸς<sup>952</sup>

XXXVIII, 15: τοῦ τε πνεύματος<sup>953</sup> καὶ τῆς θερμότη<το>ς·

XXXVIII, 16: καὶ τ(ῶν) ὁμοίων<sup>954</sup>

XXXVIII, 19: π(ροσ)ανακύπτουσιν.<sup>955</sup>: this is a very rare term.

XXXVIII, 35 – 49: the situation described in the papyrus resembles a passage in the *Ancient Medicine*<sup>956</sup> in which it is recounted that if a man in health cools his body in winter, the more he cools the more he warms up than before when he puts his clothes on or enters his shelter. Contrariwise, if he warms up his body he will feel far colder even dressing in the same clothes or staying in the same room. L. 42 πυκνούσης<sup>957</sup>.

XXXVIII, 41 – 47: according to P. Podolak this could be another point in common with the Methodist school of medicine<sup>958</sup>. L. 47 ἡραιωμένοι<sup>959</sup>.

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<sup>951</sup> Withington (1929), p. 186 pulls out from this argument to argue for the scribe's independent views, in the sense that the opinion of the scribe is at this point barely ascribable to a particular medical school. Cfr. infra ch. I § 2 n. 36.

<sup>952</sup> It appears this is a matter of some strong product, a kind of exfoliant, that was applied to remove either hair or feathers from skin. Liddell - Scott (2006), p. 1792. Beckh - Spät (1896), p. 62: « Kitzel »; Jones (1947), p. 141: « plucking »; Ricciardetto (2014), p. 32; (2016), p. 56 : « épilation ».

<sup>953</sup> Beckh - Spät (1896), p. 62: « Pneuma »; Jones (1947), p. 141: « breath »; Ricciardetto (2014), p. 32; (2016), p. 56: « souffle ».

<sup>954</sup> Diels (1893a), p. 100: « ut enumeratio claudatur ».

<sup>955</sup> Liddell - Scott (1996), p. 1501.

<sup>956</sup> Hippocrates *Vet. med.* XVI [I pp. 608, 6 – 610, 9 Li.].

<sup>957</sup> Beckh - Spät (1896), p. 63: « verdichtet »; Jones (1947), p. 143: « contracts »; Ricciardetto (2014), p. 33; (2016), p. 57: « se contracte ».

<sup>958</sup> Podolak (2010), p. 101 n. 242.

<sup>959</sup> Diels (1893a), p. 84: « Poris laxatis ».

XXXVIII, 50 – 51: εἰκρῖνεταιί τι ἀπὸ τοῦ|\_ἀέρος εἰς ἡμᾶς.<sup>960</sup>: the claim for the existence of passages in the body at a theoretical level (*vias esse latentes*) was in M. Wellmann's eyes an indication for the scribe's Methodist slant<sup>961</sup>.

XXXVIII, 53: ὅπερ δὴ (ἐστὶ) γελοῖον.<sup>962</sup>

The meaning of the passage is not easy to assess. On the one hand the adjective γελοῖον seems to indicate the refusal of the existence of pores but later below, in col. XXXIX, 30 – 32, the scribe affirms in fact that one must take the existence of such pores for granted (seemingly in agreement with the extensive argument he has been expounding heretofore). The lacunae in between the two references do not permit us to make definitely clear whether the author of the *Londiniensis* is in fact giving his own opinion.

## Column XXXIX

### Description

The last column in the papyrus presents a vertical fracture at the level of the first letter in each line in respect to the rest of the column, which is why it leans a bit towards the right. The last κόλλημα of *Anon. Lond.* is visibly smaller than the rest, in fact the juncture band by which it is united to the other is inside the column. In l. 21 the verb « μελεξ{ι}τῶι »<sup>963</sup> was more accurately deciphered as « μεμηχανημένης » by D. Leith. In l. 29 the resolution of the abbreviation for « δυκνούμεν(ης) » (i.e. δυκνουμέν') only occurs — by mistake — on this concrete occasion, as for that form one should expect « δυκνούμεν(ων) » instead. The restitution in l. 24 was made by H. Diels on the grounds of some passages in *History of Animals*<sup>964</sup>. In l. 28 after the word « μερῶν », which is in the interlinear space, the scribe canceled the word « cωματ' », hence P. reads « \μερῶν/ [cωματ'] ». Doubtlessly the most evident trait in col. XXXIX is the forked *paragraphos* at the end

<sup>960</sup> A very similar argument can be found at Pseudo - Aristotle *Pr.* I 3, 859a 9 – 21.

<sup>961</sup> Wellmann (1922), pp. 414 – 415 n. 2.

<sup>962</sup> Withington (1929), p. 187.

<sup>963</sup> Ricciardetto (2014), p. 33.

<sup>964</sup> Aristotle *HA* II 1, 498b 8 – 9; 499a 14 – 16.

of the writing. This factor and the reduced dimension of the last κόλλημα, in a manner suggesting that it was trimmed, apparently point to the scribe's full awareness of concluding his writing.

### Explanation

XXXIX, 4: ἐπειδήπερ κόμμα διὰ κόματος ο[ὐ λ]έγουσι διελεθῆναι: according to an anonymous scholiast on Galen's *De elementis ex Hippocratis sententia*<sup>965</sup> the statement in the *Anon. Lond.* owes to Asclepiades<sup>966</sup>.

XXXIX, 5: Καὶ ἄλλως φ(αcίν)·

P. Podolak takes this expression as an evident sign for his assumption that the *Anonymus* is a compilation<sup>967</sup>. Yet, as has been said, the author of *Anon. Lond.* is certainly something more than a doxographer or compiler, and in many places his personal intervention is recognisable. The final part of the text, examined in its general characteristics, shows fewer traces that can be described as an appropriation of the text by the scribe himself. It would seem that in this final part the author loosened control over his own material, limiting himself to collecting it, possibly with a view to re-elaborating at a later date with the usual deletions, marginal additions or other modifications. This suggests that the material in this part was transcribed more passively and thus was more faithful to its source. In short, the interruption halfway down l. 32<sup>968</sup> seems to be prepared by a sort of gradual fading of commitment<sup>969</sup>.

XXXIX, 10 – 15: this passage was addressed by D. Leith<sup>970</sup> in his contribution devoted to enquiring on Asclepiades as a void theorist.

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<sup>965</sup> Cfr. Moraux (1977), p. 50.

<sup>966</sup> Leith (2012), p. 178 n. 36.

<sup>967</sup> Podolak (2010), p. 101.

<sup>968</sup> Manetti (1990), p. 221; (1994), p. 56.

<sup>969</sup> These are some of the conclusions which D. Manetti reaches after having argued for the incompleteness of the *Londiniensis*. Cfr. Manetti (2013), p. 177.

<sup>970</sup> Leith (2012), pp. 174 – 175.

*The Two Additional Notes on the Recto of the Papyrus*

As regards the two writings on the verso of the papyrus (more particularly, in the middle of the papyrus scroll), the first addition is a supplement to ll. 46 – 47 in col. XXV<sup>971</sup> and was written behind cols. XXIII – XXIV. The second addition supplements ll. 19 – 21 in col. XXIV and was written behind cols. XXII – XXIII<sup>972</sup>. Both additions were written on the same κόλλημα where the medical prescription<sup>973</sup> was penned.

In his former edition of the *Anonymus*, and somewhat coinciding with Manetti's readings, A. Ricciardetto deciphered the last words in both additions as « τούτου ἐχό(μενα) »<sup>974</sup> and « τ[...]χεχθεϊϛ() »<sup>975</sup> respectively. On the 3<sup>rd</sup> December 2015 A. Ricciardetto told me with enthusiasm about the new readings he found during his last autopsical exam of the papyrus in London. He could get make a much better decipherment of the last word in the second addition, thus, he could make « π[ροε]νεχθεϊϛ(α) »<sup>976</sup> from the initial « τ[...]χεχθεϊϛ() » which unmistakably led him to reveal that the scribe had given a clear deictic, referential, or ostensive meaning to the word « προενεχθεϊϛα » in col. XXIV, 20. This new reading cast much more light upon the addition, for now the sentence took on the following sense: « See inside (*scil.* of the papyrus) 'προενεχθεϊϛα' ». After his realization Ricciardetto thought that perhaps the same could be applied to the first addition, and it was in this way that, analogously, he changed the original « τούτου ἐχό(μενα) » for a more accurate « τούτ(ων) ο(ὔτω)ς ἐχό(ντων) »<sup>977</sup> which was an unmistakable reference to « Τούτ(ων) οὔτω ἐχόντ(ων) » in col. XXV, 46 – 47<sup>978</sup>.

From a lexical point of view, J. Jouanna has signalled that the verb διαχωρέω<sup>979</sup> — and its nominal form (διαχώρημα) — is typical of the *Epidemics* and kindred books in the Hippocratic collection which represent, in total, solely 30 per cent of the Corpus Hippocraticum. In addition to this fact, it turns out that in the classical period the term is only used in the Hippocratic writings<sup>980</sup>.

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<sup>971</sup> D. Manetti affirms that the argument commences in col. XXV, 31. Manetti (1994), p. 52.

<sup>972</sup> Ricciardetto (2016) pp. 185 – 186. The second major addition can be found in the translation into German but not in the English translation.

<sup>973</sup> Ricciardetto (2016), p. CXIX n. 388.

<sup>974</sup> Manetti (2011a), p. 95: « τούτο(υ) ἐχό(μενα) »; Ricciardetto (2014), p. 38: « τούτου ἐχό(μενα) ».

<sup>975</sup> Manetti (2011a), p. 96: « τ[...]χεχθεϊϛ() »; Ricciardetto (2014), p. 38: « τ[...]χεχθεϊϛ() ».

<sup>976</sup> Ricciardetto (2016), p. 66.

<sup>977</sup> Ricciardetto (2016), p. 65.

<sup>978</sup> In the papyrus the demonstrative « Τούτ(ων) » is chopped in two by the interlinear addition \[δ\]τι τροφή (ἐστιν) ἐν τοῖς ἐντέροις ἔξω βλέπει/. Cfr. critical apparatus to l. 46 in Manetti (2011a), p. 57.

<sup>979</sup> Cfr. add I ll. 4 – 5.

<sup>980</sup> Jouanna (1989), p. 68.

### III Critical Chapters

#### *The Opisthographic Writings of the Anonymus Londiniensis Papyrus*

##### 1. Introduction

The *Anonymus Londiniensis* is a Greek literary papyrus<sup>1</sup> of medical content written at a certain point during the last quarter of the first century CE<sup>2</sup>. The 39 preserved columns in the papyrus, containing an average of 49 lines (c. 1920 lines in total), turn the *Anonymus Londiniensis* into the longest papyrus of its kind to come down to us. The contents in the papyrus have been generally divided in three different sections<sup>3</sup>. The first one<sup>4</sup>, nosological, consists of a list of definitions of medical concepts about disease. The second section<sup>5</sup>, etiological, recollects the opinions on the causation of disease held by 20 ancient authors<sup>6</sup>, seven of them unattested elsewhere<sup>7</sup>. The whole of the etiological theories reported in the second section neatly fall into two major criteria: one finds first expounded the opinions attributing the disease to the residues of the

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<sup>1</sup> *P. Brit. Lond.* inv. 137 = MP<sup>3</sup> 2339 or LDAB 3964.

<sup>2</sup> Manetti (1994), p. 57. From a paleographical point of view, the way the scribe of *Anon. Lond.* writes the letter alpha tallies with the typology 16 $\alpha$  established for documentary papyri. Cfr. Harrauer (2010), p. 146. Albeit this sole hint does not unmistakably mean that the *Londiniensis* papyrus was written at some point in the third quarter of the first century CE, this chronology has been confirmed by way of other comparative arguments. Dorandi (2016), p. 199. Thus, it has been adduced that the “main hand” on the recto of *Anon. Lond.* shares many points in common either with the first (m<sup>1</sup>) or the fourth hand (m<sup>4</sup>) distinguished in *P. Lit. Lond.* 108, *Brit.Lib.* inv. 131<sup>v</sup> = MP<sup>3</sup> 163 or LDAB 391; that is to say, the papyrus of the later 1<sup>st</sup> earlier 2<sup>nd</sup> century CE which transmits Aristotle’s *Ἀθηναίων πολιτεία*. Cfr. Manetti (1994), p. 48; Bastianini (1995), pp. 32 – 33; Cavallo (2008), pp. 57 – 58; Del Corso (2008), p. 17; Ricciardetto (2016), p. CXXVIII.

<sup>3</sup> Nutton (1996), pp. 718 – 719; *CPF* Aristoteles 37T, p. 347. For a detailed review of these three sections see Ricciardetto (2016), pp. LI – CXIV.

<sup>4</sup> Cols. I, 1 – IV, 17. Ricciardetto (2016), pp. LI – LVIII. The first four columns have been studied separately by D. Manetti, who has also recently translated them into Italian; the same applies to T. Dorandi. Cfr. Manetti (2016a), pp. 525 – 527; Dorandi (2016), pp. 199 – 205.

<sup>5</sup> Cols. IV, 18 – XXI, 8? Cfr. Ricciardetto (2016), pp. LVIII – XCVIII.

<sup>6</sup> All the authors mentioned in the second section are contemporaries to Aristotle or lived before the 4<sup>th</sup> century BC. Cfr. Ricciardetto (2014), p. XXXII; (2016), p. LIX. For an almost coeval medical view (5<sup>th</sup> century BC) on the concept of ‘cause’ see Hippocrates *Vet. med.* XIX [I pp. 616, 17 – 618, 1 Li.]. Cfr. supra *Comment.* on col. IV, 18 – 19.

<sup>7</sup> Abas?, Alcamenes of Abidos, Heracleodorus?, Niny? the Egyptian, Timotheus of Metapontum, Thrasymachus of Sardis, and Phasitas of Tenedos. Cfr. supra *Comment.* on cols. VIII, 35 – IX, 4; VII, 40 – VIII, 10; IX, 5 – 19; IX, 37 – X, ?; VIII, 11 – 34; XI, 42 – XII, 8; XII, 36 – XIII, 9 respectively.

food (περισσώματα)<sup>8</sup>; and, on the other hand, starting by a long paraphrase of the *Timaeus*<sup>9</sup>, the opinions of the authors who put the causation of disease down to the constitutive elements in the body (στοιχεῖα)<sup>10</sup>. In the third section<sup>11</sup>, physiological, the scribe addresses some issues concerning the distribution of the air and the nutrients in the body, this latter giving place to a discussion on the theory of the emanations.

Apart from this on the verso of the papyrus there are three more writings, which turns the *Anonymus Londiniensis* into an opisthographic papyrus. This feature alone does not make it unique; for, although scarce, other opisthographic papyri are recognised. What makes the difference is perhaps the fact that the different kinds of writing on the verso of the *Londiniensis* belong to three different hands, which is certainly much more infrequent if compared, overall, to what seems to be habitual procedure in later copies on codex. However it might be, the first of such opisthographic writings consists of two notes that the scribe of the *Londiniensis* wrote on the verso in his aim to supplement the argument he was developing on the recto.

As to the other two aforementioned types of writing, the verso of the *Londiniensis* papyrus has preserved also the blurred and tiny traces of some words in a prescription. The nature of the contents transmitted on the recto of the papyrus fits certainly well with a writing of this genre, as a great number of medical papyri are featured with prescriptions. The literary papyri of medical content reveal an enormous variety of medical prescriptions, as in almost 350 of them some kind of prescription for a wide range of affections is transmitted<sup>12</sup>. This would do as sufficient argument when the time comes to explain the reason for the prescription on the verso of the *Londiniensis* papyrus. Yet, as we shall show, the explanation could be attributed to other possible causes. In the third place, on the verso of the *Anon. Lond.* there is also the rescript of an edict of the emperor Marcus Antonius. In the rescript are collected the grants bestowed to a body of (crowned) winners

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<sup>8</sup> Cols. IV, 20 – XIV, 11.

<sup>9</sup> Cols. XIV, 12 – XVIII, 8. The contents in these columns are addressed below in ch. V.

<sup>10</sup> Cols. XIV, 12 – XXI, 8?

<sup>11</sup> Cols. XXI, 18 – XXXIX, 32. Cfr. Ricciardetto (2016), pp. XCVIII – CXIV. In the last section of the *Anon. Lond.*, the body and its functions are studied by means of a juxtaposition of Herophilus's, Erasistratus's, Asclepiades', and Alexander Philalethes' views. Cfr. Nutton (1990), p. 247. As J. Jouanna and A. Ricciardetto have remarked, if compared to the second, the third section brings about a significant change in the model of reference. The scribe introduces the arguments of physicians much more posterior to all the authors reviewed theretofore, and contends their ideas with a higher level of personal involvement. Jouanna (2016), p. 9; Ricciardetto (2016), p. XCIX.

<sup>12</sup> Marganne (2002), p. 374. A useful online resource concerning this subject can be consulted at [web.philo.ulg.ac.be/cedopal/pharmacopoea-aegyptia-et-graeco-aegyptia/](http://web.philo.ulg.ac.be/cedopal/pharmacopoea-aegyptia-et-graeco-aegyptia/) (30. 5. 2016).

in the frame of some kind of sacred games. This third opisthographic writing opens a window to some little-known aspects related to the medical world in the Ephesus of the first centuries CE.

This first chapter is therefore intended to survey the *Londiniensis* from a rear view and give a summary report of the different hypotheses adduced to explain the reasons for these three opisthographic writings. By means of arguments of papyrological, epigraphical, historical and comparative nature our aim is to contribute to deepen in which way they might be connected with “the main text” on the recto of the Londoner papyrus, for in unveiling the links there might be between the extant writings in the papyrus a greater appreciation of this outstanding document will be gained.

## 2. *The Two Additional Notes on the Verso of the Anonymus Londiniensis Papyrus*

In the first place, then, it is a matter of two additional notes supplementing an argument developed on the recto. Their respective translations have been given above, and in the commentary we have also ferreted out some details in both additions<sup>13</sup>. Since their link with the writing on the recto of the papyrus is plain there is no need of further insight in this respect: with no room for a doubt both notes were penned by the scribe of the writing on the recto.

For our present interest what really matters is that the presence of such additions has been taken in support of the thesis whereby the *Anon. Lond.* is believed to be a draft, a scholar exercise for strict personal use, or a hypomnematic writing<sup>14</sup>. Regardless of the subtle nuances in the meaning that each one of these considerations entails, they all point to a certain sense of incompleteness, a sketchy nature that can be actually backed by dint of other kind of arguments beside. Thus, for instance, apart from the two opisthographic additions, the great number of corrections and marginal notes in the papyrus<sup>15</sup> are also evidencing its incompleteness and provisory style<sup>16</sup>. By the same token, given that the expression « ὡς προϊόντος ἐπιδείξομ(ε)ν τοῦ λό(γ)ου. » in col. VII, 37 — by which the scribe intends to show that the Hippocratic etiology does

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<sup>13</sup> Cfr. *supra Comment.* on Additions I and II.

<sup>14</sup> I.e. “not conceived of as to be edited / published”. Cfr. Ricciardetto (2016), pp. 70, 179; Dorandi (2016), p. 199.

<sup>15</sup> Cfr. *supra Comment.* on cols. I, 16 – 39; IV, 26; V 28 – 29; VI 34 – 35; XVIII, 15; XIX, 35 – 36; XXVII, 30; XXXI, 43 etc.

<sup>16</sup> Manetti (1990), p. 221; (1996a), p. 305; (2013), p. 159.

not work in many cases — remains as an unfulfilled promise, it has prompted D. Manetti to reaffirm that such unkept intendment gives another clue for taking the *Londiniensis* as a hypomnematic writing. On the same argument, the majority of studies on the *Anonymus* stress the abrupt way in which the papyrus comes to an end<sup>17</sup> as an evidence of its being a draft. D. Manetti is convinced of the incompleteness of the papyrus<sup>18</sup>. The Italian philologist adduces in this sense two kinds of reasons, technical and contextual. Manetti affirms that the presence of a *diple obelismene* beneath the last line in col. XXXIX, 32 is a trait that is never used to indicate the end of a book, and secondly, in Manetti's opinion the last sentence in the *Londiniensis* papyrus is only resuming the last argument presented by the scribe, but not the whole text<sup>19</sup>.

Concomitantly and in relation to these details, the two additions on the verso of the *Anonymus Londiniensis* doubtlessly reinforce the view of the papyrus as 'autographic writing'. The attribution belongs again to D. Manetti<sup>20</sup> and constitutes one of the main contributions to the understanding of the essence of the *Londiniensis* papyrus<sup>21</sup>. By 'autograph' it is namely meant that

<sup>17</sup> Col. XXXIX, 29 – 32: « φ[ανερ]ὸν|30 τοιγ(άρ)τοι ἐκ τούτ(ων) καὶ τ(ῶν) τούτοις παραπλη|ρίων ὡς λόγοι θεωρητοὶ πόροι (εἰεῖν) ἐν ἡμῖν|—καὶ παντὶ ζῴῳ. || », (« Therefore it is clear from this and such like evidence that there are passages apprehended by reason in us and in every animal »). Trans. Jones (1947), p. 147.

<sup>18</sup> Cfr. Manetti (1986), pp. 58 – 59; (1990), pp. 219 – 220; (1994), pp. 47 – 58; (1996a), p. 298; (2013), pp. 159, 161, 177; Podolak (2010), p. 101. The majority of studies on the *Anon. Lond.* tends to stress the abrupt way with which the papyrus comes to an end as evidence of its incompleteness (i.e. the writing in the papyrus is a draft). Cfr. Manetti (1986), p. 59 n. 10; Dorandi (2016), p. 199. But the text on the recto of the *Anonymus* could not finish so abruptly as it could seem. Ricciardetto (2014), p. XXVII. M. Asper takes the content of the last three lines in the papyrus as the expression of the conviction by the author that the hypothesis he has been developing (i.e. we should assume the existence of pores in the body surface) is fully proved and has been argued enough. Asper (2007), p. 297. In considering Asper's point, in the last sentence claiming for the existence of the pores we could in a way see also assumed the existence of constant emanations (being this the argument addressed in cols. XXX, 40 – XXXIV, 6). To such demonstration, it should be added that in cols. XXXVI, 43 – XXXVIII, 51 the scribe puts his effort into evincing that since such emanations exist, then all perceptible objects (also human body) are likewise capable to experience some kind of penetration (εἰσπρίε). Thereby, the last three lines of the writing could be summing up a good part of the third section of *Anon. Lond.* In *Phdr.* 267d Plato makes clear that the conclusion of a speech should remind the audience of the points of the subject that was discussed. Jouanna (2012c), p. 46. Contrariwise, on this point D. Manetti is convinced of the incompleteness of the papyrus. Manetti (1994), p. 52. Manetti brings into discussion some good reasons for that. For instance, in col. VII, 37 the scribe utterly expresses his aim of dealing with a topic further in the exposition, while such commitment is not fulfilled. Manetti (1990), p. 221; (1994), p. 56 n. 36; (1996a), p. 305. Moreover, the presence of several corrections, interlinear, and marginal additions, but above all, the marginal note « \ἔξω βλέπε/ » in col. XXV, 47 seem to corroborate Manetti's point of view. Cfr. supra *Comment.* on « *The Two Additional Notes on the Recto of the Papyrus* ». This notwithstanding, in the last sentence of the *Anonymus* it could be also understood "the existence of constant emanations", therefore, col. XXXIX, 29 – 32 could well sum up the whole argument the scribe undertook in col. XXX, 40. The length of the papyrus (336,5 cm) matches with the normal for a complete scroll. Cfr. Manetti (1994), p. 56; Ricciardetto (2016), p. 179. Thereby, that the contents expounded along the *Anonymus* are disordered and incomplete is something debatable or, at least, a point that should not be taken for granted.

<sup>19</sup> Manetti (2013), p. 161.

<sup>20</sup> Manetti (1990), pp. 219 – 220; (1994), p. 50; (2013), p. 177. Cfr. also *CPF* Plato 129T, p. 550; Thivel (2001), pp. 197 – 198; Marganne (2010), p. 58; Podolak (2010), p. 100; Ricciardetto (2014), pp. XXVI – XXVII.

<sup>21</sup> D. Manetti's claim is as follows: « sulla valutazione [...] che il papiro rappresenta [...] come sembra più probabile un testo autografo, incompiuto, ma composto con un scopo preciso legato alla prassi scolastica ». *CPF* Aristoteles 37T, p. 347.

the scribe and the author of the *Anon. Lond.* were actually one and the same person<sup>22</sup>; in view of this, furthermore, it is implicit that the contents preserved on the recto of the *Londiniensis* papyrus cannot merely amount to a copy<sup>23</sup>. Autographic literary papyri are rather rare phenomena, since among the thousands of papyri catalogued up to-day only 20 can be classed as autographs<sup>24</sup>.

In turn, in addition to the several proves of emendations by the scribe, M. Asper acknowledges the autographic character of the *Londiniensis* on the grounds of a special series of categories<sup>25</sup> that he displays in order to tackle this concrete concern. Whether Asper coined these notions on purpose to be strictly applied to the *Londiniensis* or they are a matter of a wider heuristic paradigm in his views, in this particular Asper's conceptual frame is in any case an input that certainly helps to clarify the issue. Moreover, to our mind the 'Auktoriales Ich' leading to such an autographic interpretation of the papyrus emerges in many other passages than those strictly signalled<sup>26</sup> by Asper. In this way, the fragment in the *Anon. Lond.* introduced by « Ὁς δὲ|αὐτὸς Ἱπποκράτης λέγει... »<sup>27</sup> manifests to some extent an autographical nature. Likewise, in col. XXIV, 50 – 54 the scribe of *Anon. Lond.* could be giving his own opinion about the way the food is assimilated, but the papyrus is at that point so damaged that it is admittedly difficult to give a concluding statement in this sense. Even perhaps more noteworthy, another passage in the *Londiniensis* manifesting traces of autography is to be found in col. XXVIII, 15 – 43<sup>28</sup> whereby,

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<sup>22</sup> Manetti (2016a), p. 525 n. 2.

<sup>23</sup> Our claim is thus wholly incompatible with I. Andorlini's one: « rispetto alla copia dell'opera medica sul *recto* ». Andorlini (2010), p. 43. From col. XIII, 21 – 40 it is evinced that the scribe of *Anon. Lond.* did not merely bound himself to copy the work(s) he was consulting, rather he had no qualms about introducing his own opinions on some particular subjects. In taking this fragment into account, D. Manetti has observed that, though the majority of key terms featuring this fragment are specific of this passage, many of them are later extensively used in the physiological section. The explanation that the Italian philologist gives to this phenomenon is that the scribe re-elaborated the text *in scribendo*; so that the written materials the scribe was using were considered and manipulated to a different extent. Cfr. Manetti (2013), pp. 167 – 169.

<sup>24</sup> Marganne (2004), p. 90; Dorandi (2007), p. 48.

<sup>25</sup> In contrast with a 'Integrative Wir' or a 'Anthropologischen Wir', M. Asper sets out a 'Auktoriales Ich' which he uses to identify and to highlight those passages (e.g. cols. V, 17; XXIII, 26) where, to his mind, the scribe of the *Londiniensis* papyrus openly manifests as an author and gives his own personal opinion. Asper (2007), pp. 299 – 300. Cfr. also Debru (1999), pp. 458 – 460; and particularly Manetti (2013), pp. 159, 162, 169 – 171.

<sup>26</sup> Cols. I, 4 – 5; II, 19, 31; VI, 43 – 44; VII, 38 – 40; XI, 33 – 34; XXIV, 27 – 35; XXV, 18, 24 – 31; XXVI, 16 – 35, 49 – 51?; XXVIII, 9; XXX, 37; XXXI, 47 – 48; XXXIV, 42; XXXIX, 23? Cfr. also Ricciardetto (2012), p. 44; (2014), pp. XVI, XXIV.

<sup>27</sup> It comprises cols. VI, 43 – VII, 37 which ensue from the exposition of Hippocrates' views on the causation of disease according to Aristotle in cols. V, 35 – VI, 43. Cfr. Van der Eijk (2005), p. 264 n. 22.

<sup>28</sup> Cfr. von Staden (1989), p. 265.

against the physician Herophilus, the scribe claims — by setting forth three different reasons — that the absorption of the nourishment is greater in the veins than in the arteries<sup>29</sup>.

Having said this, there still remains another important question in relation to the two additions (and consequently also to the text on the recto); this being namely to do with giving a reliable picture of their author. According to the actual state of affairs it is likely that the identity of the author will remain always unknown. But, in view of the nature of the contents he expounds on the recto, the *Anonymus Londiniensis* could be either the work of a learned Egyptian, maybe a teacher<sup>30</sup> (of medicine), or a cultivated person who for the sake of his own education studied medical issues<sup>31</sup>. Maybe the writing on the *Londiniensis* papyrus is by an advanced student of

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<sup>29</sup> Jouanna (2016), pp. 10 – 11.

<sup>30</sup> In this sense, the ordinals (Α', Β', Γ') that head each one of the points adduced by the scribe while arguing for the primacy of the veins as regards the distribution of the nourishment in the body (cols. XXVII – XXVIII) could reflect the typical *modus operandi* of a teacher who was used to lecture or to give speeches in public. Diels (1893b), p. 414.

<sup>31</sup> Cfr. infra ch. II § 2. Pliny the Elder, for instance, was a non practitioner of the Imperial period who entertained in reading medical literature. From the passage in *Meditations* II 2, 18 – 20 [Dalfen (1979), p. 10] by Marcus Aurelius, one might infer, likewise, that Marcus Aurelius knew about the Erasistratean theory of the τριπλοκία: « ἀλλ' ὡς ἤδη ἀποθνήσκων τῶν μὲν σαρκίων καταφρόνησον· λυθρος καὶ ὀστάρια καὶ κροκύφαντος ἐκ νεύρων, φλεβίων, ἀρτηριῶν [πλεγμάτιον]. », (« But as one already dying disdain the flesh: it is naught but gore and bones and a network compact of nerves and veins and arteries. »). Trans. Haines (1953), p. 26. Cfr. supra *Comment.* on col. XXI; Nutton (2004), p. 385 n. 42. The same case applies to *The Learned Banqueters* by Athenaeus of Naucratis, who deals with medical topics in 105 occasions, or to Aulus Gellius in *The Attic Nights*. Cfr. Athenaeus of Naucratis *The Learned Banqueters* I, 2, 32; II, 46 b – f; III, 82 f – 83 a; VII 276 d; VIII, 355 a – b; and Aulus Gellius *The Attic Nights* XVIII 10 alongside col. XIX, 3 – 17 in the *Anon. Lond.* Cfr. supra *Comment.* on col. XIX, 3 – 17; Corvisier (2000), pp. 493, 498; Wilkins (2005), pp. 125, 132.

medicine, an erudite physician<sup>32</sup> or a doctor cultivated in philosophy<sup>33</sup>. Probably the latter option is the best bet. It seems reasonable that the author of *Anon. Lond.* was a doctor — or at least someone who regarded himself as a doctor<sup>34</sup> — somewhat bent on a certain Empiricism<sup>35</sup>, and furthermore, fully conscious of the boundaries and the object of his discipline. But above all, the scribe of the *Londiniensis* papyrus shows really *sui generis* in his views, being punctilious to the extreme as he

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<sup>32</sup> The traces of a medical prescription on the verso of the *Anonymus* papyrus led H. Diels to suppose that the *Londiniensis* could have been part of the library of some physician. Diels (1893b), p. 412. The cursive ductus in the *Anon. Lond.* belongs to someone evidently skillful at writing; the contents in the papyrus seem, in addition, the work of a *vir doctus*, of someone who reflects while is writing and who changes his mind from time to time, and no doubt, who is familiar with a wide range of philosophical and medical tenets. Manetti (1986), p. 59; (2011a), p. xii; Ricciardetto (2013), p. 82. However, H. Diels found several reasons, as W. H. S. Jones later, to disregard the value of the author of the writing. Thus, from the expression « *librarium non artificem fuisse libros mercede scribere consuetum, sed hominem mediocriter doctum, qui exemplar sive situ sive tritu corruptum in usu privatum describeret* », it follows that Diels deemed the author of *Anon. Lond.* rather as a mediocre student. Diels (1893a), p. X. To this criticism Diels added two further arguments against the scribe's level of literacy: the misuse of the term ἐντρέχεια in cols. I, 24 (bis) and II, 9; and the supposed blunder the scribe makes in confusing the 'head' with the 'stomach' in col. VIII, 15: « *caput et ventrem confundere* ». Diels (1893a), p. 90; (1893b), p. 411; (1893a), p. XV respectively. Diels objected also to the use of the term γαστήρ in col. XVI, 3, for, in his opinion, had the scribe of the *Londiniensis* been a doctor then he would have used the term κοιλία: « *Ipse scriptor medicus utitur vocabulo κοιλία* ». Diels (1893a), p. 86.

<sup>33</sup> According to the standard curriculum of the time the author of *Anon. Lond.* might have been acquainted with a wide variety of subjects, from literature, maths, and rhetoric to philosophy. Cfr. Drabkin (1944), p. 337. Arabic textual evidence neither supports nor contradicts the suggestion that medical students of Imperial period were required to study philosophy. Cfr. Roueché (1999), pp. 154, 156 – 158. Galen's outstanding education, not applicable to the rest of his contemporary physicians, was absolutely imbued by the study of philosophy. In *That the Best Doctor is also a Philosopher* Galen is committed to nail down the convenience of philosophical knowledge in the practice of medicine. From the perusal of this brief writing, one can draw almost two different conclusions: the first is that to Galen philosophy is namely bound and reduced to Logic, a discipline that plays an ancillary role in regard to medicine. Jouanna (2012i), p. 333. The second is that Galen's main interest in the principles of Logic lies in its helpfulness so far as the method of division is concerned. The procedure based on διαίρεσις is believed to play a primordial role when it comes to the classification and the distinction of different diseases in accordance with their respective genres and species. Galen believes that once an illness has been formally identified and defined (*scil.* known) by means of logical principles, the physician is then in a better position, or more unlikely to fail, to prescribe right cures and remedies. Galen *Quod opt. med.* [I pp. 53, 1 – 63, 4 K.]. In the eyes of Galen, thereby, philosophical knowledge is necessary for the right practice of medical art. Considering the several references to philosophers and to philosophical doctrines in the *Londiniensis* papyrus, that could have been the case of its author.

<sup>34</sup> Col. XXI, 15 – 17: « Καὶ περὶ μ(έν) ψυχῆς[ἄλλοι]ς ἀν[α]βάλλομα[ι] ἡμῖν δὲ] τοῦ σώμα[τος] μελεητέον, ἐπεὶ [μάλιτα] περὶ τοῦτο[υ] δάξει ἢ ἰατρικ[ή] », (« I leave the discussion of the soul to others; for we must pay attention to the body, since medicine is chiefly concerned herewith »). Trans. Jones (1947), p. 83. Col. XXI, 15 – 17 is in fact the passage on which J. Jouanna focuses when he claims that: « la raison pour laquelle il refuse de se livrer à l'étude de l'âme pour se consacrer à l'étude du corps [...] nous livre un renseignement décisif sur l'auteur [...] Cela implique donc que l'auteur n'est pas un philosophe, mais un médecin, bien qu'il n'ignore pas la philosophie ». Jouanna (2016), pp. 8 – 9.

<sup>35</sup> Col. XXI, 21 – 26: « καθὼς καὶ Ἡρόφιλος ἐπισημειοῦται λέγων ο(ὔτως)· Ἀεγέσθω δὲ τὰ φαινόμενα|πρῶτα, καὶ εἰ μὴ (ἐστὶ) πρῶτα'. Ὁ μ(έν) γὰρ Ἐρασί|ετρατος καὶ πόρρω τοῦ ἰατρικοῦ κανό|νος προῆλθε· ὑπέλαβεν γ(ὰρ) τὰ πρῶτα| σώματα λόγοι θεωρητὰ (εἶναι) », (« following the terminology of Herophilus 'Let those things be called primary that appear to be primary, even though they are not really so'. For Erasistratus went far beyond the medical rule when he supposed that the primary bodies are observed by reason »). Trans. Jones (1947), p. 83. Cfr. *supra Comment.* on col. XXI, 21 – 23. It is apparent in this quotation — featured with the verb παρατητέον in l. 9 (a hapax in the papyrus) — that the scribe is against the “deviations” of an excessive rationalism. Jouanna (2016), pp. 9 – 10. In addition to this remark, in col. XXVII, 21 – 22 the scribe of *Anon. Lond.* wrote: « [Καὶ] τὰ[ῦ]τα δῆλα ἐπὶ τ(ῶν) [τ]ελευτ(ῶν) », (« as is shown when people are dead ») [Trans. Jones (1947), p. 107], which seemingly drops the subtlest of hints that the scribe could have examined corpses. We shall not enter here into discussing about whether autopsies were practised in Imperial period.

takes issue with almost all the authorities and the physicians he quotes, from Hippocrates to Alexander Philalethes<sup>36</sup>; manifesting with it a certain level of doctrinal independence.

### 3. *The Medical Prescription on the Verso of the Anonymus Londiniensis Papyrus*

It should be borne in mind in the first place the partial nature of the pharmacopoeia in the whole of the medical art in Antiquity. Although in the past it was conceived as constituted of multiple and varied parts<sup>37</sup>, what is known as *θεραπεία* embraced the appliance of the procedures, the skills, the treatments, the techniques, the medicines, and the bedside manners suiting whatever disease when it was clearly manifested in the body of the bedridden; that is to say, once the body's natural balance was so harmfully disrupted that any kind of hygienic habit could overcome the disease undergone by the patient. In few words, the *θεραπεία* was concerned to modify a faulty condition and had to do with the treatment of contracted diseases<sup>38</sup>.

#### 3. 1 *Description*

The medical prescription in the *Londiniensis* papyrus was written in the upper part on the back of cols. XXI – XXII<sup>39</sup> on the recto by a hand which was neither that of the scribe of the

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<sup>36</sup> Cfr. Withington (1929), p. 186. As we will show in ch. V, if not the only, Plato is among the few personages in the *Anon. Lond.* who is not the object of any criticism. Thence, by way of contrast, the scribe writes that Hippocrates 'does not think in a sound way' (col. VII, 23 – 24: « οὐχ ὑγιῶ[ς] προϊούμενος τὴν ἐπιχείρησιν »), or that Herophilus 'has not expounded all this properly' (col. XXIX, 12 – 13: « Οὐκ ὀρθῶς δὲ ὁ προκει|μενος ἀνὴρ ἐποίησεν »), or even that the followers of Erasistratus 'show themselves to be poor scientists' (col. XXVII, 25: « μοχθηροὶ φαίνονται καὶ κ(ατὰ) τοῦτο οἱ [Ἐ]ρα[σ]ιστ[ρ]α(ἀ)πειοῖ »). The scribe considers indeed the explanations by Erasistratus and his followers as 'too simple (or feeble)' (col. XXVI, 49: « Νωθρὸν δ' (ἐστὶ) λίαν τοῦτο »). The same expression is used against Alexander Philalethes in col. XXXVI, 3 (which Jones translated as 'stupid reasoning'). Cfr. Jones (1947), p. 133. In another occasion, an argument ascribed to the Empirics is reviewed as 'senseless and flattering' (col. XXXI, 46 – 47: « μῶρος τε [καὶ ἀπα]τητικὸς »); not to say that Asclepiades (and his disciple Alexander) are pictured as a 'ridiculous personage' (col. XXXVIII, 7: « Γελοῖος δ' (ἐστὶν) ἀνὴρ »).

<sup>37</sup> At the Praef. I 1 – 11 [Darembert (1891), p. 2, 20 – 24] to the *De medicina* Celsus states that at the time of Diocles, Praxagoras, Chrysippus, Herophilus, and Erasistratus medicine was conceived of as divided into Dietetics (*διατητική, victu*), Therapeutics — or Pharmacy (*Φαρμακευτική, medicamentis*), and Surgery (*Χειρουργία, manu mederetur*). Steckerl (1958), p. 46; Grmek (1993), p. VII; Wilkins (2005), p. 121. This systematic division is to be found slightly modified according to the particular idiosyncrasy of each ancient medical sect. Thus, for instance, the Empirics divided the medical art into Semiotics, Therapeutics, and Hygiene. Cfr. Vegetti (1994), p. 1699. As regards Herophilus, he distinguished a part concerned with health, another with disease, and finally a neutral one. The physician Erasistratus conceived medical art as divided into a scientific part, which had to do with etiology and anatomo-physiology, and a stochastic part, mainly concerned with semiotics and therapeutics. Vegetti (1993), p. 75.

<sup>38</sup> Galen *De san. tuenda*. I 1 [VI pp. 1, 1 – 2, 1 K.].

<sup>39</sup> Andorlini (2010), p. 39; Ricciardetto (2014), p. LIII.

*Anonymus Londiniensis*<sup>40</sup> (though almost coeval)<sup>41</sup>, nor that of the copyist of the rescript of Marcus Antonius also on the verso of the Londoner papyrus. The writing in the prescription is swift and straight, and slightly inclined forwards. As with the two additions by the scribe also on the verso of the *Anonymus Londiniensis*<sup>42</sup>, the prescription was penned turning laterally the folium with respect to the sense of the utilization of the writing on the recto<sup>43</sup>. The prescription was transcribed by H. Diels in his first edition of the papyrus<sup>44</sup>, and following that it was afterwards translated into German by the philologist H. Beckh in collaboration with the doctor F. Spät<sup>45</sup>. The prescription passed almost unnoticed since that time until 2010, when it was addressed by A. Ricciardetto in a panel held at the XXVI<sup>th</sup> International Papyrology Congress, Geneva; and reedited by I. Andorlini. In 2011 it was edited one more time by D. Manetti<sup>46</sup> and has been recently subject to two new editions, in 2014 and 2016 respectively, both by A. Ricciardetto<sup>47</sup>.

As such the prescription consists of four superimposed words, somewhat set in a column, which have been identified as four different natural substances of vegetal origin, all of them well-known in ancient pharmacopoeia. As in this case, the substances used in the composition of drugs were regularly expressed in the genitive case, and came often abbreviated<sup>48</sup>.

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<sup>40</sup> Although similar to the hand of the writing on the recto of the *Anon. Lond.*, the traces of the prescription are doubtlessly by another hand which resembles the first hand (m<sup>1</sup>) of the four different hands that have been individualised in the scroll of the Ἀθηναίων πολιτεία. Cfr. Del Corso (2008), p. 37; Ricciardetto (2013), p. 80 n. 2; (2016), pp. CXIX – CXX. When the British Museum acquired the rolls of Aristotle's Ἀθηναίων πολιτεία, these were part of a kind of private library or particular archive that contained other papyri akin to the Ἀθηναίων πολιτεία: *P. Lond.* I 131 [p. 166] and 131\* [p. 189], *Brit.Libr.* inv. 131<sup>r</sup> = MP<sup>3</sup> 1272) Isocrates, *On peace*; (*P. Lit. Lond.* 130, *Brit.Libr.* inv. 133 = MP<sup>3</sup> 337) Demosthenes, *Epistle III*; (*P. Lit. Lond.* 134, *Brit.Libr.* inv. 132 = MP<sup>3</sup> 1234) Hyperides, *In Philippidem*; (*P. Lit. Lond.* 165, *Brit.Libr.* inv. 137 = MP<sup>3</sup> 2339) *Anonymus Londiniensis*; (*P. Lit. Lond.* 96, *Brit.Libr.* inv. 135 = MP<sup>3</sup> 485) Herondas, *Mimes*. Cfr. Kenyon (1892), pp. 237 – 240; Del Corso (2008), pp. 33 – 34, 38, 46; Privitera (2011), p. 119; Ricciardetto (2012), pp. 43 – 44 n. 2; (2016), pp. IX – X. It was deemed that the pack of papyri constituted a certain unity as regards their content, that being one of the reasons for the whole deal ended up in London.

<sup>41</sup> Andorlini (2010), p. 43.

<sup>42</sup> In fact the two additions and the prescription were written on the same κόλλημα. Ricciardetto (2016), p. CXIX n. 388.

<sup>43</sup> Andorlini (2010), p. 44.

<sup>44</sup> It is there defined as « Praeceptum in postica iuxta fr. II ab aliena manu scriptum ». Diels (1893a), p. 76.

<sup>45</sup> Beckh - Spät (1896), p. 67.

<sup>46</sup> Along with the two additions to the text on the recto, in Manetti's edition the prescription is placed in the so-called *Fragmenta maiora*. Manetti (2011a), pp. 95 – 96. In so doing D. Manetti, apparently along the same lines of H. Diels first, makes a mistake from a papyrological and a conceptual point of view, since neither the additions on the verso of the *Londiniensis* papyrus nor the prescription (nor the rescript of Marcus Antonius also on the verso) can be considered as fragments. Diels (1893a), p. 75.

<sup>47</sup> Ricciardetto (2014), p. 38; (2016), p. 66.

<sup>48</sup> Cfr. supra *Comment.* on col. XXXVII, 13 – 14. Andorlini (2006), pp. 150 n. 17, 160, 162, 166; Ricciardetto (2014), p. LIII.

### 3. 2 *The Ingredients in the Prescription and their Qualities*

Regarding the basilar elements described below, I. Andorlini has hypothesized that an “incipit-like line” could have preceded them, a former line no longer extant (due to the mutilation of the papyrus at this point, amounting to approximately 2 cm) in which Andorlini contends that one may read the term ἀλόη<sup>49</sup>.

#### 3. 2. 1 *Scammony*<sup>50</sup>

The *Convolvulus scammonia* L. is an evergreen climbing plant of the *Convolvulus* family — which grows spontaneously in Asia Minor and in the south-western Europe, whose dried roots yield a strong purgative and anthelmintic power. It was really hard to digest and usually harmful for the patient’s stomach (κακοστόμαχον). Attested in a wide array of prescriptions in the Hippocratic collection<sup>51</sup>, the scammony was generally consumed as beverage or juice after having made an incision in the roots<sup>52</sup> of the plant. Beside the elaterium and the hellebore<sup>53</sup> (two other purgative plants), the scammony comes also mentioned in col. XXXVII on the recto of the *Londiniensis*<sup>54</sup>.

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<sup>49</sup> Andorlini (2010), p. 40 n. 4.

<sup>50</sup> Diels (1893a), p. 76: « καμωγε[ίαι] »; Andorlini (2010), p. 39: « καμ<μ>ωγ[ί]αι [ ] »; Manetti (2011a), p. 96: « καμωγε[ίαι] »; Ricciardetto (2014), p. 38 ; (2016), p. 66: « Σκαμμωγ[ίαι] ».

<sup>51</sup> Cfr. Andorlini (2010), p. 41; Ricciardetto (2014), p. LIII n. 392.

<sup>52</sup> Theophrastus *HP* IX 1 – 5; Pliny the Elder *HN* XXVI (8/38) 59 – 61 [Mayhoff (1967), pp. 194 , 11 – 195, 9].

<sup>53</sup> Cols. XXXVII, 17; XXXVII, 30. The herbaceous plant called ‘hellebore’ corresponds to two main types: the white one, *Veratrum album* L., belongs to the family of the Liliaceae, while the black variety, *Helleborus cyclophylus* Boiss., to the Ranunculaceae (which in general includes herbs with high poisonous seeds). Though presenting a quite different aspect, the roots of both varieties have the same purgative quality, a fact that often led many to confuse them in ancient times. Cfr. Theophrastus *HP* IX 10, 1 – 4. The melanic type was the most used in medicine. Guardasole (1997), p. 231; Ricciardetto (2014), p. LV n. 403. In the Corpus Hippocraticum the term φάρμακον without an adjective designates in general an evacuant, firstly and foremost the hellebore. Cfr. Jouanna - Grmek (2000), p. 2 n. 2. Hippocrates *Epid.* V 2 [V p. 204, 8 Li.]. For the employment of hellebore as purgative against colics see *Anonymi medici* XV 3 (16) [Garofalo (1997), p. 106, 10 – 12]; or as a drastic remedy against the paralysis cfr. *Anonymi medici* XXI 3 (9) [Garofalo (1997), p. 128, 22 – 23].

<sup>54</sup> Col. XXXVII, 19: « κα[μ]ωγ[ί]αι ». In the Προβλήματα φυσικά, the Aristotelian book devoted to medical issues, this group of three plants (elaterium, hellebore, and scammony) are also mentioned altogether. Pseudo - Aristotle *Pr.* I 41, 864a 4 – 5.

### 3. 2. 2 *Agaric*<sup>55</sup>

Though being a kind of mushroom<sup>56</sup> whose growth owes to the putrefaction of the trunk of the oak tree and the conifers<sup>57</sup>, the agaric was regarded by Dioscorides as a root (similar to the silphium<sup>58</sup>) of which, he stated, there was a male and a female species<sup>59</sup>. Among many other properties Dioscorides makes reference to the agaric as a purgative, recommending (due to its extreme bitter taste)<sup>60</sup> the dose of 1 or 2 drachma mixed with some honied liquid. The agaric was also believed to be an effective remedy for the febrile spasms.

### 3. 2. 3 *Bdellium*<sup>61</sup>

The bdellium is the smelly and smoky gummy resin produced by a shrub of the family of the *Burseraceae* known either as Indian bdellium-tree or Mukul myrrh tree<sup>62</sup>. In the wild the bdellium takes the form of big reddish or dark reddish spheroidal tears whose aroma resembles the myrrh. The bdellium had a wide geographical area of distribution, from north Africa and the region of Petra to the Arabic peninsula and northern India. It is in Celsus where the bdellium is most appreciated as a purgative<sup>63</sup>. As a potion<sup>64</sup> the bdellium was prescribed as abortive and against the bites of

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<sup>55</sup> Diels (1893a), p. 76: « ταρίκου »; Andorlini (2010), p. 39: « ἀγαρικοῦ [ »; Manetti (2011a), p. 96: « αγαρικού [ »; Ricciardetto (2014), p. 38; (2016), p. 66: « Ἀγαρίκου [ ».

<sup>56</sup> *Phylum Basidiomycota* appertaining to the family of *Agaricaceae*, this comprising c. 300 species of different measure, while some are suitable for human consume others are toxic.

<sup>57</sup> The *Fomes officinalis* Bres. belongs to the family of the *Polyporaceae*. The agaricine, the active agent in this fungus, has tested antidropic properties. Andorlini (2010), pp. 41 – 42.

<sup>58</sup> The silphium (ὄπδος Κυρηναϊκός), also known as laserpicium, was a very used plant in Antiquity because of its purgative qualities. The silphium only grew in Cyrene (today Libya), and this endemic character brought it to extinction by the beginning of the common era. Diluted with vinegar and injected in the nostrils, silphium (or Cyrenaic juice) was prescribed to patients seized by cynic spasms. Administered as beverage it was as a remedy against the bulimia. Cfr. *Anonymi medici* XI 3 (2) [Garofalo (1997), p. 82, 23 – 24]; XXIII 3 (2) [Garofalo (1997), p. 132, 13 – 14]. In the 2<sup>nd</sup> century BC the physician Heraclides of Tarentum prescribed silphium against lethargy and opisthotonos.

<sup>59</sup> Dioscorides *Mat. med.* III 1, 1 – 5 [Wellmann (1958b), pp. 1, 11 – 3, 10]. Cfr. also Pliny the Elder *HN* XXV (9/57) 103 [Mayhoff (1967), p. 150, 15 – 20]; Andorlini (2010), p. 42.

<sup>60</sup> Dioscorides *Mat. med.* III 1, 3 [Wellmann (1958b), p. 2, 9 – 10].

<sup>61</sup> Diels (1893a), p. 76: « βδελλίου »; Andorlini (2010), p. 39: « βδελλίου [ »; Manetti (2011a), p. 96: « βδελλίου [ »; Ricciardetto (2014), p. 38; (2016), p. 66: « βδελλίου [ ».

<sup>62</sup> *Commiphora wightii* Arn. = *Commiphora mukul* Engl. = *Balsamodendron mukul* Hook. Cfr. Ricciardetto (2016), p. CXXI.

<sup>63</sup> Celsus *De medicina* V 5, 11 [Daremborg (1891), p. 162, 11].

<sup>64</sup> Galen *De simpl. medicament. temp.* VI 6 [XI pp. 849, 18 – 850, 14 K.]; Dioscorides *Mat. med.* I 67, 1 – 2 [Wellmann (1958a), pp. 60, 18 – 61, 14].

poisonous animals. Its purported diuretic properties made the bdellium a common remedy for renal calculus. It was likely used as expectorant, in emulsions, and applied to external poultices.

### 3. 2. 4 *Arabic Gum*<sup>65</sup>

The Arabic gum is also a gluey<sup>66</sup> substance (τὸ κόμμι) obtained from the *Acacia arabica* L.<sup>67</sup> (in fact extracted from two species of sub-Saharan acacia: *Acacia senegal* and *Acacia seyal*). As for the majority of gums and resins of vegetal origin, it is spontaneously yielded by some plants in order to protect superficial damage. Through being a natural mixture of polysaccharids and glycoproteins the Arabic gum is absolutely comestible. It was exported from Egypt to the rest of the Roman world. The Arabic gum is a current ingredient in a great number of prescriptions as emollient or excipient<sup>68</sup> (often diluted with water), but it was namely used for the composition of collyria<sup>69</sup>. It is worth noting that on the right of this substance one can make out the traces of a symbol which could have indicated the exact dose to administer or to employ<sup>70</sup>.

### 3. 2. 5 *The Prescription: What Was It Good for?*

We have only access to the remnant traces of the four words in the prescription, that is to say, only to a part of the apodosis. Since the former part (the conditional proposition or protasis) was not written, this detail prevents us from knowing the specific disease against which the ingredients were prescribed<sup>71</sup>, as it is in this part where indications are currently found. This notwithstanding, by judging the nature and the qualities of the four individualized ingredients, as

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<sup>65</sup> Diels (1893a), p. 76: « κόμμεως »; Andorlini (2010), p. 39: « κόμμεως ...[ ] »; Manetti (2011a), p. 96: « κομμεως ρυ[ ] »; Ricciardetto (2014), p. 38; (2016), p. 66: « Κόμμεως [ (?) ».

<sup>66</sup> In Roman times it was often mixed with bdellium, the ingredient prescribed in the third line above. Bdellium was so expensive in the past that traders found out a way to make business by mixing it with Arabic gum.

<sup>67</sup> Theophrastus *HP IX* 1, 3.

<sup>68</sup> Dioscorides *Mat. med.* I 101, 1 – 4 [Wellmann (1958a), pp. 92, 1 – 94, 8]; Andorlini (2010), pp. 41, 43.

<sup>69</sup> Andorlini (2006), p. 162.

<sup>70</sup> Greek pharmacology developed a system of symbols in order to indicate the measures and the commonest substances in abridged form. Riddle (1993), p. 113. The presumed symbol on the right of the term ‘Arabic gum’ could be either 3 (Ϝ) or 4 (ϝ) obols. Ricciardetto (2014), p. 38. Though constituting a possible reading, I. Andorlini is reluctant to accept it uncritically, in fact Andorlini has noted that the symbol could well be the medial letter rho « ρ » in the purported expression ‘χρῶ’ (i.e. to use, to apply), which is commonly found in medical papyri. There seem not to be any indication alike for the rest of the ingredients in the prescription. Andorlini (2010), p. 40 n. 5.

<sup>71</sup> Andorlini (2006), pp. 146, 149 – 150. For a stereotyped module of an ancient Greek medical prescription see, for instance, Hippocrates *Mul.* II 200 [VIII p. 382, 12 – 15 Li.] The therapeutical indication could have been introduced by a monogram made by superposing the two Greek letters pi and rho — which could stand for the preposition πρὸς (i.e. against). Andorlini (2006), p. 162.

well as in considering their inclusion in some later prescriptions<sup>72</sup>, it is likely that the four lines on the verso of the *Anon. Lond.* could have corresponded to the substances to employ for the composition of a laxative or a purgative which, seemingly, had to be orally administered in format of swallowable tablets or pills (καταπότια)<sup>73</sup>.

A further point should be made so far as to drugs that have the power of evacuating is concerned. The ancients distinguished up to five different kinds<sup>74</sup>: downwards drugs or purgatives (cathartics)<sup>75</sup>, upwards drugs or emetics<sup>76</sup>, diuretics or drugs that help urinary excretion, hydrotics<sup>77</sup> or drugs which facilitate the sweating, and ptarmics or drugs which help to sneeze<sup>78</sup>.

Enough has been said about the medical prescription; hereafter attention will be shifted to the analysis of the third hand individualised on the verso of the *Anonymus Londiniensis*, that in the rescript of the letter of Marcus Antonius.

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<sup>72</sup> Galen *Meth. med.* V 14 [X p. 374, 10 – 12 K.] is the reference on which actually hinges such presumption; but there are other texts that have been taken into account: two prescriptions by Aëtius of Amida (5<sup>th</sup> – 6<sup>th</sup> century CE) in *Libri medicinales* III 101 [CMG VIII 1, p. 297, 12 – 19 Olivieri] and two prescriptions assigned to Paul of Aegina (7<sup>th</sup> century CE); the first in *Θεραπεία τῶν ἐπὶ αἱματικῶ χυμῶ ρευματιζομένων* III 78, 12 [CMG IX 1, p. 303, 6 – 10 Heiberg], and the second in *Καταπότια διὰ τοῦ Ἀρμενικοῦ λίθου ἐπὶ ἀρθριτικῶν ὡς μάλιστα διδόμενα* VII 5, 14 [CMG IX 2 p. 283, 23 Heiberg]. Cfr. Ricciardetto (2016), pp. CXXII – CXXIV.

<sup>73</sup> Andorlini (2010), pp. 40, 44; Ricciardetto (2014), p. LIV; (2016), p. CXXIV.

<sup>74</sup> Marengi (1965), pp. 61 – 63 n. 57. It is important to remember that humors tend to a particular direction though a particular passage. Cfr. e.g. Hippocrates *Hum.* VI [V p. 484, 18 – 19 Li.].

<sup>75</sup> As regards evacuatives (purgatives) with a downward effect, one can consult Hippocrates *Mul.* II 127 [VIII pp. 272, 9 – 274, 9 Li.], or the contents in the medical papyrus *P. Ärtzekammer* 1 (220 – 150 BC), in which are contained many therapeutical indications of upwards and downwards evacuatives. Andorlini (2014), p. 221. This papyrus has been recently published in *Two Hellenistic Medical Papyri of the Ärtzekammer Nordrhein (P.ÄkNo 1 and 2) (Pap.Colon. XXXVIII) 1 – 2*, in: I. Andorlini, R. W. Daniel (eds.), Paderborn 2016. I am thankful to A. Ricciardetto for his advice in this sense. For a general explanation of the adverbs ἄνω and κάτω when applied to purgatives see López Férez (1996), p. 383. It is worth remembering that the natural procedure before administering healing substances consisted in expelling the alien substances from the body by various purgative means, hence the variety of purgative substances and the importance they received in ancient medicine. Tarrant (1998), p. 234.

<sup>76</sup> The first two types are in a way referred in col. XXXVII, 17 – 19 on the verso of the *Londiniensis* papyrus. There, the scribe describes how the bilious humour that the hellebore produces can be evacuated depending on its variety: « Ὁ μ(έν) [οὖν] ἐλλέβορος χο[λ]ώδη καθαίρειν, καὶ ὁ μ(έν) λευκὸς [ἄν]ω κινεῖν,|ὁ δὲ μέλας κάτω. », (« Now hellebore clears away bilious matters; the white evacuates by vomiting the black by stool »). The same argument applies to scammony in ll. 25 – 26: « ὅτε μ(έν) ἄνω|καθαίρει, ὅτε δὲ κάτω », (« — scil. scammony — purges sometimes by vomit and sometimes by stool »). Trans. Jones (1947), p. 139.

<sup>77</sup> This category has its stem in the Greek word ἰδρώς (*sudor*, sweat), while the term ὑγρόν refers to the corporeal fluids which emanate as the result of a febrile state. Andorlini (2014), p. 223.

<sup>78</sup> πταρμικά (or πταρμόν). Cfr. Guardasole (1997), p. 120. Introduced in the nostrils, ptarmics were in general applied to purge the head from the excess of humours. Hippocrates *Epid.* VII 112 [V p. 460, 8 Li.].

#### 4. *The Rescript of the Letter of Marcus Antonius on the Verso of the Anonymus Londiniensis Papyrus*

##### 4.1 *Transcription and Translation into English of the Letter of the Triumvir Marcus Antonius to the Province of Asia*

« Μάρκος Ἀντώνιος αὐτοκράτωρ|τριῶν ἀνδρῶν δημοσίων πραγμάτων|ἀποκαταστάσεως τῶι κοινῶι τῶν ἀπὸ τῆς Ἀσίας Ἑλλήνων χαίρειν. Καὶ|5 πρότερον ἐντυχόντος μοι ἐν Ἐφέσει|Μάρκου Ἀντωνίου Ἀρτεμιδώρου, τοῦ|ἐμοῦ φίλου καὶ ἀλείπτου, μετὰ τοῦ ἐπωνύμου τῆς συνόδου τῶν ἀπὸ τῆς|οἰκουμένης ἱερωνικῶν καὶ στεφαι|10 νιτῶν ἱερέως Χαροπείνου Ἐφεσίου,|περὶ τοῦ <τὰ> προϋπάρχοντα τῆι συνόδῳ μένειν ἀναφαίρετα, καὶ περὶ τῶν|λοιπῶν ὧν ἤτεῖτο ἀπ' ἐμοῦ τιμίων|καὶ φιλανθρώπων τῆς ἀστρατευσίας|15 καὶ ἀλειτουργείας πάσης καὶ ἀνεπι|σταθμείας καὶ τῆς περὶ τὴν πανήγυριν ἐκεχειρίας καὶ ἀκυλίας καὶ|πορφύρας, ἵνα † συνχωρησῆ γράψαι †|παραχρῆμα πρὸς ὑμᾶς συνχωρῶν,|20 βουλόμενος καὶ διὰ τὸν ἐμὸν φίλον Ἀρτεμίδωρον καὶ τῶι ἐπωνύμῳ αὐτῶν ἱερεῖ εἰς τε τὸν κόσμον τῆς|συνόδου καὶ τὴν αὔξησιν αὐτῆς χαρίσασθαι. Καὶ τὰ νῦν πάλιν ἐντυ|25 χόντος μοι τοῦ Ἀρτεμιδώρου ὅπως|ἐξῆ αὐτοῖς ἀναθεῖναι δέλτον χαλ|κῆν καὶ ἐνχαράξαι εἰς αὐτὴν περὶ|τῶν προγεγραμμένων φιλανθρώπων,|ἐγὼ προαιρούμενος ἐν μηδενὶ καθ|30 υστερεῖν τὸν Ἀρτεμίδωρον περὶ τῶν|30a< >|ἐντυχόντος ἐπεχώρησα τῆ|[ν ἀνά]|θεσιν τῆς δέλτο(υ) ὡς παρακαλεῖ [± 3]·|ὑμῖν δ(ἐ) γέγραφα περὶ τούτων. || ».<sup>79</sup>

« Marcus Antonius emperor, triumvir for the reestablishment of the affairs of the State, greets the community of Greeks of Asia. And in having been asked me first in Ephesus [by] my friend and trainer Marcus Antonius Artemidorus, along with the eponymous priest of the assembly of the winners in the sacred games — of the crowned winners arrived from all over the world — Charopinus of Ephesus, that the privileges previously accorded in assembly to remain them irrevocable, as well as the rest of honours and privileges which were requested me (exemption from military service, exemption from every public responsibility, exemption from hosting troops, the legal authority on truce while feasting, the right of asylum and the grant of heaving in sight the purple<sup>80</sup>); by my part I confer on you immediately with good-willing aim, for my friend Artemidorus and in favour of his eponymous priest, for the good and the honour of their [Ephesian] body. And, now, after having been requested again by Artemidorus to allow him to exhibit a bronze plaque and to inscribe on it the aforementioned privileges, I deem [opportune] in nothing to postpone the appointment with Artemidorus, [so that] I confer on him the grant of exhibiting the plaque that he requested [me]. And it is in regard to these subjects that I have addressed to you. »

<sup>79</sup> The Greek text — with the orthography systematically normalised — follows the two most recent editions of the rescript by A. Ricciardetto. Cfr. Ricciardetto (2014), pp. 38 – 39; (2016), pp. 66 – 67. In this regard, my autopsy of the papyrus at the British Library from the 10<sup>th</sup> to the 20<sup>th</sup> December 2014 has nothing to amend to neither edition. The translation is mine.

<sup>80</sup> The meaning of such privilege is not clear at all; it could have to do with the right to dress up and to exhibit in public with some specific clothing. Cugusi (1979b), p. 291: « hoc beneficium haud perspicuum est ».

#### 4. 2 Description of the Rescript

The copy of the letter of Marcus Antonius to the Greeks of the province of Asia<sup>81</sup> is at the rear of cols. VI – VII on the recto of the *Anon. Lond.* papyrus<sup>82</sup>. The orientation of the writing is upside-down if compared to the text on the recto. With the exception of a few letters near the end, the rescript has been preserved intact. The 33 lines of the copy are written in a single column (c. 18,5 x 10 cm) in a rather large semi-cursive hand, with the ductus tending slightly to the left. The writing of the script is elegant and attentive, the layout of the whole column seems to have been figured beforehand<sup>83</sup>. The copy of the letter has been subject to no less than eight different editions<sup>84</sup>. As regards the chronology, while the original script could be dated back either to 42-41 or to 33-32 BC<sup>85</sup>, by dint of paleographical comparison<sup>86</sup> the copy of the answer of Marcus Antonius imperator to the second solicitude<sup>87</sup> by Marcus Antonius Artemidorus barely could be earlier than the last quarter of the first century CE; yet, and most important for present purposes, the

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<sup>81</sup> SB I 4224. Some remaining fragments of the first four lines of the response of Marcus Antonius were conserved on a lapidary inscription in Tralles (*I. Tralleis* 105A, 2<sup>nd</sup> and 3<sup>rd</sup> century CE), where a festival in honor of Asclepius, the Great Asclepieia, was celebrated. The place of the discovery of the inscription was close to Men Karou, the sanctuary where it is deemed that the Herophilean medical school in Asia was established. Kenyon (1893), p. 477; Brandis (1897), p. 519; Ebert (1987), p. 41; Manetti (1994), p. 58; Ricciardetto (2012), pp. 46 – 47, 56 n. 69; (2014), p. LV n. 409.

<sup>82</sup> Ricciardetto (2016), p. CXXXVI.

<sup>83</sup> Ricciardetto (2014), p. LVI n. 417.

<sup>84</sup> Apart from the two most recent editions of the rescript in Ricciardetto (2014), p. LXII; (2016), p. CXLVIII, the successive editions of the rescript of Marcus Antonius on the verso of the *Londiniensis* papyrus correspond to: Kenyon (1893), pp. 476 – 477; Brandis (1897), pp. 509 – 510; Ehrenberg - Jones (1955), p. 132 T. 300 in ch. XII « Administration of the Empire »; Vandoni (1964), pp. 114 – 115; Sherk (1969), plate 57; Cugusi (1979a), pp. 261 – 263 [T. 47 in ch. XCV M. Antonius Triumvir]; Ebert (1987), pp. 38 – 42; and Ricciardetto (2012), pp. 48 – 49. Cfr. Ricciardetto (2012), p. 45 n. 9. For a detailed critic commentary on the rescript see Ricciardetto (2014), p. 105; (2016), pp. 187 – 188.

<sup>85</sup> Marcus Antonius sojourned almost twice in Ephesus, in 42-41 and in 33-32 BC, before the defeat in Actium. Cugusi (1979b), p. 289; Ebert (1987), p. 39; Manetti (1994), p. 57; Ricciardetto (2016), p. CXXXVI. F. G. Kenyon believed that the original letter was written in 41 BC, whereas Brandis and Del Corso in 33. Cfr. Brandis (1897), pp. 517 – 518; Del Corso (2008), p. 44. The position that these two authors defended seems reasonable in considering that in ll. 11 – 12 the rescript makes allusion to some grants already conferred on that Ephesian association (allegedly in 42 – 41 BC). The point to realise is that the rescript of the edict on the verso of the *Anonymus* papyrus was copied almost 150 years after the promulgation of the edict.

<sup>86</sup> Two papyri from the 1<sup>st</sup> century CE have been proposed in this sense: *P. Mich.* III 148, pl. IV; *P. Coll. Youtie* I 19, pl. VIII. Cfr. Manetti (1994), p. 57.

<sup>87</sup> Ricciardetto (2014), p. LVI n. 416; (2016), p. CXXIX n. 416.

rescript of the letter is certainly later than writing on the recto<sup>88</sup> (constituting in fact its *terminus ante quem*)<sup>89</sup>, and manifestly belongs to a different hand<sup>90</sup>.

As to the content, the copy of the edict on the verso of the *Anon. Lond.* belongs to a broad epistolary genre known as ‘official letters’<sup>91</sup>. Whereas “in normal circumstances” the original is the piece liable to be copied<sup>92</sup>, on this occasion the verso of the *Anonymus* papyrus conveys the answer of Marcus Antonius to the demand of maintenance of the privileges<sup>93</sup> previously conferred on the winners of some sacred games held at Ephesus. In short, the emperor first ratifies the privileges that had been once accorded, and afterwards allows his friend and trainer Marcus Antonius Artemidorus — on behalf of the priest Charopinus — to inscribe the aforesaid grants on a tablet of bronze which will eventually be hanged up in order to take effect, making it visible to all those concerned.

In the following subsection we should like to contribute to the diffusion of some of the interpretations given to the reason for the rescript of this edict on the verso of the *Londiniensis* papyrus.

#### 4.3 *The Inherited Views*

The circulation of compilations of official letters — from Roman Egypt or from other parts of the Roman world — containing edicts and other dispositions by Emperors is well witnessed. Such compilations furnished those who stood a position in the administration with useful primary sources for the jurisprudence. Moreover, official letters by celebrities used to call learned people’s

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<sup>88</sup> Andorlini (2010), p. 44; Ricciardetto (2014), p. LV n. 408; (2016), pp. CXXVI – CXXVII n. 408, CXXIX n. 417; Dorandi (2016), p. 200 n. 9.

<sup>89</sup> Ebert (1987), p. 37; Manetti (1994), p. 57; Ricciardetto (2014), p. LV.

<sup>90</sup> Ricciardetto (2014), p. XVII.

<sup>91</sup> For a general typology of Greek letters on papyrus one might consult Luiselli (2008), pp. 677 – 737. I am thankful to Dr. A. Ricciardetto for his advice in this particular matter. For a more detailed typology of letters of medical content see Langslow (2007), p. 213.

<sup>92</sup> Ricciardetto (2016), p. CXXIX n. 416. Ideally, the preservation of a writing takes place by means of copies of the original document (i.e. the demand of the Ephesians addressed to Marcus Antonius) or not by those of the response the receptor may give.

<sup>93</sup> Sulla had imposed a heavy load of taxes on the Ephesians because of their collaboration with the invasion of Mithridates VI; the same onerous fiscal policy continued under Marcus Antonius. Appian *Mithridatica* XXII – XXIII (83/93) [Viereck - Roos (1962), pp. 436, 17 – 438, 25 ]; XLVIII (187/193) [Viereck - Roos (1962), pp. 459, 21 – 461, 3 ]; LXI – LXII (250/260) [Viereck - Roos (1962), pp. 472, 24 – 474, 26]. To balance the discontent of his politics, Marcus Antonius conferred privileges like those in the edict and promoted the organization of public events and festivals. Cfr. Kenyon (1893), p. 477.

attention and were thereby often read and transcribed<sup>94</sup>. However, as early as the very start of the discussion, F. G. Kenyon wondered and considered it impossible to answer why a document written by Marcus Antonius after visiting Ephesus was reproduced on the verso of a scroll that transmitted such unlike contents<sup>95</sup>, if compared, to those in the letter; not to say the reason for such a belated rescript in respect of the original. The question that Kenyon raised was absolutely pertinent: why was a letter concerning some privileges conceded to the winners in certain games celebrated in Ephesus copied on the verso of a papyrus of medical content written in Egypt<sup>96</sup> 150 years later?

To our knowledge, three scholars have attempted to give a solution to the problem. Though perhaps not neatly manifested, to some extent each of these three proposals is built on different assumptions about the authorship of the *Anon. Lond.*, the place where it is believed the papyrus was composed, or about the final intendment of the scroll. The three standpoints succinctly introduced hereafter present their pros and cons and are irreconcilable.

To begin with, J. Ebert has claimed that the transcription is owed to an Egyptian physician who bought the scroll during a journey he made in Asia (Ephesus), bearing it with him back to Egypt<sup>97</sup>. According to Eber, therefore, the link between such an Egyptian doctor and the rescript is authorial whereas with the writing on the recto it is merely one of possession. Secondly, in Manetti's view — concomitantly to her assumption whereby the writing on the recto of *Anonymus* papyrus could have been written in Asia Minor<sup>98</sup> — the rescript should have been copied in a place where the dispositions in the letter could have taken some effect, for instance and presumably, in Ephesus. From that place the author of the *Londiniensis* papyrus brought it with him when he moved to Egypt.

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<sup>94</sup> Del Corso (2008), pp. 45 – 46.

<sup>95</sup> Kenyon (1893), p. 476. All the more in considering the existence of technical letters (including medical ones). Langslow (2007), pp. 217, 223.

<sup>96</sup> Cfr. supra § 1 n. 2; § 3. 1 n. 40. The similitudes observed between the ductus in the *Londiniensis* and the fourth hand (m<sup>4</sup>) identified in cols. XXV – XXX of the  $\gamma$  scroll — the third of the 4 scrolls of the *Ἀθηναίων πολιτεία* — have brought about more proofs for the Egyptian provenance of the *Anon. Lond.* Cfr. Manetti (1994), pp. 56 – 57; Marganne (2002), p. 367; Del Corso (2008), pp. 24 – 26, 43; Van der Eijk - Francis (2009), p. 224 n. 44. M. Wellmann noted in this sense that the plant quoted in col. VI, 22 — the water lettuce (*Pistia stratiotes*, *Lattuga acquatica*) — is also original from Egypt. Cfr. Wellmann (1922), p. 422.

<sup>97</sup> Cfr. Ebert (1987), 42 n. 14; Ricciardetto (2012), p. 47.

<sup>98</sup> Manetti (1994), pp. 57 – 58. H. Diels believed that the scribe could have been of Ionian origin. Cfr. Diels (1893b), p. 410.

For the time being we do not adopt either view, but it should certainly be noted that Manetti's position for a supposed Asian origin of the *Anonymus* papyrus might not stand several arguments pro its Egyptian provenance. In the third place, the two proposals above have been also called into question by L. Del Corso, who judges both explanations as too complicated. To Del Corso the incompleteness of the writing on the recto can hardly explain the circulation of the scroll from Egypt to Ephesus (or vice versa)<sup>99</sup>; but Del Corso does not take into consideration the fact that perhaps the writing is not as incomplete as he believes, nor does he take account of the cause for the change of emplacement of the scroll. In that regard, his proposal seems to overcomplicate the actual state of affairs.

With all this in mind we will probably never know how things actually were, and if any, the reason why the letter of Marcus Antonius was copied on the verso of the *Londiniensis* papyrus. However, we need a reasoned account of all the data and the state of things above portrayed. Despite the imperfections in our knowledge, we are now in a better position to introduce another explanation to this cluster of seemingly discrepant interpretations.

#### 4. 4 *The Rescript and the Cult of Asclepius in Ephesus*

The copy of the letter collects the grants bestowed to a body of (crowned) winners at the sacred games. Considering that the request by Marcus Antonius Artemidorus to the triumvir was made in Ephesus, and that Ephesus is also the home city attributed to Charopinus (the priest accompanying Artemidorus in the request), there is room to believe that the body of games winners in question could well have gathered in Ephesus<sup>100</sup>. Capital of the senatorial province of Asia, Ephesus had an attended Aesculapian sanctuary<sup>101</sup>, as well as a renowned Museum which played the role of intellectual centre where the physicians were constituted as a permanent corporation, confraternity, or some kind of similar association<sup>102</sup> (as apparently occurred in other places where an important city had a Museum). The existence of this professional and religious society in

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<sup>99</sup> Del Corso (2008), pp. 44 – 46.

<sup>100</sup> Ricciardetto (2016), p. CXXX.

<sup>101</sup> Keil (1926), pp. 263 – 264. In Roman Imperial time, the temples of Asclepius in Epidaurus and Pergamon (probably also those in Kos, in Ephesus and in general wherever in Greco-Roman Egypt) fostered medical libraries. Cfr. Perilli (2006), p. 39; Manetti (2014), p. 231.

<sup>102</sup> Ricciardetto (2012), p. 53 n. 39.

Ephesus is also confirmed by epigraphical evidence<sup>103</sup>. Such groups were in charge of organizing periodical competitions in honour of Asclepius known as « the Great Asclepieia »<sup>104</sup> which comprised athletic, poetic, and artistic events.

As regards the first, although some passages on the recto of the *Londiniensis*<sup>105</sup> papyrus address the physical condition of athletes — in contrast to non-athletes — and set out some recommendations on dietetics by athletic trainers<sup>106</sup>, it is no less true that, with respect to the rest of the contents of the papyrus, these mentions are too minimal to support the view that the rescript on the verso of the *Anon. Lond.* was copied on account of them. What really seems to give the master key for the turning passage from the rescript on the verso to the writing on the recto of the *Londiniensis* papyrus is rather the particular way the Great Asclepieia were celebrated in Ephesus. In the Christian era the games programme in honour of Asclepius was enriched by a medical contest (ὁ ἀγὼν τῶν ἰατρῶν)<sup>107</sup>. The uniqueness of this medical tournament in Ephesus<sup>108</sup> is attested in lapidary inscriptions<sup>109</sup> from the time of Antoninus Pius (138-161 CE). In light of an inscription discovered in Epidaurus, it has been hypothesised that within this peculiar medical event in the frame of the Ephesian Great Asclepieia the competitors contended in four different areas:

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<sup>103</sup> *I. Ephesos* IV 1162, VI 2304, VII.1 3239, VII.2 4101 A and B (this last inscription dates from 135 CE). Samama (2003), p. 69. From the inscriptions, the organization of this medical body in Ephesus is credited with having been structured in almost two main layers: one hosting the members, the students, and the sympathizers of the Museum (οἱ ἀπὸ τοῦ Μουσείου ἰατροί), and another layer in charge of managing the events held in the Museum and ruling over the professional activity of the members (τὸ περὶ τὸ Μουσεῖον συνέδριον). Cfr. Ricciardetto (2016), p. CXXXI n. 421. Among the members of this supervising council, there should have been a priest of Asclepius to whom, on a yearly basis, it was assigned the office of presiding the assembly — or having a proactive bridging role between the temple and the medical association. The reference to Charopinus of Ephesus in l. 10 of the rescript could bear relation with such charge. Cfr. Kenyon (1893), p. 477; Brandis (1897), p. 511.

<sup>104</sup> This is the denomination that Plato uses in *Ion* 530a. Cfr. Edelstein - Edelstein (1945a), p. 513 [T. 560]; (1945b), p. 208. As it seems, the Great Asclepieia was a religious event that took place during two days long. Cfr. Keil (1905) V *Ephesos* 1161 – 1169, 4101b; Debru (1995), p. 69; Andorlini - Marcone (2008), p. 51; Ricciardetto (2014), pp. LV – LIX. In addition to the offices instituted for the purpose of venerating the Emperor, the Great Asclepieia — like the Olympic games — was a periodical tournament intended to satisfy, in a way, the political and the intellectual demands of the time.

<sup>105</sup> E.g. cols. XXXI, 17 – 25; XXXVI, 5 – 7, 32 – 35.

<sup>106</sup> The term ἀλείπτῆς (ἀλιπται P.) in col. XXXI, 20 on the recto of the *Anonymus* papyrus and in l. 7 in the rescript on the recto. Cfr. Ricciardetto (2012), p. 51 n. 29.

<sup>107</sup> Nutton (1995), pp. 7 – 8; Samama (2003), pp. 70 – 71; Marasco (2010), p. 214; Ricciardetto (2012), p. 54 n. 54; (2014), p. LVII n. 426. The Great Asclepieia in the city of Smyrna could also have been featured with such medical event. Ricciardetto (2012), p. 56.

<sup>108</sup> Perhaps this special competition for physicians might have taken place in other cities, but we are only told about the city of Ephesus. Cfr. Edelstein - Edelstein (1945b), p. 212.

<sup>109</sup> Keil (1905), pp. 128 – 138; Samama (2003), pp. 334 – 338.

χειρουργία, ὄργανα, σύνταγμα, and πρόβλημα<sup>110</sup>. There is issue at what these trials actually corresponded, but in general they seem respectively to be a surgery test<sup>111</sup>, the skills at handling different kind of medical instruments<sup>112</sup>, the contender's aptitudes for the composition of drugs and medicaments<sup>113</sup>, and to the reasoned expounding of (or else the solution to) some medical problem.

##### 5. *The Anonymus Londiniensis or the Scribe's Readiness for the Competition*

Insight will be now shed on the last of the trials, the πρόβλημα, since the initial query on the reason(s) for the coexistence of the three different hands in the *Anon. Lond.* makes much more sense when the particularities of this specific event in the medical competition held at the Great Asclepieia in Ephesus are put alongside the arrangement of the contents on the recto of the *Anonymus* papyrus<sup>114</sup> which, as has been seen, is said to be divided in three different sections<sup>115</sup>.

A. Ricciardetto has argued that there could be a correspondence between the general triadic outline of the *Londiniensis* and the format that the trial called πρόβλημα could have taken as it is envisaged in the framework of the Ephesian Great Asclepieia. Thereby, the scribe might have written the first section in the papyrus by having in mind possible answers to questions like « What

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<sup>110</sup> Cfr. Edelstein (1945a), pp. 318 – 319 [T. 573, 5 – 7] corresponding to 'Inscriptio Ephesia' in Keil (1905), p. 128. Cfr. also Horstmanshoff (1990), p. 182; Nutton (1995), pp. 6 – 9; Ricciardetto (2012), pp. 55, 59; Dorandi (2016), p. 200.

<sup>111</sup> It is also known that, in the first centuries of the CE, during the public demonstrations (ἐπιδείξεις, ἀκροάσεις) before a cultivated audience and the members of the aristocracy held at the main centers of Asia Minor there were performed commented dissections and vivisections. Debru (1995), pp. 70, 73; Ricciardetto (2014), p. LVIII n. 439. In fact Galen's works are addressed to the emperor Marcus Aurelius, the proconsul Sergius Paulus, the consul Flavius Boetus and to other prominent personalities. Vegetti (1994), pp. 1679 – 1680. The emperor Julian, contrariwise, addressed some letters to Oribasius. Criscuolo (1999), p. 55.

<sup>112</sup> Though very seldom, some papyri show evidence of a medical trend in Alexandria called ὀργανική specialised in the invention of surgical instruments. Cfr. Marganne (2002), p. 373. It should be added that the same Greek word ὄργανον means both instrument and organ. Jouanna (2012i), p. 327. Cfr. for instance Aristotle *de An.* II 1, 412b 4 – 6.

<sup>113</sup> We should remember that a hand which is neither the scribe's (but almost coeval) nor that of the rescript's copyist wrote down a medical prescription on the verso of cols. XXI – XXII of *Anon. Lond.*

<sup>114</sup> Ricciardetto (2014), p. LVIII n. 436.

<sup>115</sup> Cfr. supra § 1 n. 3.

is the definition of X? », « What is X? », « What is meant by X? » (τί ἐστίν;)<sup>116</sup>. Accordingly, the second section in the *Londiniensis* papyrus — essentially doxographical<sup>117</sup> — might correspond to another feasible request in the πρόβλημα event: « What is the cause of the disease? », « How is that disease produced? » (διὰ τί, πῶς;). As to the third section in the *Anon. Lond.*, it could be reflecting some possible answers to questions like « In which is way X produced? » or « Why? » (πῶς; Τίνος αἰτίας γινομένης; Τίνος γινομένου;)<sup>118</sup> during the πρόβλημα test. In view of this latter event, the scribe might have been preparing himself with a view to defending or discussing (*disputatio*) one of the different topics treated along the third section in the papyrus (spermatogenesis, presence of blood in the arteries<sup>119</sup>, respiration, digestion and qualities of the food, perspiration etc.); many of which were common topics in the medical literature of the period<sup>120</sup>.

Yet, though this is perhaps the most complete and most detailed explanation, one could find others. An alternative, and very different proposal, completely prescindend from Ricciardetto's hypothesis, could consist in taking the *Anonymus* papyrus as a rhetorical exercise to which were added, at a certain point and by two hands both different to that of the scribe, the name of certain pharmacological substances and the message of an official letter as a part of the same rhetorical work. In this new view, the tripartite arrangement of the contents in the *Anon. Lond.* (definition, recollection of different etiological opinions or theories, and disputation) could correspond to a sample of the methodology to follow, for instance, to introduce an advanced student into the art and the skills of the right argumentation<sup>121</sup>. As these are actually found in many similar ancient lists of

<sup>116</sup> The notion of conceptual accuracy (ἀκρίβεια) is a fundamental trait in all rhetorical genres, but specially in the epideictic. Beside the deliberative and the forensic, the epideictic is one of the main kinds of rhetorical speech. Aristotle *Rh.* I 2, 1358b; III 17, 1417b ; *EN* VII 6, 1148b 27 – 34. Cfr. Percy (1993), pp. 446 – 448. Two epideictic speeches about medicine have been fully preserved, the treatises titled *Breaths* and *The Art*. They form part of a larger group of oral works (i.e. discourses) in the Hippocratic Corpus that were composed to be read or spoken out loud before an audience. Jouanna (2012c), pp. 40 n. 6, 41, 43 n. 13, 44. In *A Professor of Public Speaking*, Lucian of Samosata describes the rhetorical teacher Potheinus encouraging his young prospective student in performing an accurate language, as it was likely to make him seem far beyond in education than the laymen; *Rh. Pr.* XVII, 1 – 6: « μέτει δὲ ἀπόρρητα καὶ ξένα ῥήματα, σπανιάκις ὑπὸ τῶν πάλαι εἰρημένα, καὶ ταῦτα συμφορήσας ἀποτόξευε προχειρίζομενος εἰς τοὺς προσομιλοῦντας. οὕτω γάρ σε ὁ λεῶς ὁ πολὺς ἀποβλέπονται καὶ θαυμαστὸν ὑπολήπονται καὶ τὴν παιδείαν ὑπὲρ αὐτοῦς,» (« Hunt up obscure, unfamiliar words, rarely used by the ancients, and have a heap of these in readiness to launch at your audience. The manyheaded crowd will look up to you and think you amazing, and far beyond themselves in education. »). Trans. Harmon (1953), p. 157.

<sup>117</sup> Doxographies served as particular dialectical items to scholars and learned people of the Imperial period. Doxographical works were valuable sources where one could find the right and the efficient tools to face with guarantees the argumentative challenges during the public demonstrations (ἐπιδείξεις) in which physicians took part.

<sup>118</sup> Cfr. e.g. cols. XXXI, 12; XXXII, 38; XXXVII, 2 – 3, 27; add. I, 6.

<sup>119</sup> Cols. XXVI, 31 – XXVII, 12. For the charge that Galen levelled against Erasistratus's view cfr. *supra Comment.* on col. XXVI, 35 – 38.

<sup>120</sup> Ricciardetto (2012), p. 59.

<sup>121</sup> Stover (2005), p. 357.

philosophical and medical doctrines, the emphasis on the disagreement (στάσις) in the opinions of the authorities quoted in the second section<sup>122</sup>, or the grudge manifested by the scribe against certain philosophical trends (e.g. Stoics) and authors (e.g. Hippocrates, Erasistratus, Asclepiades etc.) could well be considered as heuristic devices and particular features of rhetorical genre<sup>123</sup>.

Nonetheless, since such an alternative proposal would seemingly yield more difficulties and leave more points to solve than the ones there might be in Ricciardetto's, I momentarily assume — following A. Ricciardetto — that the contents on the recto of *Anon. Lond.* could constitute the assemblage of concerns, subjects, and matters that the scribe prepared with a view to participating as a contender in one of the afore described medical competitions in honour of Asclepius in the city of Ephesus. So far, thus, the writing on the recto of the *Anonymus* (including the two additions on the verso by the scribe himself), the layout of the writing, and its contents might be reflecting the arguments that the scribe put forward during the competition<sup>124</sup>. The papyrus in this way would be bearing witness of a kind of *suasoria* — to use a notion drawn from the Stoics — that the scribe developed in advance in order to face with greater confidence the different challenges with which someone, supposedly among the jury of the competition, could have come up during the trial called πρόβλημα<sup>125</sup>.

## 6. Some Issues Involved in the Hypothesis

Now, although the assumed explanation is sound and makes sense, the feasibility of the general portrayal seems not without complications, in the sense that Ricciardetto's hypothesis contains some questionable points concerning matching data, theoretical assumptions, or hermeneutics.

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<sup>122</sup> Col. IV, 25.

<sup>123</sup> Nutton (2004), p. 72.

<sup>124</sup> Ricciardetto (2012), p. 59; (2014), pp. LVII; (2016), pp. CXXXVII – CXXXVIII.

<sup>125</sup> Ricciardetto (2012), p. 58; Ricciardetto (2014), p. LVIII n. 436; (2016), p. CXXXIV: « l'Anonyme de Londres pourrait conserver le témoignage d'un tel exercice ». Cfr. also Debru (1995), pp. 71 – 73; Dorandi (2016), p. 201.

## 6. 1 Chronological Mismatch

As regards the first of the inconsistencies, the chronology assigned to the *Londiniensis* papyrus (no matter to which of the three hands for the present purpose) fits badly with either the century in which it is known that the medical competition started at Ephesus or with the chronology given to the single preserved inscription on which an important part of the hypothesis is based<sup>126</sup>. By this I do not mean that the whole hypothesis must be wholly rejected as ill-founded, but no one could assert with any confidence that such a discrepancy supports a definitive position linking all the assumptions in the hypothesis back to a time which, it seems, is neither textually nor epigraphically witnessed. Indeed, if it is well known that the cult of Asclepius in Asia Minor, and more concretely in Ephesus, has roots in a far earlier period (the rescript on the verso of *Anon. Lond.* could be the clearest evidence of that), then the particularities of the medical competition on the occasion of the Great Asclepieia in Ephesus constrains us to speak about the second century CE onward, which definitely does not tally with the *Anon. Lond.*

## 6. 2 The Writing on the Recto and the Rescript on the Verso: Yes but Not?

The second problem in Ricciardetto's hypothesis is mainly about an assumption shared by most of the papyrologists concerned with the *Anon. Lond.* The response of Marcus Antonius on the verso of the papyrus has always been severally treated, as if discrete, independent, and having nothing to do with the rest of the contents in the *Anonymus*<sup>127</sup>; hence perhaps the blunder of the whole issue, but this also gives us a clue. To a greater or a lesser extent, it is generally agreed that the rescript on the verso of the *Londiniensis* is a mere personal exercise of copy<sup>128</sup> unrelated to the writing on the recto, and accordingly, also deprived of every kind of perlocutionary force. By adducing different sorts of argument L. Del Corso, I. Andorlini, or A. Ricciardetto contend thus. Del Corso, for example, is of the opinion that the scroll of *Anon. Lond.* just served as a writing support to a piece with no further repercussion<sup>129</sup>. Andorlini explains the rescript of Marcus Antonius on the

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<sup>126</sup> Respectively, the 2<sup>nd</sup> and the 2<sup>nd</sup> or the 3<sup>rd</sup> century CE. Cfr. Edelstein - Edelstein (1945a), p. 318 [T. 573]; (1945b), p. 212.

<sup>127</sup> Ricciardetto (2014), p. LXII: « la copie d'une lettre de Marc Antoine a toujours été éditée séparément des autres textes, probablement à cause de son contenu, qui n'a en apparence aucun lien avec le monde médical ».

<sup>128</sup> Del Corso (2008), p. 46 n. 110.

<sup>129</sup> Del Corso (2008), p. 46.

verso of the *Londiniensis* along the lines of the same material justification, and has no qualms about prescinding almost entirely from the contents on the recto<sup>130</sup>.

Looking at the rescript this way the standpoints held by papyrologists, though absolutely respectable and solidly argued, prove also somehow tenuous; for not only do they seem excessively to reduce the import of the writing on the recto, but they also dismiss the fact that the writing in the rescript and that of the scribe on the recto of the *Londiniensis* papyrus are too well-constructed as to think of them in terms of casual school works. Moreover, even though the rescript of the letter (to repeat, almost contemporary but later than the writing on the recto)<sup>131</sup> never alludes to any kind of specific medical tournament<sup>132</sup>, the point is that it informs us of the existence of a collective involved in some sacred games before the Christian era, as well as of the concession of some privileges to such a collective; the paradox lies in the fact that — in light of the chronology assigned to the aforesaid inscriptions — perhaps the rescript on the verso of *Anon. Lond.* is the only textual proof we possess and to which we could resort which speaks about the existence of such a tournament at the time it is believed that the writing on the recto of the *Anonymus* papyrus was drafted.

Thus, on grounds of papyrological assumption there is the *petitio principii* of taking for granted that the hand of the rescript and the rescript itself bear no relation to the scenery that gives place to the hypothesis launched by Ricciardetto, so that one is asked to accept that the rescript is completely apart and detached in all ways from the medical-religious event in Ephesus. I am not in a position nor is it my business to judge the arguments adduced by papyrologists; it falls wholly outside my field of expertise and consequently is something which I shall not deal with here. I presume the arguments they put forward which make them feel as they do about the rescript result from a thorough examination of documentary papyri, some stereotyped trends of copy in Imperial time, and other kindred tenets; yet, for the general hypothesis to come out unscathed, on account of the arguments just expounded it should not be ruled out that, beyond the strictly material one, the

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<sup>130</sup> I. Andorlini takes the *Londiniensis* papyrus as a mere writing support which eventually would have lead to a completer draft of its contents, or, at least, this appears to be Andorlini's claim when she writes: « è probabile che la copia del rescritto di Marco Antonio sia stata eseguita sulla superficie bianca del *verso* quando il contenuto del *recto* non interessava più ». Andorlini (2010), p. 44.

<sup>131</sup> Cfr. supra § 4. 2.

<sup>132</sup> Cugusi (1979b), p. 289: « ita haud absurdum videtur ei petitionem pervenisse poetarum et musicorum et athletarum collegii cuiusdam: quibus petentibus Antonius is quidem litteris respondet ».

hand in the rescript and its content may be connected with the writing on the recto of the *Anon. Lond.*

To our knowledge D. Manetti is among the few specialists to concede some kind of perlocutionary force<sup>133</sup> to the letter copied on the verso of the *Londiniensis* papyrus, which amounts to admitting that whoever could have read the letter should have felt obliged to act in a particular way on account of its content. I take Manetti's point as a sound conjecture in this sense and accept, provisionally, that the letter could have been copied on the verso of the *Anon. Lond.* precisely because of the cogency of the message the rescript conveys.

### 6.3 *Are the Contents on the Recto of the Londiniensis Actually Divided in Three Sections?*

As for the third inconsistency in Ricciardetto's hypothesis, the issue is bound to the fact that in a way dispatches the objection raised by M. Asper whereby the contents on the recto of the *Londiniensis* papyrus might not be divided in three sections, as is generally agreed, but just in two.

In fact it is the expression « Αἰ[τιο]λογικὸς.[Νόσοι.] » which raises the polemic. It has been questioned whether these two lines have to be considered as a title or not, and due to the writing in the papyrus being at this point very blurred (almost illegible), the first query comes along with the difficulty of proper decipherment. It was H. Diels who first tried to give a solution. Diels's consideration of col. IV, 18 – 19 as a title will be assumed in the majority of editions of the *Anonymus* to come, and supplemented with some slight modifications<sup>134</sup>, Diels's final reading<sup>135</sup> will be also widely accepted.

In spite of acknowledging that ll. 18 – 19 do constitute a title, stressing that the scribe did not use any similar subtitle (*kein neuer untertitel*) to introduce what is believed to be the third section of the *Londiniensis*, in interpreting col. IV, 18 – 19 differently M. Asper is probably the most discordant voice as regards this point, inasmuch as he gives a different reading of the first line: φυσιο]λο[γικ]ός in place of Αἰ[τιο]λογικὸς<sup>136</sup>. Apropos of Asper's divergent reading of l. 18, a look

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<sup>133</sup> Cfr. supra § 4. 3.

<sup>134</sup> Diels (1893a), p. 6: « [...] λο..ος|νόσοι.| »; Manetti (2011a), p. 8: « Αἰ[τιο]λογικὸς|νόσοι.| »; Ricciardetto (2014), p. 3: « Αἰ[τιο]λογικὸς.|Νόσοι.| »; (2016), p. 5: « Αἰ[τιο]λογικὸς.|Νόσοι.| ». Cfr. also Dorandi (2016), p. 200 n. 6.

<sup>135</sup> Diels (1893b), p. 412: « Ich glaube am ehesten wird λογικός den Zügen entsprechen, sodass etwa die Ueberschrift lautete Αἰτιολογικός. Νόσοι. ».

<sup>136</sup> Cfr. Asper (2007), pp. 296 – 297.

at Greek lexicons shows that the verb αἰτιολογέω is a voice as alien to the Corpus Aristotelicum<sup>137</sup> as is unAristotelian the adjective Αἰ[τιο]λογικός in the *Anonymus Londiniensis*. This detail might lead to several interpretations, but we set forth only two of those possible. First, it is likely that, as such, the occurrence αἰτιολογικός might have been absent in the supposed Aristotelian source that the scribe might have consulted to write what actually stands as the title of the second section in the *Anonymus* papyrus. Considering this, then secondly, the upper line Αἰ[τιο]λογικός heading the purported second section in the papyrus could be interpreted as an attempt addressing a potential question (for instance « Why do illnesses come about? ») in the trial called πρόβλημα.

In any case, Asper's alternative reading challenges at this point the supposed tripartite arrangement of the contents of the writing on the recto of *Anon. Lond.* It is on account of his new reading that Asper takes the content in the *Anonymus* papyrus as if it were conceived in two sections (*als zweiteilig konzipiert ist*), and not in three. According to the point that Asper makes the third section in the *Anon. Lond.* would be integrated in the second one, or else the writing on the recto would only consist of two sections<sup>138</sup>; and this interpretation casts doubt on the connection that Ricciardetto establishes between each one of the three sections in the writing on the recto of *Anon. Lond.* and the formal template of possible queries in the trial called πρόβλημα<sup>139</sup>. The exegesis of the writing on the recto of *Anon. Lond.* in the light of the πρόβλημα in the Ephesian Great Asclepieia should stand after coming to grips with the remark that Asper introduces, which, on the other hand, is somehow justified by an argument of lexical nature. Unfortunately the difficulties in the decipherment of l. 18 preclude us from obtaining a convincing transcription on which to rely so as to agree definitively with Asper's reading, and consequently, also to side clearly with one of the two standpoints in the discussion.

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<sup>137</sup> I am thankful to Dr. J. Aoiz and Dr. D. Deniz (Universidad de Caracas) for their piece of advice in this sense.

<sup>138</sup> At the international conference held at Parma called 'Greek Medical Papyri. Text, Context, Hypertext' (3. 11. 2016) D. Manetti handed out a general layout of the contents in the *Anon. Lond.* which only included (acknowledged) two sections. We ignore whether it has to do with the objection raised by Asper or with any other reason.

<sup>139</sup> Cfr. supra § 5.

#### 6.4 *You Would Be Better Off Keeping your Mouth Shut*

From a hermeneutical point of view, a last argument could be still raised against Ricciardetto's hypothesis. Our slant on the scribe's charges levelled against practically all the authorities he quotes is that they are barely in accordance with the supposed linguistic standards used at the time to express oneself in a public competition. One has no way of knowing what might have been appropriate nor how strictly and properly any such norms had to be respected, but we assume that adjectives like 'ridiculous', 'stupid', 'false' etc.<sup>140</sup> — although they neither interfere in the autographical nor in the hypomnematic nature of the *Anonymus* — might have been out of place in front of the members of an examining board if, again, the writing on the recto of the papyrus were a preparatory essay composed to face a trial of the kind with guarantees. In view of this, the qualifications the scribe assigns to the arguments of almost all the authorities he reviews in his writing seem somehow pointless in the event that they were intended to help him answer the questions that might be put to him in the πρόβλημα event.

#### 7. *Un tour de force encore...*

Given the four main objections above Ricciardetto's hypothesis comes out very badly. Yet in being the only one *ad hoc* that tackles the problems arising from the existence of three different hands in the *Anon. Lond.*, it seems useful to continue to bear it in mind in order to get the maximum benefit from its inherent heuristic advantages. Thereby, we should like to reinforce Ricciardetto's assumption by bringing into discussion two further new arguments, since they might help to shore up more solidly the hypothesis in question. By means of these new, essentially comparative arguments, we shall try to show the rhetorical purpose of the writing on the recto of the *Londinensis* papyrus. To some extent related with this, the second argument aims at bridging the traces of the medical rescript with the medical competition held at the Ephesian Great Asclepieia.

##### 7.1 *The Londiniensis Papyrus, or When Drugs Do not Heal but Help to Win*

Given that the *Anonymus* papyrus seems neither to have actually served for medical practice nor concerned any particular medical specialty (say lithotomy, dental surgery, treatment of cataracts, hernias or the like), it is rather unlikely that someone would have used the *Anonymus Londiniensis*

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<sup>140</sup> Cfr. supra § 2.

with the serious aim of healing. Deprived of a clear-cut practical purpose, the *Anon. Lond.* looks rather like a scholarly text or some kind of theoretical instruction, or as has been expounded above, it could have been composed simply for on a plain rhetorical purposes<sup>141</sup>.

Consequently, the point to which we should like to draw attention is the fact that none of the medicaments quoted on the recto<sup>142</sup> of the *Londiniensis* papyrus bear any therapeutical intendment. Thus, by way of example, the τετραφάρμακος<sup>143</sup> is used to make clearer what the σύνχισις<sup>144</sup> consists of, one of the possible types of combination between two or more substances. Along the same lines, the remaining references to medicaments in the *Anon. Lond.* are utterly utilised to enhance the conviction of the existence of penetrations and emanations through the body skin. As regards the elaterium<sup>145</sup> the scribe seems to emphasize the drastic power of this purgative, that is true, but he does not mention in which cases the elaterium should be administered. Such mere rhetorical (theoretical or non practical) usage of medicaments in the *Anon. Lond.* also applies to the

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<sup>141</sup> Horstmanshoff (1990), p. 182.

<sup>142</sup> Cols. XXXII, 41; XXXVI, 57 – XXXVII, 7.

<sup>143</sup> Col. XIV, 19 – 20. Galen *De const. art. med.* I 6 [I p. 242, 5 – 8 K.]. Cfr. *CPF* Plato 129T, p. 555. The τετραφάρμακος was the plaster (χαλβάν) for excellence in the past, it was specially prescribed to cure open sores in the extremities. It was prepared by mixing an equal proportion of wax, tar, resin, and bull or calf fat. Galen *Simpl.* XI 2 [XII p. 328, 8 – 12 K.]; Celsus *De medicina* V 19, 9 [Daremborg (1891), p. 173, 28 – 31]. Cfr. Guardasole (1997), p. 102; Andorlini (2006), p. 158. Due to the texture resulting from the mixture of these four ingredients, the τετραφάρμακος was considered a hard/compact (σκληρός) variety of plaster.

<sup>144</sup> Col. XIV, 16 – 20. By this it is mean ‘dissolution or contemporary fusion of some elements into a new one’. Cfr. also Alexander of Aphrodisias *De mixtione* III (595) [Bruns (1892), p. 216, 23 – 25]. The fact that Alexander uses the same example to describe the same kind of phenomenon (σύντηξις). It is worth of consideration because, rather than a casual coincidence, it could give us another clue about the existence and the circulation of an Aristotelian doxographical source to which the scribe of the *Londiniensis*, Alexander of Aphrodisias, and Galen could have had the access.

<sup>145</sup> Col. XXXVII, 8, 13 – 14, [22]. By the superlative ἐνεργέστατον the scribe intends the most drastic purgative power of the elaterium — if compared to the rest of the extant purgative plants. The extreme efficacy of a particular remedy after having been tested (*probatum est*) is a feature noted in documents as old as the Papyrus Ebers. In Imperial period, Galen stressed the efficacy of a substance by using verbal forms like χράομαι or ἐπιτετεύγγμενον. Cfr. Andorlini (2006), pp. 143 – 144. The elaterium (ἐλατήριον) is a very bitter extract that was used as a purgative in case of icterus (jaundice), or diluted with water against the angina. Cfr. *supra Comment.* on col. XXXVII; *Anonymi medici* VI 3 (21) [Garofalo (1997), p. 48, 1 – 8]. The meaning of the term is problematic, as there is issue at whether it might refer to a generic downwards evacuative or to the purgative made of the wild cucumber (σίκυον ἄγριος). Furthermore, whereas some deem to be the juice extracted from the fruit, others affirm from the leaves and the roots of the wild cucumber. Jouanna - Grmek (2000), p. 5 n. 2; Ricciardetto (2014), p. LIV n. 402. Hippocrates *Epid.* V XXXIV [V p. 230, 8 Li.] reads « ρίζην ἐλατήριον ». Evenly the squirting cucumber (*Ecballium elaterium* Rich.), whose purgative properties are well established, may have been used as an emmenagogue or an oxytocic as much for symbolic as for practically evaluated reasons: its capacity to eject its seeds forcefully made it an appropriate plant to use when wishing to expel an unwanted conception, an afterbirth or a suppressed menstrual period. Cfr. Guardasole (1997), p. 230; Nutton (2004), pp. 98 – 99.

castoreum<sup>146</sup>, insofar as this drug is mentioned only in order to reaffirm the scribe's firm belief in the existence of pores, which allow the vivifying properties of the castoreum to penetrate first the nostrils and only afterwards to reach the whole body.

All this strongly contrasts with the picture of the medicaments we learn from the medical treatise on acute and chronic diseases<sup>147</sup> known as *Anonymus Parisinus*<sup>148</sup>, a handbook for practicing medicine almost contemporary<sup>149</sup> with the *Londiniensis* papyrus. A quick glance at the threefold general layout of the *Anonymus Parisinus* will suffice to make clear the main practical purpose of that medical work. The way in which are described the 51 different affections collected in the *Parisinus* codex follows the same pattern. One first sees presented the opinions of credited ancient physicians on the causation of a particular disease, afterwards the description of the symptoms that intervene in the recognition of each disease, and finally the remedies and the proper prescriptions to treat every particular illness<sup>150</sup>. This order *a capite ad calcem* could have been in accordance with a didactic purpose<sup>151</sup>; though, if contrasted with the *Anonymus Londiniensis*, the

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<sup>146</sup> Cols. XXXVII, 51 – XXXVIII, 19. The castor, or castoreum (καστόρειον), is a substance which is found along the castor's preputial channel. Guardasole (1997), p. 203. In being as hard as a bone, the penis of the marten was first reduced to powder (ἐπιξυόμενον) and afterwards it was applied to treat affections of the bladder. Aristotle *Mir.* XII, 831b 1 – 4. For the employment of castoreum as ointment to calm down the contractions of the extremities supervening with the cholera see *Anonymi medici* XIII 3 (12) [Garofalo (1997), p. 92, 26 – 27]. As ointment, castor was obtained by mixing 1 gr. of castor with 6 gr. of almond oil, and letting both macerate during 5 days. When absolutely dried, it became very hard and difficult to break, and it took on a penetrant heavy smell. In Hippocratic writings, as well as in Soranus, the inhalation of stinging substances is a common prescription to treat hysteria, since the womb, to the mind of Greek physicians, had the faculty of movement in response to attiring or repulsive smells. Cfr. Jouanna (2012f), p. 192; Totelin (2014), pp. 84 – 85. Castor was deemed that produced tachysphygmia, headedness, and vertigo. In the 1<sup>st</sup> century CE, Aretaios of Cappadocia recommended castoreum to heal and dry the *pneuma*. Cfr. Oberhelman (1994), p. 965. The Empiric physician Heraclides of Tarentum prescribed castor oil to treat phrenitis, lethargy, ileus, and other nervous dysfunctions. Any of these indications is reported in the *Anonymus*, it is just said that castor has revitalising properties.

<sup>147</sup> Nutton (2004), p. 124.

<sup>148</sup> The *Anonymus Parisinus* is the simplified form to make reference to the *Anonymus Parisinus Darembergii sive Fuchsii* or *Anonymus Fuchsii*. Cfr. Kudlien (1963), p. 457; Van der Eijk (1999), p. 295. It is a manuscript discovered by Mynoïe Mynas on the Month Athos in the 1840's, which comprises four different Greek manuscripts (*Par. supp. gr.* 636 + *Par. gr.* 2324 (146v – 209v) + *Vindobonensis medicus graecus* 37, V + *Londinensis gr.* 52b). Pages 21r – 82r in the first manuscript — dating the 16<sup>th</sup> century and conserved in the Gallerie Mazarie (BnF) — contain and transmit a medical work of the 1<sup>st</sup> century CE titled *De morbis acutis et chroniis* (*Anonymi medici*). Cfr. Garofalo (1992), pp. 91 – 93, 95; (1997).

<sup>149</sup> As to the *post quem* for the *Anonymus Parisinus*, it is comprised between 40 – 60 CE. Cfr. Manetti (1999), p. 97. The *Anon. Lond.* would be then a bit later than the *Anonymus Parisinus*. Cfr. Nutton (2004), p. 206.

<sup>150</sup> The layout may well correspond to the standard arrangement used in literature concerned to pathology, which, in turn, could have roots in Diocles' work Πάθος, Αἰτία, Θεραπεία. Cfr. Van der Eijk (1999), p. 327.

<sup>151</sup> Cfr. Van der Eijk (1999), p. 312. In fact, the gap between the *Anonymus Parisinus* and the next text in the manuscript is filled with anatomical designs and illustrations with an evident educative intention.

empirical nature and the practical scope of the *Anonymus Parisinus* is evident and incontestable<sup>152</sup>. In paying attention to both time and remedies, the *Parisinus* codex also shows a clear familiarity with the practice of the medical art<sup>153</sup>.

Another reason for proposing that the *Anon. Lond.* bears very little relation to the practice of medicine is that the crucial distinction between acute and chronic, in its appliance to diseases, is overlooked. In the papyrus the categories of acute and chronic are addressed from a mere heuristic point of view, both terms are regarded as *definienda* in a purported definition whereby the scribe wants to make clear what should be intended by this or that term next in his argumentation. Contrariwise, the contents in the *Anonymus Parisinus* are in actual fact arranged according to these two categories. In the same vein, another argument for the rhetorical intendment of the *Londiniensis* papyrus is the almost complete lack of attention to the core matter of the progress of the evolution of the ailing patient. Regarding this point, the only passage in the *Anon. Lond.* where apparently the scribe deals with this aspect is in the third column<sup>154</sup>, but in a very tangential way. In contrast to the *Londiniensis* papyrus, the emphasis on assessing the progress of the patient as the time wears on is well attested in several diseases described in the *Parisinus*, since depending on the patient's evolution the author of the *Parisinus* codex recommends a change in the therapy formerly prescribed.

## 7.2 The Prescription on the Verso of the Anonymus in the Light of the Ephesian Great Asclepieia

The traces of the prescription on the verso of *Anon. Lond.* could account for a wide array of reasons, all of them admittedly amounting to no more than a guess. After having studied the

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<sup>152</sup> In the *Anonymus Parisinus*, the sections dealing with the symptomatology and the therapy have no doxographical character at all. In addition the repeated use of the imperative, a typical feature in therapeutic prescriptions, suggests that the author is speaking in *propria persona* and addressing to doctor apprentices. Cfr. Van der Eijk (1999), pp. 303 – 304, 324; Pérez (2005), pp. 366 – 367. Thus, by way of example, in the *Anonymus Parisinus* the bdellium is indicated as ingredient for a drug to treat cirrhosis of the spleen. Cfr. *Anonymi medici* XXXVI 3 (3) [Garofalo (1997), p. 190, 25]. Besides this, the *Parisinus* codex (pp. 82r – 118v) collects the remedies and the appropriate prescriptions for illnesses that have not been previously treated in the manuscript.

<sup>153</sup> The *Anonymus Parisinus* is a prime document that evinces what J. M. Riddle termed ‘theoretical or high medicine’, that is to say, a regular structure of analysis and explanation for illness and their cures by means of synthesizing the empirical experiences into generalizations. Cfr. Riddle (1993), p. 102. The *Anonymus Parisinus* has been also considered a mixture of almost two genres of medical historiographical account: the *τέχναι* and the so-called ‘questions and answers’ or ‘definitions’. Van der Eijk (1999a), pp. 15 – 16. So far as to Greek medical papyri which bear evidence of such methodology and witness how medical practice was taught and performed in Egypt during the Imperial period see Andorlini (1999), pp. 8 – 9.

<sup>154</sup> By means of expressions like « ποτὲ μ(ὲν) κ[(ατ)ὸ]λίγον, ποτὲ δὲ ἄθροως » in col. III, 12 to indicate that physical affections defined as ‘unclassifiable’ are now slight and then intense, or « καθὸ τὸ μ(ὲν) πάθος κατ’ ὀλίγον τὴν λύειν λαμβάνει, τὸ δὲ νόσημα κατ’ ἐλάχιστον » in col. III, 24 – 25 to highlight, regarding the reason why the bodies get sick, that it takes few time to recover from an affection but even less to get rid of the pathological agent.

rhetorical intendment of the medicaments quoted in the *Anonymus* papyrus, there is no obvious reason to conclude that the prescription on the verso of the *Anon. Lond.* necessarily responded to a practical orientation.

Were the arrangement of the contents on the recto of the *Anonymus* papyrus in harmony with the test in the competition of the Ephesian Great Asclepieia called πρόβλημα<sup>155</sup>, analogously the traces of the prescription on the verso of *Anon. Lond.* could likewise be explained by reference to another trial in the competition. In this way, the fact that the traces of the medical prescription on the verso of the *Londiniensis* papyrus belong to a hand which is not that of the scribe could be explained as being a query put by some member of the tournament board<sup>156</sup> in charge of assessing the σύνταγμα. The event called σύνταγμα, which consisted in testing the contender's diligence at preparing a remedy, could thus be the reason that prompted the writing of the prescription in the papyrus; then one may assume that the prescription corresponds to the assessment of the competitor as φαρμακοποιός or φαρμακουργός<sup>157</sup>.

Wherefore, despite the weakness of the three proposals below, for the purposes of this enquiry it matters that the prescription in the *Londiniensis* papyrus could also be hinged upon the frame of the Ephesian Great Asclepieia. With this in mind, the medical prescription could have appertained to:

- 1) The hand of some contender or acquaintance whom the scribe of the papyrus might have met on the occasion of the tournament.
- 2) An apothecary or root-cutter. In being conscious of his weakness in the trial called σύνταγμα, we can imagine that before attending the competition the scribe (striving to ensure his success in this specific event) asked a craftsman<sup>158</sup> to write down the indispensable ingredients in a purgative because that kind of competence simply fell outside his field of expertise.

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<sup>155</sup> Cfr. supra § 4. 4.

<sup>156</sup> At least, it was composed by the priest of Asclepius, by an especially appointed arbiter, and by the presiding officer of the association of physicians. Edelstein - Edelstein (1945b), p. 212.

<sup>157</sup> Cfr. Repici (2006), p. 82.

<sup>158</sup> In the 1<sup>st</sup> century BC there was a specific craft called ριζότομος. The root-cutter's skills comprised the knowledge of alleged properties of every plant, the right places and seasons to pluck each kind of plant, which parts of a plant were useful, the mode to conserve unaltered the curative attributes of some plant for a long time, and the way to prepare each one in particular so as to take effect. Cfr. Repici (2006), pp. 77 – 78. The level of literacy of such craftsmen, as well as their activity in Egypt or in Asia Minor, has been barely studied.

3) Some member of the organizing committee during the contest in the trial called σύνταγμα. It could have been that, according to the standard procedure in the tournament, the scribe was asked to compose a medicament from a collection given aleatory substances, and that the premises to accomplish the trial were written where, say, the scribe had previously drafted some of the contents about which he was likely to be asked during the event called πρόβλημα.

#### 8. *The Anonymus Londiniensis. Towards an Interpretation*

Before putting forward what we deem a feasible interpretation of the facts expounded through this first chapter after having thought about them over and over, the most sensible course seems to state that the issue will probably remain unsolved. The following account is far from exhaustive or categorical; it is simply an attempt to reconsider the main aspects on the recto and on the verso of *Anon. Lond.* studied hereto as being reciprocally implicated and bearing a relationship to the Ephesian Great Asclepieia. Of course, what follows is just an hermeneutical path; things should not have to be necessarily in the way we expound, but in the light of the objections and the analysis above either in the way suggested in Ricciardetto's hypothesis.

The scribe of the *Anon. Lond.* was a learned Egyptian doctor. From his original Egypt he brought the scroll to the city of Ephesus for his personal usage. It is doubtful and unlikely that anyone apart from the person directly involved could have been interested in traveling from Egypt to Ephesus with a scroll containing such an apparently incomplete<sup>159</sup> writing. The scribe was well acquainted with the different events in the Ephesian tournament, and consequently arranged the notes of his essay<sup>160</sup> according to the framework and the requirements of a particular trial in the Ephesian Great Asclepieia; the προβλήματα. From this perspective the *Anonymus* papyrus can thus be equated to the preparatory exercise by the scribe as a prospective contender in the competition<sup>161</sup>. By the same token, the traces of the medical prescription on the verso of *Anon. Lond.* could have been penned by someone in the assessment board of the tournament in the event called σύνταγμα.

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<sup>159</sup> Cfr. supra § 2 n. 18.

<sup>160</sup> Edelstein - Edelstein (1945b), p. 212: « the competitors had to write an essay on a subject of their own choice and another one on a given problem ».

<sup>161</sup> Ricciardetto (2012), p. 58; (2014), p. LVIII n. 436; (2016), p. CXXXIV.

Now, one could imagine that after having listened to the answers given by the scribe during the test and observed his abilities with the ingredients he was given, the competition board reached the decision of proclaiming our scribe the winner of the medical contest, such that he came out crowned<sup>162</sup>. As a reminder of the privileges awaiting him for the victory, and in accordance with what might have been a standard procedure, the dispositions promulgated by Marcus Antonius were copied on the piece that the contender had handed out; this being, in sum, the reason for the rescript of the edict on the verso of the *Londiniensis*.

If the scribe emerged as the winner in the competition, some official or competent authority could have copied the letter of Marcus Antonius on the verso of the text, then sealed the scroll with some kind of stamp. As a result of his participation and victory in the contest, the scribe might have felt the need to found a medical society in his natal Hermopolis<sup>163</sup> like the one he came across in Ephesus. In having in mind the eventual creation of a similar medical assembly in his hometown, the scribe could have had the letter of Marcus Antonius written out again on the verso of the papyrus for a further official demand. Yet, would such privileges have taken effect when written on a papyrus of such poor quality<sup>164</sup> and which also bore notes made in preparation for a competition?

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<sup>162</sup> In the context of a tournament ‘crowned’ could perfectly be equated with ‘winner’. Ricciardetto (2012), p. 51 n. 28.

<sup>163</sup> The Egyptian provenance of *Anon. Lond.* nearby Hermopolis Magna (today El-Ashmounein in the Middle Egypt) is almost sure. Cfr. Del Corso (2008), p. 37. It is known that among the public buildings in Hermopolis Magna there was a temple of Asclepius, a gymnasium, and a library.

<sup>164</sup> Ricciardetto (2016), p. XIX.

## *Aristotle, the Medicine, and the Anonymus Londiniensis Papyrus*

### 1. *General Frame and Problematics*

A key figure in the history of philosophy Aristotle tackled almost all the branches of the science of his time. However, none of the treatises in the Corpus Aristotelicum is specifically about medicine. In life Aristotle was known among cultivated people by the works he published, but no example of these exoterical works has survived; thus, whatever Aristotle himself might have written and published on medicine is lost<sup>165</sup>. The Aristotelian treatises that have come down to us are mainly didactical<sup>166</sup>, so that if not for the lectures and speeches addressed to the students of the Lyceum we would have access only to a very meagre version of Aristotle's literary activity. In addition, the tricky history<sup>167</sup> of the library of the Lyceum certainly increases the difficulty of obtaining a feasible picture of all the subjects on which Aristotle enquired, and consequently, of knowing whether or not medicine was taught at the Lyceum. Apart from these preliminary details, Aristotle makes a few references to doctors in his treatises, as if they were of no account<sup>168</sup>. This series of facts has led many scholars to pose that Aristotle never undertook any serious investigation into the medical domain<sup>169</sup>.

With this in mind, we should like to introduce arguments precisely to the contrary and to underscore the reasons of different nature — but mainly textual — by virtue of which there would

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<sup>165</sup> Nutton (2004), p. 120.

<sup>166</sup> Bidez (1943), p. 43.

<sup>167</sup> To get a detailed account of this topic one may consult Bidez (1943), pp. 11 – 25; Canfora (1988), p. 7; Lee Too (2010), pp. 24 – 29. The two main Greek catalogues in which are collected the works by Aristotle owe to Andronicus of Rhodes (1<sup>st</sup> century BC), and afterwards to Adrastus of Aphrodisias and his work *De ordine librorum Aristotelis* (first half of the 2<sup>nd</sup> century CE). Cfr. Moraux (1951), pp. 6 – 7, 212; Manetti (1986), p. 63; *CPF* Aristoteles 37T, p. 351. At Cicero's time, Andronicus of Rhodes used the work by the Roman grammarian Tyrannion of Amisus. Tyrannion published Aristotle's unedited treatises that arrived at Rome after the conquest of Athens by Lucius Cornelius Sulla (83 BC). The Arabic catalogues of the works by Aristotle also used Tyrannion's edition. Although Andronicus is who actually takes the most part of the renown and fame, the definitive order and compilation of Aristotle's writings seems to have been carried out, to a greater extent, by Adrastus.

<sup>168</sup> The proper name 'Hippocrates' (referred to the Coan physician) is mentioned only once in the Corpus Aristotelicum, at *Pol.* VII 5, 1326a 15, and with no medical purpose at all. Cfr. Diels (1893b), p. 431; Jones (1984a), p. XLIV; Kudlien (1989), p. 361; Jouanna (1993), p. 7; Van der Eijk (2014), pp. 348 – 350. The few physicians to whom Aristotle refers by their name are generally cited because their opinions are object of criticism. At *HA* III 2, 511b 10 – 513a 10 Aristotle mentions Syennesium of Cyprus — Hippocrates' disciple, also attested in *Hippocrates Oss.* VIII [IX p. 175 Li.] — Diogenes of Apollonia, and Polybus. Cfr. Jouanna (1993), p. 15. At *GA* IV 1, 765a 25 Aristotle makes allusion to a certain Leophanes, and at *EE* VII 10, 1243b 23 offers a glimpse of Herodicus.

<sup>169</sup> Some of them believe that there was no room for medicine at the Lyceum because of a productive art, i. e. non liberal. French (2000), p. 76; Van der Eijk (1999), p. 492 n. 13. The ancient Greeks regarded medicine as a τέχνη, that is to say, a rational activity oriented to a specific and clear purpose: the restoration of health. Plato *Ly.* 219c. Cfr. Jaeger (1957), pp. 54 – 55; Horstmanshoff (1990), p. 176, 197; Grmek (1997), p. 56; Van der Eijk (2005), p. 263.

be room for medicine in Aristotle's philosophy<sup>170</sup>, and to reconstruct in this way, as far as possible, the nature of the medical fundamentals that Aristotle might have upheld.

## 2. Some Sociological Aspects Touching the Medical Art in Ancient and Classical Greece

Alcmaeon of Croton<sup>171</sup>, Empedocles<sup>172</sup>, Democritus<sup>173</sup>, Diogenes of Apollonia<sup>174</sup>, Anaxagoras<sup>175</sup>, Parmenides, that is, the majority of pre-Socratic philosophers were physicians or dealt to some extent with some aspect of medicine<sup>176</sup>; so, too, did Plato, Theophrastus, Strato and Sextus Empiricus. In point of fact in his work *On Sense and Sensible Objects* Aristotle underlines that it is not at all unusual for philosophers to finish their books by addressing a medical issue, and for physicians to start theirs by treating some philosophical problems<sup>177</sup>. Aristotle's indifference towards medical art looks even more striking in considering some sociological aspects inherent to the medicine of classical Greece<sup>178</sup>. Like Hippocrates<sup>179</sup>, Aristotle was of Asclepiadian birth<sup>180</sup>. Among the Asclepiadians the details of dissection as well as the rest of the advanced techniques in

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<sup>170</sup> Or in Ph. J. Van der Eijk's own words: « the assumption that Aristotle wrote medical works at all may need some elaboration ». Van der Eijk (1999), p. 492. Cfr. also Aelian *Varia Historia* IX 22 – 23 [Hercher (1866), p. 102, 23 – 32].

<sup>171</sup> Jouanna (1988), p. 47. It is generally admitted that Alcmaeon was the founder of medical diagnosis in western world, and though slight, also the first physician to make a distinction between veins filled with air and veins filled with blood. Alcmaeon is also credited with having discovered the principles of visual perception by practicing dissections, as well as with having carried out other anatomical researches on the physical organism. Cfr. Diels (1893b), p. 421; Bidez - Leboucq (1944), pp. 13, 16, 39; Laín Entralgo (1981), p. 10.

<sup>172</sup> Galen *De meth. med.* I 1 [X p. 6, 3 K.]. Cfr. Viano (1984), p. 312; Graham (2010), pp. 336 – 337.

<sup>173</sup> Horne (1963), p. 319.

<sup>174</sup> Galen *De plac. Hipp. et Plat.* II 8 [V pp. 281, 12 – 284, 3 K.].

<sup>175</sup> Viano (1984), p. 319.

<sup>176</sup> For a concise treatment of the entwinement between medicine and physical speculation in pre-Socratic philosophy cfr. Jouanna (1992), pp. 370 – 379.

<sup>177</sup> Aristotle *Sens.* I 436a 19 – b 1; *Resp.* XXI 480b 24 – 30. Cfr. Vegetti (1993), p. 77; French (2000), p. 78; Lloyd (2003), p. 177; Van der Eijk - Francis (2009), pp. 215, 226; Van der Eijk (2014), p. 357 n. 36.

<sup>178</sup> Nutton (1995), p. 18.

<sup>179</sup> Jouanna (1993), p. 7.

<sup>180</sup> Diogenes Laertius *Vitae philosophorum* V 1 [Marcovich (1999a), p. 304, 6 – 7]. Cfr. Jones (1984a), p. XLV; Nutton (2004), pp. 69, 118; Manetti (2014), p. 232.

the medical art were transmitted from generation to generation<sup>181</sup>. Nicomachus of Stagira, Aristotle's father, was a famous surgeon<sup>182</sup>. Aristotle's daughter, Pythia, married Metrodorus, the Alexandrian physician who was the master of Erasistratus of Chios<sup>183</sup>. From this, it is difficult to imagine that Aristotle would not have taken any step in that respect<sup>184</sup>. If it is borne in mind indeed that in Antiquity a medical education existed that clearly fell outside any professional intendment<sup>185</sup>, it is then almost sure that Aristotle was acquainted with the principles of medicine<sup>186</sup>. The education of the cultivated Greek citizen required a certain familiarity with medical culture, so that it is hard to believe that Aristotle could have remained alien to the pedagogical dominant of the time. It is worth noting in addition that the term 'doctor' was polysemic in Greek. In the *Politics*<sup>187</sup> we learn from Aristotle that the notion 'doctor' also applied to "someone instructed in the principles of the

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<sup>181</sup> Jaeger (1957), p. 55; Jouanna (1993), p. 10; Boudon - Millot (1994), p. 1423; Longrigg (1995), p. 431; Squillace (2013), pp. 162 – 163, 173. From the 5<sup>th</sup> century BC onward, medical practice will gradually drift away from the familiar bonds that it had in ancient Greece. The diffusion of medical texts beyond the strict medical sphere is well attested and more widespread than it could be expected. Nelson (1909), pp. 91 – 97; Manetti (2014), p. 234. Some treatises in the Corpus Hippocraticum like *Flat.* or *Vet. med.* appear to be the work of sophists or else non professional physicians as their respective content have no practical purpose. Cfr. Van der Eijk (2005), p. 269. Against this *opinio communis*, nonetheless, it has been argued that *Flat.* could be the work of a Hippocratic doctor in the wider meaning of the term. Rhetoric was indispensable to succeed in a medical career, above all as a public doctor, since appointment depended on a speech that a doctor had to give before the people's assembly in a democratic city; so that genuine doctors could be the authors of rhetorical speeches. Jouanna (2012c), pp. 50 – 52. It is also believed that the Hippocratic oath served to deter the increasing number of non-Asclepiadian practitioners of the time from making an abusive use of the art, to keep new practitioners in the ethical boundaries inherent to the medical lineage who traditionally had played such role in Greece. Edelstein - Edelstein (1945b), pp. 53 – 64; Jouanna (1988), p. 26; (2012h), p. 263.

<sup>182</sup> Zeller (1879), p. 4; Gigon (1987), p. 511; Longrigg (1993), p. 149.

<sup>183</sup> Cfr. Wilson (1959), p. 297; Viano (1984), p. 310.

<sup>184</sup> For Aristotle medical art was integrated into Physics. Aristotle *Long.* I 464b 35 – 465a 1; *Resp.* XXI 480b 22 – 30. Cfr. Viano (1984), p. 325; Manetti (1986), p. 62; Longrigg (1993), p. 152.

<sup>185</sup> μὴ τεχνῖται. Jaeger (1945), p. 11; Marengi (1961), p. 149. As a matter of fact the study of the arts (τέχναι) honored whomever devoted to them if, and only if, showed disinterestedness, that is, any pretension of making business with that. Moraux (1951), p. 110; Horstmanshoff (1990), p. 193; Debru (1995), p. 75.

<sup>186</sup> Marengi (1961), pp. 147 – 148. Aristotle *Sens.* I 1, 436a 17 – b 1; *Resp.* XXI 480b 22 – 24.

<sup>187</sup> Aristotle *Pol.* III 6, 1281b 38 – 1282a 8; *PA* I 1, 639a 4 – 8. According to Aristotle, even the non-practitioners (μὴ τεχνῖται) could be properly considered physicians. Pliny the Elder, for instance, was a non-practitioner of the Imperial period who delighted himself reading medical literature. If we were to make extensive Aristotle's third meaning of 'doctor' in the *Politics*, then Pliny was a πεπαιδευμένος, that is to say, someone who despite having never practised the medical art did entertain in instructing himself by reading medical literature for the sake of his encyclopedic project. In the light of the third meaning that Aristotle confers to the word, Pliny could perfectly be called 'doctor'. Cfr. Jori (1995), pp. 414 – 416; Van der Eijk (1995), p. 451; Hirt Raj (2006), p. 67. It makes sense, thus, that the only systematic handbook of medicine preserved from the Antiquity, *De medicina* by Celsus (c. 30 CE), has been precisely transmitted by an erudite who was not a practitioner. Gourevitch (1993), p. 142; Andorlini - Marcone (2004), p. 49.

medical art for the sake of his own education”; yet, such knowledge does not seem necessarily to have involved practising the art<sup>188</sup>.

We have summarily expounded the contextual reasons why it is likely that Aristotle knew something about medicine. We shall examine hereafter which traits in the Corpus Aristotelicum match this hypothesis.

### 3. Aristotle's Medical Treatises : an Approach

To make an argument clearer Aristotle often displays analogies<sup>189</sup> drawn from medical experience. From an epistemological point of view, the analogy reflects the tacit knowledge by the user of the elements intervening in it, for present purposes, Aristotle's knowledge of the procedures implicit in medical art. The moot point consists in distinguishing whether Aristotle used such analogies as mere rhetorical figures or if, per contra, those imply the teaching and the diffusion of the medical art at the Lyceum<sup>190</sup>. The latter possibility is reinforced by means of a number of technical allusions to medicine in the Corpus Aristotelicum. In connection with this, we need to analyse four cases. In the first place, the references (almost 20) to a treatise entitled *Dissections*. In the second place, the mentions of another work that bears the title *On Health and Disease*. Thirdly, the contents of the last book in the *Historia animalium*, and finally the collection of medical queries known as Προβλήματα.

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<sup>188</sup> Lloyd (2003), p. 178. It is the case of Phaedrus, the main personage in Plato's dialogue. Vegetti (1995c), p. 110. At *Sens.* I 436a 18 – 19 Aristotle contends that the natural philosopher must know the principles of health and disease, but he does not say anything about the techniques of treatment. Viano (1984), pp. 327 – 328; French (2000), pp. 78, 81; Van der Eijk (2014), pp. 367 – 368. An objector could argue that Caelius Aurelianus in *Cel.* II 13 (87) [CML VI 1, 1 p. 186, 11 – 12 Bendz] cites literally a purported now lost work by Aristotle entitled *On remedies (De adiutoriis)*: « Hanc definiens primo *De adiutoriis* libro Aristoteles sic tradendam credit: 'Pleuritis', inquit, 'est liquidae materiae coitio siue densatio'. ». Cfr. Rose (1863), p. 388 [T. 5 (335)]; Van der Eijk (1999), p. 493; Van der Eijk - Francis (2009), p. 220 n. 3.

<sup>189</sup> Aristotle *Rh.* ; III 11, 1412a 10 – 13. Cfr. also *Ph.* II 1, 193b 12 – 15; V 5, 229a 11 – 16; *Rh.* I 6, 1362a 31 – 34; *Pol.* III 11, 1281b 39 – 1282a 6; 15, 1286a 12 – 14; *EN* I 6, 1097b 28 – 33; 13, 1102a 18 – 23; 1102b 18 – 21; III 6, 1113a 26 – 29; X 10, 1181b 3 – 5. Cfr. Lloyd (1968), pp. 72 – 78; Van der Eijk (1999), p. 494; (2005), p. 264 n. 23; Van der Eijk - Francis (2009), p. 221.

<sup>190</sup> G. E. R. Lloyd comes to the conclusion that the use of medical analogies served Aristotle as discursive tool; so that, in Lloyd's view, all the medical analogies in the *Nicomachean Ethics* would not help much for the present purpose. Lloyd (1968), p. 68, 82. However, it remains unclear how Lloyd would explain, for instance, the evident textual parallelisms between Aristotle *Pol.* VII 6 and Hippocrates *Aer.* XXIV.

### 3. 1 *The Dissections*

One might legitimately wonder why a chapter with a title like this should be included in an essay whose major scope pursues the connections between Aristotle and medicine. We shall deal with that in full in the next lines, but let us set out certain reasons in order to cast some more light upon the subject. The first one has to do with the unquestionable activity that Aristotle conducted in the field of zoological dissection. In considering his writings on biology, it becomes plain that Aristotle and his disciples dissected (and vivisected) at least 50 species<sup>191</sup> with the aim of gaining insight into the natural world and the pillar vital processes. Although this activity is absolutely certain and can be taken for granted, we should avoid nevertheless extrapolating, for such enterprise was never directed towards human anatomy in Aristotle's time. The taboos developed around the human corpse in Greece rule out such an endeavour<sup>192</sup>; but it is also important here to consider the particular stage of development that "experimental science" reached in 4<sup>th</sup> century - Athens. Thus, some inconsistencies in the *Corpus Aristotelicum* hint at Aristotle's reluctance to make any kind of experiment, all the more so on human subjects<sup>193</sup>. Aristotle was of the firm opinion that the dead human body had the same appearance as the live one, but the former was somehow different, and thereby there was just a homonymic link between a living body and a dead one<sup>194</sup>. Moreover, all this would contravene the strict theoretical nature of medicine in the whole of the Greek *paideia*. From these reasons conjointly it follows that the representation of the human body and the physiological processes we find expounded in the *Corpus Aristotelicum* were obtained from observations that Aristotle carried out of the natural world<sup>195</sup>, or else by analogy of what he could

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<sup>191</sup> Aristotle *Long.* VI 467a 19; *Juv.* II 468a 22 – 27, 468b 15 – 16; *Resp.* III 471b 2 – 4, 21 – 23, VIII 474b 9, XVII 479a 3 – 6. Nutton (2004), pp. 119 – 120. At *PA* I 5, 645a 5 – 23 Aristotle hints at the necessity of anatomical analysis in order to obtain some information on certain parts. Repici (2006), p. 76. For more evidence apparently pointing to the fact that the conclusions at which Aristotle arrives are likely the result of his own observations see *Somn. Vig.* III 456b 2 – 3; *GA* IV 1, 764a 34 – 35; *PA* IV 2, 677a 9 – 10; *Resp.* XVI 478b 27 – 28, 36 – 37.

<sup>192</sup> Vegetti (1993), p. 86.

<sup>193</sup> For instance at *PA* III 4, 666b 20 – 22 or at *HA* III 3, 513a 30 Aristotle errs when he states that the heart of huge animals has three chambers while the heart of the minute only two. Likewise at *HA* II 3, 501b 19 – 21 Aristotle fails to attain the truth in saying that women have less teeth than men. Nutton (2004), p. 120. In Aristotle's biological writings, especially in *GA*, the cases of 'false observations' are easy to find, this being the reason why R. Joly affirms that Aristotle's biological theory might be rational but not yet fully scientific. Cfr. Joly (1968), pp. 225 – 227, 228, 232 – 233, 248 – 249.

<sup>194</sup> Aristotle *PA* I 1, 640b 34 – 36.

<sup>195</sup> Aristotle *HA* I 16, 494b 19 – 24. Nutton (2004), p. 119. In some sense, this is what Aristotle seems to intend in his enquiry on the physical causes of sleep and waking. Cfr. Aristotle *Somn. Vig.* II 455b 29 – 35. A contrasting view in regard to Aristotle (and the scribe of the *Londiniensis*) can be found in Hippocrates *Vict.* I 11[VI p. 486, 12 – 13 Li.]: « Οἱ δὲ ἄνθρωποι ἐκ τῶν φανερῶν τὰ ἀφανέα σκέπτεσθαι οὐκ ἐπίστανται ».

see during the dissections made on animals; hence the inclusion of the present section in this chapter.

Diocles of Carystus — ‘the younger Hippocrates’<sup>196</sup> — is credited with writing the first treatise on anatomy<sup>197</sup>. Given the bonds between Diocles and the Lyceum<sup>198</sup> some experts are of the opinion that the references to the *Dissections*<sup>199</sup> in Aristotle correspond to Diocles’ work *De anatomia animalis*, the treatise on which Aristotle supposedly dwelled to compose his work<sup>200</sup>. However, one finds telling differences between Diocles and Aristotle, for instance, in the way they explain how mammals get their food in the uterus<sup>201</sup>. It appears that Aristotle pursued an independent activity<sup>202</sup> in that field beside Diocles’ observations. We should assume therefore that in his several treatises on zoology<sup>203</sup>, or in the *Parva Naturalia*,<sup>204</sup> Aristotle makes allusion to a work of his own also entitled *Dissections*. Consisting of seven (or eight) books<sup>205</sup>, the *Dissections* was somehow a handbook in which were collected the schemes and drawings of the animals that

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<sup>196</sup> Vegetti (1993), p. 81; (1995), p. XX; Nutton (2004), p. 121.

<sup>197</sup> Galen *De anat. admin.* II 1 [II p. 282, 2 – 3 K.]. Giannantoni (1984), p. 66; Viano (1984), p. 313; Longrigg (1993), pp. 161 – 162.

<sup>198</sup> Jaeger (1957), p. 56; Kudlien (1963), pp. 459 – 460.

<sup>199</sup> Cfr. Bonitz (1870), p. 1465; Marengi (1961), p. 150; Longrigg (1993), pp. 150, 154, 162; Van der Eijk (1999), p. 493. That is to say Ἀνατομαί. The term ἀνατομή has in ancient Greek a much more extended meaning than the sense it has to-day. ἀνατομή could mean ‘an opening to observe the most internal and deepest parts’, this comprising the experimental physiology as well as the anatomy. Sometimes ἀνατομή takes the sense of ‘demonstration’ or ‘description of the parts’. In Aristotle it is especially many-sided, since the word is allowed to mean ‘by my own effective vision’ or ‘by means of others effective vision’ or ‘drawings and models of internal structures never observed’ or ‘inference from particular observed cases to cases never observed or unobservable’. Cfr. Viano (1984), p. 338.

<sup>200</sup> Byl (2011b), p. 118.

<sup>201</sup> Viano (1984), p. 313.

<sup>202</sup> Aristotle *GA* II 7, 745b 34 – 746a 28. According to Diocles, in mammals the fetus gets the nourishment by suckling some nipples that protrude, like lumps, from the walls of the uterus. This view strongly contrasts with Aristotle, who, by direct observation (διὰ τῶν ἀνατομῶν), refutes Diocles’ description by arguing that the placenta actually prevents such kind of suction.

<sup>203</sup> Aristotle *HA* I 17, 497a 32; III 1, 510a 30 – 35; 511a 13; IV 1, 525a 8 – 9; VI 10, 565a 12 – 13; 11, 566a 14 – 15; *PA* IV 5, 680a 1 – 3; 10, 689a 16 – 20. Cfr. Marengi (1961), p. 144; Longrigg (1993), pp. 150, 161 – 162; (1995), p. 438.

<sup>204</sup> Aristotle *Resp.* IV 472a 4 – 5; *Juv.* XVI 478a 34 – b 1. Cfr. Grmek (1997), pp. 64 – 65; Nutton (2004), pp. 120 – 121.

<sup>205</sup> Diogenes Laertius’s catalogue of the works of Aristotle includes 8 books entitled Ἀνατομῶν, and another book, supposedly an excerpt from those eight, entitled Ἐκλογὴ ἀνατομῶν. Diogenes Laertius *Vitae philosophorum* V 25 [Marcovich (1999a), p. 324, 7 – 8]. Cfr. Moreaux (1951), pp. 25, 108.

Aristotle dissected<sup>206</sup> during the lectures on physiology and anatomy held at the Lyceum. All that material served the philosopher in his effort to visualize those parts of the human body that, for the different reasons expounded, remained unknown and obscure to direct observation.

### 3. 2 *The Book On Health and Disease*

As regards the second medical treatise aforementioned, Aristotle's aim — expressed on many occasions<sup>207</sup> — is to assemble and collect the medical knowledge of his time, as well as to go over medicine. In this sense it would be no accident that Aristotle would have written another work entitled *On Health and Disease*<sup>208</sup>. There is some issue on this point, however. Just as E. Zeller believed that the *On Health and Disease* was a mere desideratum that Aristotle never carried out, E. Heitz on the other hand, plainly considered the treatise as a work in its own right, which had appertained to the *Parva Naturalia*<sup>209</sup>. In a similar vein, others maintain that the commentaries at the end of Aristotle's *On Respiration*<sup>210</sup> are but the extant remnants of *On Health and Disease*<sup>211</sup>. P. Moraux and V. Nutton claim that Aristotle penned the *On Health and Disease*<sup>212</sup>. If we were asked to take position on this concern, given that Alexander of Aphrodisias<sup>213</sup> report the existence of a treatise with that title, we consider that there is greater likelihood that Heitz's slant is right.

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<sup>206</sup> Animals that died by natural causes were picked up for the purpose of dissecting, but considering Aristotle *HA* III 3, 513a 12 – 15, it seems that Aristotle had no qualms about putting down some animals according to an especial procedure. Cfr. Wilson (1959), p. 294; Viano (1984), pp. 317, 334.

<sup>207</sup> Aristotle *Sens.* I 1, 436a 17 – 18; *Resp.* XXI 480b 21 – 24; *Long.* 1, 464b 32 – 33; *PA* II 7, 653a 8 – 10. Cfr. Gigon (1987), p. 511; *CPF* Aristoteles 37T, p. 350; Nutton (2004), p. 58; Van der Eijk - Francis (2009), p. 220 n. 30; Ricciardetto (2014), p. XXIX n. 125.

<sup>208</sup> Περὶ νόσου καὶ ὑγείας. Later authors knew about this treatise with some slight variations in the title, for instance, Περὶ ὑγείας καὶ νόσου (*De sanitate et morbo*), or Περὶ ἰατρικῆς (*De medicina*). Diels (1893a), p. XVI; Moraux (1951), pp. 110, 186 – 193; Manetti (1986), p. 61. In ancient Greek literature titles are rather seldom (only obligatory in theater plays), a situation that prompted the use of periphrasis to make reference to particular extant works. Cfr. Moraux (1951), p. 7 n. 17.

<sup>209</sup> Cfr. Zeller (1879), p. 96; Heitz (1865), pp. 56 – 58 respectively.

<sup>210</sup> Aristotle *Resp.* XXI 480b 22 – 30.

<sup>211</sup> *CPF* Aristotle 37T, p. 350.

<sup>212</sup> Cfr. Moraux (1951), pp. 110 – 111; Nutton (2004), p. 356 n. 35. According to P. Moraux, the book Περὶ νόσου καὶ ὑγείας did not deal with the practice of medicine, but it was a writing in which Aristotle, as a physicist, introduced his own opinions regards medical art.

<sup>213</sup> Alexander of Aphrodisias *In librum de sensu commentarium* I 16 [Wendland (1901), p. 6, 19 – 20]: « τὰ (*scil.* βιβλία) δὲ Περὶ ὑγείας καὶ νόσου, εἰ ἐγένετο, οὐ σώζεται », (« the (*scil.* books) *On Health and Disease*, if ever existed, are not preserved »). Heitz (1865), p. 58; Lloyd (2003), p. 176; Van der Eijk (1999), p. 493; (2005), p. 263.

### 3. 3 *The Historia animalium Book X*

After having assessed the pros and cons and the plausibility of the two preceding works, the third case is quite different. Book X in *History of Animals* bears the title *On barrenness*<sup>214</sup> and is mainly about the investigation into the causes of human infertility: why women are unable to conceive and, if any, by which means such an incapacity could be remedied<sup>215</sup>. In the 3<sup>rd</sup> century CE Diogenes Laertius ascribed to Aristotle a book precisely entitled *On barrenness*<sup>216</sup>. This detail looks loaded with meaning considering that in Diogenes' and in another catalogue of the works by Aristotle it is stated that the *History of Animals* comprises 9 books, and not 10 as in its actual disposition<sup>217</sup>. Furthermore, Book X is not included in a group of medieval manuscripts<sup>218</sup> containing the *History of Animals*. The point to be realised from these details is that Book X could well have constituted a unity as such, a book conceived and composed separately that ended up added to the rest of the 9 books of the *History of Animals*<sup>219</sup>. But, to what extent is it fair to attribute the writing of *On barrenness* to Aristotle? On grounds of argumentative and technical

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<sup>214</sup> Περὶ τοῦ μὴ γεννᾶν. The last book of *HA* comprises 6 chapters (Book X covers 633b 10 – 638b 38 in I. Bekker's edition).

<sup>215</sup> The votive offerings found in Epidaurus reveal that more than the half of women who assisted at the temple did it with the aim of finding a solution to sterility. Sterility was generally laid to women in ancient Greece. Since addressing masculine infertility, ch. XXII in Hippocrates *Airs, Waters, Places* constitutes an exception to the rule. Byl (2011a), pp. 121, 126. It is worth noting that at Aristotle's time neither the ovaries (οὐδοίμοι) nor the Fallopian tubes had been discovered (it was Herophilus who did it); so that the dominant medical opinion agreed that the uterus was the sole organ of the feminine genital apparatus. Byl (2011a), pp. 127 – 128; Byl (2011b), p. 123; Totelin (2014), p. 85.

<sup>216</sup> Diogenes Laertius *Vitae philosophorum* V 25 [Marcovich (1999a), p. 324, 11]. Cfr. Van der Eijk (2005), p. 263. In fact, from all the titles that according to Diogenes' catalogue belong to natural philosophy, the *HA* is the only treatise that has come down to us. On the other hand, in the list of works by Aristotle that Diogenes provides in his *Vitae philosophorum* V we miss some well conceded treatises, which apparently indicates that Diogenes drew either from Hermippus of Alexandria — an author earlier than Andronicus of Rhodes — or from Favorinus of Arles; hence the value of Diogenes' catalogue. Cfr. Moraux (1951), pp. 18 – 20, 22 – 27, 212 – 214.

<sup>217</sup> Van der Eijk (2005), pp. 274 – 275. That is to say, in Diogenes Laertius and in the *Anonymus Menag.*, both probably based on the list attributed to Ariston (3<sup>rd</sup> century BC). Cfr. Balme (1985), p. 191. In the list provided by Diogenes Laertius, the 9 books of *History of Animals* are called Περὶ ζώων. Diogenes Laertius *Vitae philosophorum* V 25 [Marcovich (1999a), p. 324, 6]. Cfr. Moraux (1951), p. 107. In the 4<sup>th</sup> century CE, Book X already had been integrated into the *History of Animals* because Oribasius, in quoting *HA* X 5, 636b 39 – 637a 10 in his *Collectionum medicarum (Libri incerti)* XIII 1 (65) – 14 (68) [CMG VI, 2, 2 pp. 100, 16 – 101, 26 Raeder], considers the passage as appertaining to the *History of Animals*. Cfr. Berger (2005), pp. 30 – 31. Concerning the information in the catalogues that assign 10 books to the *HA*, it is drawn from later recensions which are mainly based on the list elaborated by Andronicus of Rhodes, whose report lacks of a separated title such Περὶ τοῦ μὴ γεννᾶν, Ὑπερ τοῦ μὴ γεννᾶν or any other alike. Balme (1985), p. 193.

<sup>218</sup> The manuscripts that belong to the family *α* in the *stemma codicum*: *Laur.* 87,4 (12<sup>th</sup> century); *Marc.* 208 (coll. 614) (13<sup>th</sup> century); *Vat. Palat.* 260 (c. 1300). The so-called *W Par. suppl.* 1156, the oldest one (9<sup>th</sup> century), is of little help because it only contains Aristotle *HA* VI 11, 567a 10 – 13; 14, 569a 1. Cfr. Berger (2005), pp. 59 – 65.

<sup>219</sup> Berger (2005), pp. 30 – 31.

features it is generally agreed that Aristotle did not write it<sup>220</sup>. First, because the author of Book X does not argue according to the thinking patterns featuring Aristotle's works<sup>221</sup>. Secondly because Book X includes an outstanding empirical knowledge about the situations that need treatment<sup>222</sup>, this being somewhat alien to Aristotle's mind. In the third place, because the language and the phenomena described in Book X imply the direct observation of certain afflictions and an evident knowledge of certain medical procedures; for instance, the medical examination of the patient<sup>223</sup>. Lastly, the criticism that Aristotle supposedly makes to "his colleagues" (*scil.* doctors) when it comes to diagnose some particular hardened cysts in the uterus (μύλας)<sup>224</sup> talks of a very far-fetched attitude by Aristotle in this sense. However, as to this last objection, it might be worth bearing in mind two different arguments. In *Generation of Animals* Aristotle explains the fleshy masses (μύλη) that sometimes women bring forth on the grounds that, alone of all animals, women are liable to uterine problems<sup>225</sup>. Aristotle insists that the extirpation of these masses is very difficult by means of an iron blade, and he makes the point that has spoken about the cause of this occurrence in the *Problems*. In point of fact, this specific ailment is not witnessed in the *Problems*, but — as we have just seen — in the *HA X*. According to this testimony, Aristotle was acquainted with a very specific malady, and he also knew that it was remedied with surgery that often caused further problems. Secondly, in his book *On the Anatomy of the Uterus* Galen<sup>226</sup> shows that neither Aristotle nor Herophilus nor Euryphon knew of certain inflammations in the uterus (ἐμφύσεις)<sup>227</sup> which,

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<sup>220</sup> Some have suggested that someone in Strato's school could have written Book X. Cfr. Moraux (1951), p. 107 n. 15; Balme (1985), p. 193.

<sup>221</sup> Van der Eijk (2005), p. 261. The objection grounds in the difference of the theories expounded at *GA* II 7, 746b – 747a 24 and in *HA X*. The divergences between both texts are so striking that one hardly can ascribe them to the same author. However, it is also possible to individualize some passages (e.g. *GA* I 19, 727b 13 – 33) in which points of convergence with *HA X* seem out of doubt. For the purposes of this chapter, it suffices to say that *HA X* is prior to *GA*. Cfr. Balme (1985), p. 193; Van der Eijk (1999), p. 491.

<sup>222</sup> Cfr. e.g. Pseudo - Aristotle *HA X* 1, 633b 15; 634a 12 – 13; 2, 634b 32; 4, 636b 2 – 6. Cfr. Van der Eijk (1999), pp. 496 – 497; (2005), p. 267.

<sup>223</sup> Cfr. Van der Eijk (1999), p. 494. The key term is doubtlessly the verb θιγγάνω, whose sense is « to touch, to palpate, to apprehend or reach by touching ». Cfr. Pseudo - Aristotle *HA X* 2, 635a 6 – 14; 3, 635b 15 – 16; 7, 638b 16 – 38.

<sup>224</sup> Pseudo - Aristotle *HA X* 7, 638b 16 – 38. The author rebukes them for their inability to discern that such cysts in the uterus are cold to tactile recognition in the event of unaccomplished conception. Cfr. also Hippocrates *Mul.* I 71 [VIII pp. 148, 24 – 150, 22 Li.].

<sup>225</sup> *GA* IV 7, 775b 25 – 776a 14. From the description, it seems that Aristotle is speaking about cases of fake pregnancy.

<sup>226</sup> *De uteri dissect.* IX [II pp. 900, 14 – 901, 13 K.]. Cfr. Grensemann (1975), pp. 41 – 42 fr. 29.

<sup>227</sup> By ἐμπυήματα Galen terms not only the internal abscesses in the chest but also in wherever part such purulent inflammations may grow. The issue, thus, is to make clear to what extent the word μύλη in *HA X* reflects Galenic terms like ἐμπυήμα, ἐμφύσις, or φύμα. Cfr. Galen *In Hipp. Aph. comment.* VII 44 [XVIII, 1 pp. 149, 7 – 150, 2 K.]; Grensemann (1975), p. 6 fr. 4.

though invisible to the naked eye, can be observed by means of an accurate dissection. If Galen's remark is to be trusted, this means that Aristotle was actually concerned with medicine yet not to the point of treating patients; hence, a weak point has been signalled in the arguments of those who claim that Aristotle is the author of *HA X*. Anyway and anyhow, the four reasons expounded right here have driven most experts to judge Book X as spurious<sup>228</sup>.

### 3. 4 *The Προβλήματα φυσικά*

It is time now to move onto the next treatise under consideration. Cicero, Galen, and Plutarch are specific enough about the existence of an Aristotelian book on problems<sup>229</sup> which is now lost<sup>230</sup>. It is widely accepted that Aristotle was not the author<sup>231</sup> of the collection of medical questions known as *Προβλήματα φυσικά*. The *Προβλήματα* was composed after the death of the philosopher, and gradually compiled and supplemented from the 3<sup>rd</sup> century BC to the 5<sup>th</sup> century CE<sup>232</sup>. This notwithstanding, the *Προβλήματα* is the result of the investigations either by Peripatetics or by physicians who were keenly bent on accepting the medical-like tenets circulating in the Lyceum<sup>233</sup>. The vast amount of information collected in the *Προβλήματα* comprises a wide range of topics touching physiopathology, pathogenesis, therapeutics, the effects of the body position, the influence exerted by the climate, the structure and ailments of the sensorial organs and so forth<sup>234</sup>. Especially noteworthy is the definition of 'drug' in the first book: a drug is something which is not food, and independent of the amount taken, also a substance that provokes alterations when it penetrates into the vases of the intestines since it is not liable to be digested nor assimilated; for a drug — by definition — stands the natural heat of the body<sup>235</sup>. The first book of the

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<sup>228</sup> Ph. J. Van der Eijk is perhaps the most noticeable exception to this main opinion, for he claims that Aristotle was the author of *HA X* as well as Book X did not belong to *HA*. Cfr. Van der Eijk (1999), pp. 491, 495 n. 26, 502; (2005), pp. 262, 265.

<sup>229</sup> Scholars like G. Marengi, P. Louis, and in a way also H. Flashar, have stated that Aristotle wrote the first book of the *Προβλήματα*. Cfr. Van der Eijk (1999), p. 493 n. 18.

<sup>230</sup> Moraux (1951), p. 11.

<sup>231</sup> As with other treatises in the *Corpus Aristotelicum*, for instance *On Breath*, in most modern editions the author of the *Προβλήματα* is often called 'Pseudo - Aristotle'.

<sup>232</sup> Vegetti (1993), p. 115 n. 20. The most ancient manuscript dates back to the 10<sup>th</sup> century CE.

<sup>233</sup> Moraux (1951), p. 116; Marengi (1965), pp. XV – XVI.

<sup>234</sup> By judging the wide array of topics addressed in the *Προβλήματα*, rather than to a real practical interest the expounded contents seem to have corresponded to a kind of *felix curiositas*. Cfr. Marengi (1965), p. xviii.

<sup>235</sup> Pseudo - Aristotle *Pr.* I 41 – 43, 864a 2 – b 11. This definition could be perfectly read alongside the explanation in Hippocrates *Loc. Hom.* VL [VI p. 340, 3 – 12 Li.]. Cfr. Marengi (1965), p. 65 n. 59.

Προβλήματα φυσικά is also of value for containing references to the Hippocratic treatises *Airs, Waters, Places* and *Aphorisms*<sup>236</sup>. J. Jouanna has provided insight on the embedding<sup>237</sup> of the Aristotelian Προβλήματα into some treatises of the Corpus Hippocraticum. As a result of the comparisons, it looks as if some chapters in the Προβλήματα φυσικά were penned by perusing the earlier of the Hippocratic treatises<sup>238</sup>; this yields definitive evidence that some writings attributed to Hippocrates were widely known among the Peripatetics<sup>239</sup>.

And here the question regarding the alleged medical writings by Aristotle must be left. It remains to speak about the subject-matter of this second chapter: the relation between the Ἱατρικά and the *Anonymus Londiniensis* papyrus.

#### 4. The Ἱατρικά and the *Anonymus Londiniensis Papyrus*

Though scarcer, we do have a few reports on a purported Aristotelian medical treatise — in two books — entitled Ἱατρικά (*De medicina*)<sup>240</sup>. The 7 purported fragments concerning this writing are severally collected in the former edition of the *Anonymus Londiniensis* papyrus<sup>241</sup>. However, it is the quotation that Galen made about the Ἱατρικά that scholarly tradition will eventually assume.

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<sup>236</sup> The treatise titled *Aphorisms* is, by far, the most read and commented Hippocratic writing. Jouanna (1993), p. 21.

<sup>237</sup> Such textual interdependence was set out by the Italian physician L. Septalius in the beginning of the 17<sup>th</sup> century, and later on by F. Poschenrieder and H. Diller. Poschenrieder (1887), pp. 43 – 53; Diller (1932), pp. 141 – 143. Cfr. Kudlien (1989), p. 360; Jouanna (1996), p. 275.

<sup>238</sup> In sum, the issue is based on the comparison between Hippocrates *Aer.* XI [II pp. 50, 17 – 52, 9 Li.] and *Aph.* III, 11 – 14 [IV pp. 490, 2 – 492, 6 Li.] and Pseudo - Aristotle *Pr.* I 8 – 12, 19, 20. Cfr. Jouanna (1996), pp. 273 – 274, 281 – 282. Apropos of this comparative research, it is believed that *Aer.* X served as material for *Aph.* III, 11 – 14. Cfr. Roselli (1989), p. 184. The majority of scholars concerned with the Hippocratic tradition tends to ascribe *Aphorisms* and *Airs, Waters, Places* to Hippocrates or to the members of a group settled on Cos that shared Hippocrates' ideas. Vegetti (1995c), pp. 45 – 46 n. 38. It is also remarkable in this sense that almost 16 fragments in the Προβλήματα seem to depend in the final on *Epid.* II-V-VI. Cfr. Bertier (1989), pp. 261 – 262.

<sup>239</sup> Marengi (1965), p. XVI; Van der Eijk (1999), p. 498. Others claim that Aristotle and his disciples had access to an even broader textual repertory, which comprised Hippocrates *Nat. hom.*; *Epid.* II; *Loc. Hom.*; *Morb. Sacr.*; *Morb.* II; *Epid.* V and VII; *Genit. – Nat. Puer. – Morb.* IV. Cfr. Longrigg (1995), p. 432; Van der Eijk (2014), pp. 351 n. 18, 366; Manetti (2014), pp. 234, 240. Besides this, R. Joly has remarked that some statements that Aristotle presents as if were of his own can be traced, in many cases, to extant ideas formulated in the Hippocratic collection. Joly (1968), p. 220.

<sup>240</sup> Diogenes Laertius *Vitae philosophorum* V 25 [Marcovich (1999a), p. 324, 14]. Cfr. Diels (1893a), p. XVI; Moraux (1951), p. 25; Kudlien (1989), p. 358; Van der Eijk (1999), p. 493; *CPF* Aristoteles 37T, p. 350.

<sup>241</sup> Diels (1893a), pp. 77 – 78. Also in its respective translations into German and English, since both Beckh - Spät and Jones take up Diels's edition. Cfr. Beckh - Spät (1896), pp. 68 – 70; Jones (1947), pp. 5 – 6. In this sense, I. Tacchini's contempt for the usefulness of Jones' edition is incorrect, for Jones' *The Medical Writings of Anonymus Londiniensis* is not an edition. Tacchini (1996a), p. 711.

In his *Commentary on Hippocrates' The Nature of Man*<sup>242</sup> Galen wrote: « he who wishes to gain insight into this subject (*scil.* the causes of disease) should read the *Medical Compendium*<sup>243</sup> which, although having been ascribed to Aristotle, was written by his disciple Meno ». Because of this remark the Ἱατρικά will be also known as *Menonia* or *Menoneia*<sup>244</sup>. As has been said<sup>245</sup>, Galen's note matches well with the encyclopaedic project that Aristotle had in mind, so that the Ἱατρικά/*Menonia* would correspond to the exhaustive investigation into the history of the different disciplines that Aristotle would have commended to some of his disciples, in the case of Meno in particular, that of the medical literature stored in the library of the Lyceum<sup>246</sup>.

From the moment of its discovery F. Kenyon launched the hypothesis that the long papyrus of medical content which arrived at the British Museum corresponded to the Ἱατρικά quoted by Galen<sup>247</sup>. Adopting Kenyon's standpoint, in 1893 H. Diels contended that the second section in the *Anonymus Londiniensis* papyrus<sup>248</sup> was an epitome based on the *Menonia*<sup>249</sup>. In the long run the “Kenyon – Diels hypothesis” would become dominant in the majority of studies on the London

<sup>242</sup> Galen *In Hipp. Nat. Hom. comment.* I 1 (99) [XV pp. 25, 15 – 26, 2 K.] = I 2 (25/26) [CMG V 9, 1 p. 15, 26 – 29 Mewaldt]: « εἰ τὰς τῶν παλαιῶν ἰατρῶν δόξας ἐθέλοις ἱστορῆσαι, πάρεστί σοι τὰς τῆς ἱατρικῆς συναγωγῆς ἀναγνῶναι βίβλους, ἐπιγεγραμμένας μὲν Ἀριστοτέλει, ὁμολογουμένας δὲ ὑπὸ Μένωνος, ὃς ἦν μαθητὴς αὐτοῦ, γεγράφαί ». The essential point is that Meno is solely known by means of this Galenic quotation. Cfr. Withington (1929), p. 183; Gigon (1987), pp. 511 – 512 fr. 354; Manetti (1986), p. 61; (1990), p. 220; (1999), pp. 98 – 99; *CPF* Aristotle 37T, p. 348. Along with his commentary on *Airs, Waters, Places*, the linear commentary on *The Nature of Man* is the other Hippocratic commentary that Galen wrote by the end of his lifetime. Jouanna (2012i), p. 319.

<sup>243</sup> Ἱατρικὴ συναγωγή. P. Moraux is absolutely convinced of the apocryphal nature of this treatise. Cfr. Moraux (1951), pp. 186 – 188.

<sup>244</sup> Galen *In Hipp. Nat. Hom. comment.* I 1 [XV p. 26, 1 – 3 K.] = I 2 (26) [CMG V 9, 1 p. 15, 29 – 30 Mewaldt]. The existence of a work entitled τὰ Μενώνεια is witnessed in Plutarch *Quaest. conv.* VIII 9 (3), 733c – d [Hubert (1971), p. 297, 10 – 15]: « καὶ μὴν ἔν γε τοῖς Μενωνείοις σημεῖον ἥπατικοῦ πάθους ἀναγράφεται τὸ τοὺς κατοικιδίους μῦς ἐπιμελῶς παραφυλάττειν καὶ διώκειν », (« What is more, in the works of Meno it is given as a sign of liver disease that a patient watches attentively for the mice of the household and pursues them »). Trans. Minar (1961), p. 199. Cfr. Rose (1863), p. 388 [T. 1. 2 (331, 332)]; Diels (1893a), p. 77 fr. III; Beckh - Spät (1896), pp. 68 – 69; Jones (1947), p. 5; Gigon (1987), p. 511 fr. 353. The existence of such *Menonia* is in fact taken for granted in the title of the *editio princeps* by H. Diels (« *ex Aristotelis Iatricis Menoniis* »), as well as in the *Realenzyklopädie*. Cfr. Raeder (1931), p. 927. *CPF* Aristotle 37T, pp. 348 – 349; Kudlien (1989), pp. 358 – 359; Jouanna (1992), pp. 90, 376; Squillace (2013), p. 173. There is a trend of specialists, P. Moraux among them, who equates the *Problems of Medicine* (Ὅσα ἱατρικά) to the *Menonia*. Marengi (1961), p. 146.

<sup>245</sup> Cfr. *supra*. § 3. 2.

<sup>246</sup> Rose (1863), p. 385. So far as this subject is concerned, it is known that Theophrastus — Aristotle's successor as head at the Lyceum — wrote short tracts on medical topics as sweating, fatigue and giddiness. Galen *De san. tuenda*. III 5 [VI p. 190, 4 – 5 K.]. Cfr. Bertier (1989), p. 261; Nutton (2004), p. 120.

<sup>247</sup> Kenyon (1892), pp. 237 – 240; Diels (1893b), p. 407; *CPF* Aristoteles 37T, p. 348.

<sup>248</sup> I.e. cols. IV, 18 – XXI, 8?

<sup>249</sup> In the *Anonymus Londiniensis* Meno would be called 'Aristotle'. Cfr. Manetti (1990), pp. 220; (1999), p. 98. In the *Anonymus* the name 'Aristotle' occurs in cols. V, 37; VI, 42; VII, [38], 43; XXIII, <42>; XXIV, 6. Cfr. cols. VII, [38] – 40, 42 – 43; VIII, 10 – 12. Along the same lines, it is assumed that the subject of the verb 'φ(η)σί' in col. XII, 8 is Aristotle, that is to say, the work by Aristotle/Meno that the scribe used to write down a good deal of the descriptions he provides in the second section.

papyrus. Thus, the second section of the *Anonymus Londiniensis* papyrus was accepted as confirmatory evidence of the existence of a medical doxography that, under the label ‘Aristotle’, circulated in Egypt at the end of the 1<sup>st</sup> century CE<sup>250</sup>.

Yet issues of different kinds arise when looking at the subject more closely. To start with, it is not clear at all who Meno was. D. Manetti, the philologist who has been studying the papyrus for the last 30 years, maintains that in the first two centuries CE about as much was known about Meno as we do today, which amounts to saying that it cannot be said that Meno ever existed<sup>251</sup>. Moreover, again according to Manetti, it cannot be discounted that the papyrus might represent an Aristotelian lost work to which the scribe of the *Anonymus* had direct access<sup>252</sup>. Were it true, the second section of the *Anonymus* papyrus would be a mess made of quotations, meditations, and comments drawn on the aforesaid *On Health and Disease*. But, besides this, the picture is accompanied by some additional difficulties.

Since not even a minimal trace of ink is to be found where Manetti’s edition indicates the presence of the term ‘Ἱατρικά’, by heading each and every page in her edition<sup>253</sup> of the *Londiniensis* with that title Manetti’s alternative to the “Kenyon-Diels hypothesis” is automatically called into question. The addition is troublesome from a papyrological point of view<sup>254</sup>, for, according to the standard conventions, in finding the supposed title in angular brackets (i.e. <IATPIKA>)<sup>255</sup> the reader is asked to assume that ‘IATPIKA’ was an omitted word by the scribe<sup>256</sup>, and on the other hand, that ‘IATPIKA’ is also the title of the whole papyrus which, if not wrong, is even more debatable. Both the actual state and the nature of the papyrus suggest that the scribe could not have wanted to give it a title at all or at least not the title that Manetti proposes. The sole title in the whole papyrus is the expression « Αἰ[τιο]λογικὸς.[Νόσοι.] » in col. IV, 18 – 19: « *Etiological <Enquiry>. Diseases* ». If the *Anonymus* is a hypomnematic writing, as has been solidly argued, there is no need for the scribe to have given it a title, for in being mainly conceived for private use

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<sup>250</sup> Van der Eijk (1995), p. 452 n. 20.

<sup>251</sup> Manetti (1990), p. 220; (1999), pp. 98 – 99; Ricciardetto (2016), p. XLVII. H. Diels already went over Meno’s identity. Diels (1893b), p. 409.

<sup>252</sup> Manetti (1986), pp. 59 – 64; (1990), p. 222; (1994), pp. 57 – 58. Cfr. Gigon (1987), p. 511; Van der Eijk (1999), p. 494 n. 20; Van der Eijk (2005), p. 264.

<sup>253</sup> Manetti (2011a).

<sup>254</sup> Ricciardetto (2014), p. 41.

<sup>255</sup> Manetti (2011a), p. 1. Moreover, the supposed title is wrongly transliterated all through the edition: « IATPICA ». Cfr. Manetti (2011a), p. 3 *passim* every odd number page. Ricciardetto (2016), p. 70.

<sup>256</sup> At best, we should find it amended as [Ἱατρικά].

the hypomnematic pieces used to be untitled<sup>257</sup>. Therefore, if the adjective ‘untitled’ were added to ‘anonymous’<sup>258</sup> we would be possibly doing much more justice to the papyrus.

Thus, despite the fact that it cannot be categorically asserted that the second section of the *Londiniensis* mirrors any work by Aristotle or by Meno<sup>259</sup>, it is at least undeniable that — apart from the explicit references to Aristotle — the papyrus shows a strong Aristotelian imprint from many other stances<sup>260</sup>. Of the three sections the *Londiniensis* papyrus is said to comprise, the second properly consists in a doxography. By ‘doxography’ H. Diels termed a genre of ancient writings intending to recollect the doctrines (δόξαι, ἀρέσκοντα, ἔνδοξα, *placita*, etc.) of the authors who were credited as eminent in a particular subject. Such a compiling enterprise began with the dialectical method taught at the Lyceum<sup>261</sup>. Aristotle’s influence on the *Anon. Lond.* can be also appreciated in cols. XXIII, 42 – XXIV, 9 where the scribe alludes to a passage in *On Sleep and Waking*<sup>262</sup>. Other traits pointing to the Aristotelian influence on the *Londiniensis* are the taxonomical criteria and the vocabulary: περίττωμα, ἀναθυμιαθεΐσαι<sup>263</sup>, ἄηκτον<sup>264</sup> and the like are all terms coined by Aristotle or notions on which the philosopher conferred a particular technical meaning.

Even if Aristotle — and not Meno — wrote the Ἰατρικά, we should definitely admit that we know it in such a diluted and distorted way by means of the *Anon. Lond.* that it looks barely useful when the time comes to get a reliable picture of Aristotle’s medical doctrines. Aristotle, is true, is

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<sup>257</sup> Cfr. supra ch. I § 2; Dorandi (2007), p. 77; Ricciardetto (2013), p. 84. Apart from the title mentioned above, no other of the usual forms of title in papyrus (*incipit*, *explicit*, or *titulus index*) is found in the *Anonymus*; wherefore, had the *Anonymus* ever had a title it should have been in the initial part of the papyrus which has been lost (two columns, c. 90 lines). Diels (1893b), p. 410; Ricciardetto (2014), p. XVI. We have very scarce documentation about the starting part of papyrus scrolls, which interferes when the time comes to get a clue about the current literary procedures in this particular subject. Bastianini (1995), p. 25.

<sup>258</sup> The fact of being anonymous appears to be the dominant trend when it comes to papyri. A look at the ensemble of Greek and Latin medical papyri evinces that only 54 (16,5 per cent) of the 328 papyri catalogued up to 2015 can be ascribed to some author, whilst the 274 that remain (83,5 per cent) are *adespota*. Marganne (2004), p. 63 (data provided by Prof. M. -H. Marganne during her communication « *L’apport de la papyrologie à l’ecdotique des titres des livres médicaux* »; CeDoPaL, Liège, 8. 10. 2015).

<sup>259</sup> Ricciardetto (2014), pp. XXIX.

<sup>260</sup> Gourevitch (1989), p. 238; Manetti (1999), p. 99; (2005), p. 311; (2014), p. 233.

<sup>261</sup> CPF Plato 129T, pp. 550 – 552; Manetti (1990), pp. 219, 221; (1996a), p. 295; (2013), p. 164. Aristotle *Top.* I 1, 100b 21 – 23. Cfr. also Tieleman (1995), 490 – 491; Runia (1999), p. 50; Ricciardetto (2016), pp. XLIII – XLIV. In *On the Opinions of Plato and Hippocrates*, Galen sets up four categories of syllogistic argument (scientific, dialectical, rhetorical, and sophistic); it is likely that he found such division in Aristotle *Rh.* I 1, 1354a 1– 2. Cfr. Galen *De plac. Hipp. et Plat.* VIII 1 (319) [V pp. 650, 15 – 651, 3 K.]; Percy (1993), p. 454. The author of *Anon. Lond.* had at his disposal a series of doxographical texts with a strong dialectical slant. Debru (1995), p. 79; Manetti (1999), pp. 137 – 138.

<sup>262</sup> Cfr. infra ch. VI.

<sup>263</sup> Col. VI, 32.

<sup>264</sup> Col. XVII, [31].

always behind the scenes of the argumentative style in the papyrus, but we do not have a vivid portrait of his opinions. The second section of the *Londiniensis* presents Aristotle's medical doctrines as these were received and understood by the scribe<sup>265</sup>, perhaps indeed, as Diels believed<sup>266</sup>, mixed with the contents that the author of the *Anonymus* found in the Ἀρέσκοντα<sup>267</sup>, another doxographical work attributed to the physician Alexander Philalethes<sup>268</sup>. In consequence roughly 2 or 3 interfaces intervene between Aristotle's medical doctrines in the *Londiniensis* and us; with it, the exigible standard degree of verisimilitude and objectivity proper to any scientific approach to the subject is a long way from the desirable. Furthermore, the scribe does not make reference to Aristotle in the same way as he deals with the rest of the authors he addresses in the second section. Aristotle does not come reviewed as an authority whose theories of causation of disease can be found in this or that treatise; rather, it looks as if the author of the *Anon. Lond.* quotes Aristotle as one among multiple sources from which he draws the information he uses to give the multiple descriptions we find in the second section<sup>269</sup>.

Matters standing thus, we cannot do more than sketch, from the treatises of which Aristotle is generally credited the author, a more accurate report on Aristotle as if the philosopher, like the rest of the reviewed personages, had been included in the second section of the *Londiniensis*.

## 5. Aristotle and Medicine; a Recreation

It is not that clear that the scribe of the *Londiniensis* would have placed Aristotle in the first of the two groups represented in the second section of the papyrus, which is comprised of the

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<sup>265</sup> As J. Jouanna has noted « comme dans toute doxographie qui n'est pas une citation explicite ». Jouanna (1988), p. 32.

<sup>266</sup> Diels (1893a), pp. 414 – 415; *CPF* Aristoteles 37T, p. 348.

<sup>267</sup> In almost five books (today lost) according to Galen *De diff. puls.* IV 4 – 5 [VIII pp. 725, 17 – 732, 7 K.]. Cfr. von Staden (1989), pp. 533 n. 9, 538. Alexander Philalethes (Ἀλέξανδρος ὁ Φιλαλήθεις) is mentioned in cols. XXIV, 31; XXXV, 22, [54]; XXXIX, 1.

<sup>268</sup> Diels (1893b), pp. 413 – 415; Wellmann (1922), p. 420; Manetti (1986), p. 60; (1990), p. 221; (1999), p. 98. For a detailed portrait of Alexander Philalethes (50 BC – 25 CE), one can consult the monographic chapter to him devoted in von Staden (1989), pp. 532 – 539. Alexander Philalethes figures as *terminus post quem* of the *Anon. Lond.* Diels (1893a), p. XV; Manetti (1990), p. 221.

<sup>269</sup> Cols. IV, 18 – XXI, 8. The second section (and to some extent perhaps also the third) is doubtlessly drafted on a variety of texts: manuals of ethics, medical definitions, different doxographies, exegetic material of diverse nature, collections of problems, collections of debates *in utramque partem* and the like. Cfr. Manetti (1996a), p. 295; (2013), p. 164.

physicians who assign the causes of disease to undigested food residue (περιττώματα)<sup>270</sup>. Aristotle might have occupied instead a transitional position between that group and the other group also considered in the second section, that including the physicians who posited that diseases arise from the constitutive elements in us (στοιχεῖα)<sup>271</sup>.

As has been said, the term περίττωμα is plainly Aristotelian<sup>272</sup> but, in fact, the definition of περίττωμα given in the *Generation of Animals*<sup>273</sup> does not seem to imply any kind of morbid agency; on the contrary, the περίττωμα is pictured in that treatise as an innocuous item<sup>274</sup> related to the formation of the sperm<sup>275</sup>. Thus, albeit Aristotle conceived the περίττωμα as the algid point of corruption of the nourishment in the body, he did not ascribe a pathologic agency to the περίττωμα, as seemingly comes to the fore in the report of the *Londiniensis*<sup>276</sup>. According to Aristotle there is a flagrant contradiction in, on the one hand, attributing to the περίττωμα the causation of disease, and on the other, in regarding the περίττωμα as the matter that makes life possible; for, in Aristotle's mind, it is simply inconceivable to put such two divergent effects to the same cause<sup>277</sup>. There would then be serious difficulties in explaining how the same matter which is said to be at the root of

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<sup>270</sup> Cols. IV, 20 – XIV, 11. Euryphon of Cnidos (5<sup>th</sup> century BC) is credited with having set the basis of such nosological theory. Cfr. Nutton (2004), p. 73. Euryphon's etiological views are expounded in col. IV, 31 – 40.

<sup>271</sup> Cols. XIV, 12 – XXI, 8? However, as H. Diels well remarked, the scribe of the *Londiniensis* papyrus considered two main causes of disease: a dietetic and a somatic one. Cfr. Diels (1893b), p. 415. We should add, moreover, that the presence of bodily fluids is in general regarded a pathologic sign among the physicians who put the causation of disease down to the residues; contrarily, those who ascribed the causes of disease to the elements in us tend to consider bodily fluids as plain constituents of the organism.

<sup>272</sup> Nelson (1909), p. 105; Thivel (1965), p. 268; Jouanna (2012a), p. 7; Van der Eijk (2014), p. 364. There should be made a distinction between περίττωμα, πλήθος (cfr. cols. V, 39; VII, 27, 34; VIII, 39; IX, 15; XII, 14; XIII, 22, 23, 25, 45; XIV, 4; XVII, 9), and πληθώρα. The first notion mainly means "residues formed within the body after digestion", the second and the third terms "more quantity or amount than necessary", thereby also "superfluity". While the concept περίττωμα takes a resultative sense, πλήθος and πληθώρα rather suggest a faulty condition which is likely to bring about a variety of diseases. Cfr. Galen *De san. tuenda* VI 6 [VI p. 408, 5 – 6 K.]; 13 [VI p. 442, 4 – 9 K.]. Seen as a potential cause of disease, several tenets related to the πλήθος were taken up as current topic of discussion in the medicine of the post-Hellenistic period, to the point that Galen wrote a treatise on the question. Manetti (1996a), p. 308. Erasistratus held that the majority of affections arise from an exceeding amount of blood in the veins, which provokes, in turn, the flooding of the arteries with the blood that passes to the arteries through fine capillaries that, in normal conditions, remain closed. Still according to Erasistratus, this abnormal situation also yields a deficient supply of *pneuma* in the arteries. Cfr. von Staden (1989), p. 304; Longrigg (1993), p. 217.

<sup>273</sup> I 18, 724b 26 – 28. Cfr. Manetti (2005), p. 312.

<sup>274</sup> However, in col. XXVI, 8 – 16 the scribe discusses and rejects the possibility that the περίττωμα could constitute aliment for irrational animals.

<sup>275</sup> Cfr. also Aristotle *Long.* V 466b 8 – 9. For instance, at *HA* X 1, 634b 9, by περίττωμα it is meant « vaginal secretion ». At *GA* I 19, 727a 10 – 31 Aristotle speaks about menstruations as just one of the possible forms of residue. Aristotle does not make a distinction between masculine sperm and feminine sperm, he uses the same concept to make reference to both. Cfr. Aristotle *Insomn.* II 460a 8 – 9; Pseudo - Aristotle *HA* X 2, 634b 32. Cfr. Joly (1968), pp. 241 – 242; Van der Eijk (1999), p. 499; (2005), p. 270.

<sup>276</sup> Cfr. Manetti (2005), p. 312.

<sup>277</sup> Cfr. also Pseudo - Aristotle *HA* X 5, 637a 40 – 41.

disease is at the same time decisive for conception and generation<sup>278</sup>. That could be one of the many incongruences or undetermined points we find in every great philosophical system, or further evidence of the different attributions that the majority of fundamental concepts undergo throughout their transmission<sup>279</sup>.

To pay due heed to Aristotle it should be noted, however, that he differentiated between the notion of *περίττωμα* from that of *σύντηγμα*<sup>280</sup>, the latter always being of morbid nature (*νοσώδης*)<sup>281</sup>. Thereby, while the *περίττωμα* is the matter resulting from digestion or assimilation, by *σύντηγμα* Aristotle intended something apparently different from *περίττωμα*, something like “non-assimilated residue; humours permeating the body which neither being secretions nor excretions are nevertheless regularly excreted; dissolution of the flesh; putrefaction of the flesh”<sup>282</sup>. In this way, in contrast to what appears to happen in the *Anonymus* papyrus — where the concept *περίττωμα* takes an evident nosological sense — the use that Aristotle made of the term *περίττωμα* suggests some kind of bodily matter that is useless and superfluous but not necessarily pathogenous or harmful<sup>283</sup>. Two different options seem possible thus far: either Aristotle made a distinction between the *περίττωμα* and the *σύντηγμα* (attributing to the latter the causation of disease), or he posited the existence of two different genres of residue, useful ones and useless ones, the useless ones (*συντήγματα*) being those that caused disease.

Returning once more to the thread of the argument, Aristotle’s etiological doctrine as a midway position between the two groups portrayed in the second section of the *Londiniensis* could be reinforced by the fact that he conceived the human body as the result of a successive aggregation of elements. In Aristotle’s view the four qualities or causes of the elements are heat, cold, dryness

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<sup>278</sup> Aristotle *Mete.* IV 6, 383a 6 – 9.

<sup>279</sup> Which can be extrapolated to the reason why the constitutive elements of the body are in the end also potential agents of disease.

<sup>280</sup> Aristotle *Somn. Vig.* III 456b 35. This notwithstanding, Aristotle not always seem to make a distinction between one and the other, i.e. *PA* IV 2, 677a 13; *GA* I 18, 724b 27.

<sup>281</sup> *Νοσώδης* is a typical adjective formed by adding the suffix *-ώδης*, which belongs to a cluster of concepts that experienced a notable increase in scientific language from the 5<sup>th</sup> century BC on. *Νοσώδης* is in fact attested in other places than the *Corpus Hippocraticum*, but not earlier than the 5<sup>th</sup> century BC. Originally, the suffix meant « to smell to », but either due to the confusion with the suffix *-ειδής* or to the import that the sense of sight had in the Greek world, the word *νοσώδης* soon took on meanings like « to have the aspect of », « to possess the quality of », or « to seem, to resemble ». Cfr. Zaragoza - Gonzalez (1989) pp. 207, 210.

<sup>282</sup> Pepe (1982), p. 174 n. 73; Thivel (2001), p. 204.

<sup>283</sup> As far as this distinction is concerned, A. Thivel claims that pathologic determinism grounded in the notion of *περίττωμα* cannot be Aristotelian. It is a firm belief of Thivel that it is all about the *Ἀρέσκοντα*. In short, it is not the case that the scribe is ignorant of Aristotle’s theory, but it rather seems to Thivel that in having drawn from Alexander Philalethes’ work, the author of the *Londiniensis* got with some unhappy version of Aristotle’s opinions on the causation of disease. Cfr. Thivel (2001), pp. 204 – 205.

and humidity, attributing to the first two agents the majority of biological processes in us<sup>284</sup>. Hence the difficulty in foretelling on the side of which of the two groups the scribe would have placed Aristotle.

Probably because he considered that the digestive process could bring about several kinds of disease, Aristotle placed importance on the physiology of the digestion (πέψις)<sup>285</sup>. In the Corpus Aristotelicum digestion is likened to an ebullition<sup>286</sup>, to a type of concoction which is possible and made effective by means of the performative power of the innate heat within the body<sup>287</sup>. According to Aristotle, after a meal the fluids resulting from the ebullition taking place in the stomach are distributed through a network of thin vessels in the intestines. Afterwards, such fluids pass through the pores by virtue of an evaporation-like process becoming in that way a kind of serum (ἴχωρ), which in its gradual ascension through the body is said to turn finally into blood<sup>288</sup> after having experienced a series of concoctions: the first in the intestines, the second in the liver<sup>289</sup>, the spleen,

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<sup>284</sup> Aristotle *PA* II 2, 648a 33 – 35.

<sup>285</sup> The word πέψις (digestion) is etymologically linked to σήψις (putrefaction), this being perhaps the reason for Empedocles rather considered the digestion as a kind of putrefaction, and not as a concoction. Longrigg (1993), pp. 162, 172. In Aristotle the term σήψις gets a nosological meaning, i.e. the transformation undergone by an organism when it is exposed to a too high temperature. Cfr. Aristotle *Mete.* IV 1, 379a 14 – 15; 3, 381b 7 – 8. Steckerl (1958), p. 32. While digestion takes place in the viscera in the upper part of the body, bowels in those of the lower part. In being the lower part of the belly the place where the residues “get stocked”, there is more likelihood for a process of putrefaction to occur therein. Aristotle *Mete.* IV 4, 381b 6 – 13; *HA* V 19, 551a 4 – 8. Cfr. also col. XVI, 19 – 24. In the Aristotelian Προβλήματα, the verb πέττεσθαι can indicate « state of maturation », or else « the complete absorption of the harmful humours in the body », as if in a stew. Cfr. Pseudo - Aristotle *Pr.* I 6, 859b 13; Marengi (1965), pp. 27 – 29 n. 18; López Eire (1996), p. 393. At Pseudo - Aristotle *HA* X 7, 638b 4, the verbal form πέψαι is used to describe the gradual evolution that the fetus experiences in the uterus; so that, in a sense, pregnancy was also viewed in terms of concoction.

<sup>286</sup> Aristotle *Mete.* IV 3, 381b 7 – 8. Perhaps with the exception of Erasistratus and Asclepiades, who held a much more mechanical view of the issue, the majority of ancient Greek theories of digestion accounts for the transformation of food into blood by virtue of a concoction-like process. Cfr. DK Empedocles 31[21]B 81 [Diels (1951), p. 340]; Plato *Ti.* 80d ff.; Aristotle *PA* III 7, 670a 20 – b 31, IV 4, 676a 8 – 11; *Juv.* III 469a 5 ff.; *Resp.* VIII 474a 28. Cfr. Abel (1957), p. 110; Joly (1968), p. 244; von Staden (1989), pp. 265 – 266; Longrigg (1993), p. 215; Manetti (2003), pp. 337 – 338; Byl (2011b), p. 24.

<sup>287</sup> Aristotle *PA* II 3, 650a 4 – 5; *Mete.* IV 2, 379b 10 – 14; 3, 380a 8; Pseudo - Aristotle *Pr.* I 17, 861a 23.

<sup>288</sup> Aristotle *Juv.* III 469a 1 – 2. To Aristotle every living being has blood or some analogous principle.

<sup>289</sup> For the importance attributed to the liver in Aristotelian commentators and their description of the issue cfr. Wiesner (1978), p. 256.

the kidneys, and finally in the heart<sup>290</sup>. It comes as no surprise then that a wide range of dyspeptic ailments come to be explained by virtue of an unfulfilled concoction of the food<sup>291</sup>.

In a similar vein, so far as the causes of disease are concerned, Aristotle deems the air enclosed in the body — yielded by the gases exhaled from the residues formed after a copious or heterogeneous meal <sup>292</sup>— to be the cause of uncontrollable palpitations, shivers, and trembling<sup>293</sup>. Apart from bringing about sleep, Aristotle states elsewhere that one is liable to be seized by catarrh<sup>294</sup>, nightmares<sup>295</sup> or indeed the deformation of certain parts of the visage<sup>296</sup> when the warm gases produced during the digestive process get cooled in the head. It is precisely here that Hippocrates comes in, for this etiological theory resembles the Hippocratic one<sup>297</sup>, or more properly speaking, Hippocrates' doctrine insofar as it was understood and assumed by Aristotle. We should go now into the details implied in the assertion.

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<sup>290</sup> Allbutt (1921), p. 247; Tacchini (1996b), pp. 88 – 90.

<sup>291</sup> In examining the antonymous notion, ἀπεψία, it turns out that it means « rawness, indigestion, privation or absence of concoction, food that has not been transformed into juice » etc. The word δυσπεψία refers to a corrupted concoction. The first group of physicians reviewed in the second section of the *Anon. Lond.* is in some way convinced that diseases come upon due to some kind of digestive dysfunction provoked by the unbalance between bodily heat and amount of consumed food; for, whenever the situation is such that the ingested food cannot be wholly assumed by innate heat, then the body produces residues (περιττώματα), which in turn — according to those doctors — is the cause of different kinds of ailment. Cfr. Tacchini (1996b), p. 98.

<sup>292</sup> At the basis of the Hippocratic view of health and illness one sees the idea that there is a kind of fight between the body and the food (either solid or liquid). Jouanna (1988), p. 35; (2012e), p. 146. Cfr. col. VI, 1 – 6. The term προσαρμάτ(ων) in col. VI, 2 has led D. Manetti to hold that the fragment comprised between cols. V, 43 – VI, 2 was shaped on Hippocrates *Aph.* I, 15. Cfr. Manetti (1996a), p. 295.

<sup>293</sup> Aristotle *Mete.* II 8, 366b 25 – 30. Diocles of Carystus was who assigned the efficient cause of a number of diseases to the blockage of the air in the body. Thus, in Diocles' view, if the phlegm blocks the *pneuma* in the aorta that can bring about epilepsy or apoplexy. When the obstruction of the *pneuma* takes place near the heart it is accompanied by fevers, headaches, or even melancholy. Nutton (2004), pp. 121 – 122, 126.

<sup>294</sup> Aristotle *Sens.* V 444a 11 – 15: « διὸ καὶ ἡ τῆς τροφῆς ἀναθυμίασις ψυχρομένη διὰ τὸν τόπον τὰ νοσηματικά ρεύματα ποιεῖ », (« This is why the fumes of food, when they are chilled by the coldness of that region, cause catarrh »). Trans. Hett (1957), p. 253.

<sup>295</sup> Aristotle *Somn. Vig.* I 454b 6 – 7; III 458a 4 – 5; *Insomn.* III 461a 23 – 25. In addition, Aristotle affirms that those whose nature is so constituted that much upwards evaporation takes place do not see mental pictures in their dreams. Aristotle *Insomn.* III 462b 6 – 9.

<sup>296</sup> At Aristotle's time, or immediately after, by 'satyriasis' it was meant the deformation of the traits of the visage; whereas later, at least from the 1<sup>st</sup> century CE on, this denomination started to mean the inflammation of the seminal ducts, or of the neck of the bladder; inflammation that provoked, it was believed, acute pains in the genital area, a very intense sexual desire, and even delirium. Cfr. *Anonymi medici* XVI 1 – 2 [Garofalo (1997), p. 106, 16 – 23].

<sup>297</sup> D. Gourevitch and J. Longrigg affirm that a good deal of the physiological and medical principles we see in Aristotle are related to the physician Philistion of Locris (cols. XX, 25 – XXI, 8 [?]). Gourevitch (1989), pp. 237 – 239; Longrigg (1993), p. 158. Philistion was a Sicilian physician of the 4<sup>th</sup> century BC. Cfr. Bidez - Leboucq (1944), pp. 7, 17 – 18; Nutton (2004), p. 115; Ricciardetto (2016), p. XCVII. In the *Londiniensis* papyrus, Philistion, along with Philolao of Croton and Menecrates of Siracusa, is one of the three authors from south Italy who attribute the causation of disease to the unbalance between the constitutive elements of the body and their properties. Contrariwise, Hippo of Croton and Timotheus of Metapontus — two other physicians from the same area also reviewed in the papyrus — assign the causes of disease to the residues which arise from undigested food. Cfr. Debru (1996), p. 179.

## 5. 1 *Hippocrates and the Lyceum*

Although none of the titles classed as Hippocratic is quoted in the *Corpus Aristotelicum*, columns V, 35 – VI, 43<sup>298</sup> in the *Anon. Lond.* bear definitive evidence that Hippocrates' writings were studied at the Lyceum<sup>299</sup>, as well as that a “heterodox interpretation” — mistaken in the scribe's opinion — of Hippocrates' etiological theory<sup>300</sup> circulated among the Peripatetics. Nothing of what is reported in *Anon. Lond.* V, 35 – VI, 43 fits neatly in every particular with any surviving work in the Hippocratic Corpus. True, the aforementioned fragment in the papyrus seems to follow closely some ideas<sup>301</sup> and occasionally even the wording of *Breaths*<sup>302</sup>. In *Breaths* one is to find a twofold interpretation of *pneuma*. On the one hand in *Breaths* III 1 the *pneuma* is said to be a source of nourishment, so that the comparison between the plants called ‘soldiers’ and the anatomical disposition in man could have inspired the author of the *Anonymus* to justify the preponderant role of the air. On the other hand, the author of *Breaths* supposes that all diseases are caused by the air, so that he pictures the *pneuma* as the principal source of illness<sup>303</sup>, this probably being why the scribe might have made use of that treatise in the etiological section. Both the description of

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<sup>298</sup> Split in two (i.e. V, 35 – VI, 18 and VI, 31 – 43), this passage was translated into French and addressed by J. Jouanna in Jouanna (1992), pp. 89 – 91.

<sup>299</sup> Diels (1893b), pp. 421, 431; Manetti (1999), pp. 105 – 106; (2014), p. 233; Ricciardetto (2014), p. XXXVI n. 198. Judging by how the substantive *προσαρμάτ(ων)* is used in col. VI, 2, it has been suggested that cols. V, 43 – VI, 2 were written by fixing the gaze on Hippocrates *Aph.* I 14 – 15, for the term *προσάρμα* (i.e. nourishment) is in both chapters utilised to shore up more firmly the idea that, in relation to the capacity of digesting, there must be a fair proportion between food and innate heat. Cfr. *Aph.* I 14 – 15 [IV p. 466, 8 – 16 Li.]. The same tenet is taken up in Hippocrates *Hum.* VI [V p. 484, 11 Li.]; *Dec. hab.* XIV [IX p. 240, 13 Li.]. In the medical literature to come after Hippocrates, the word *προσάρμα* is always employed in constant reference to *Aphorisms*. Cfr. Manetti (1996a), p. 295 n. 2.

<sup>300</sup> Manetti (1990), p. 219. The contents comprised between cols. VI, 44 – VII, 37 convey what the scribe of *Anon. Lond.* takes as Hippocrates' real theory of causation of disease. Cfr. Jones (1984a), p. XL. Consequently, in cols. VI, 42 – 44 and VII, 37 – 40 the scribe insists on the fact that it must be drawn a distinction between what Aristotle believed that Hippocrates upheld as regards this subject-matter, and on the other hand, what Hippocrates in fact hypothesised as a cause of disease. In the *Anon. Lond.* such distinction is expressed by means of verbs like *οἶεται* or *λέγει*. Cfr. Kudlien (1989), p. 358; Nutton (2004), p. 207. From a papyrological point of view, the contrast in the opinions is also stressed by the *diple obelismene* between ll. 43 – 44 in col. VI. As has been said in the commentary above, in the *Londiniensis* the *diple obelismene* is systematically used precisely in order to indicate the shift from the opinion of one author to another. Finally, this “heterodox Hippocratism” (perhaps “pre-Galenic Hippocratism” would be a more correct appellation) is also witnessed in another medical papyrus from the 2<sup>nd</sup> century CE, the *P. Stras. gr.* inv. 26. Cfr. Manetti (1996a), p. 304.

<sup>301</sup> I.e. *ποικίλος*, *στασιάζειν*, *κρατεῖσθαι* etc. Cfr. Van der Eijk (2014), p. 360 n. 46.

<sup>302</sup> Hippocrates *Flat.* VII [VI pp. 98, 15 – 100, 12 Li.] = [CMG I 1 pp. 94, 23 – 95, 18 Heiberg]; XV [VI p. 114, 13 – 15 Li.] = [CMG I 1 p. 101, 16 – 18 Heiberg]. H. Diels put the fragment in question in connection with *Flat.* III [VI p. 94, 1 – 3 Li.] = [CMG I 1 p. 92, 20 – 22 Heiberg]. Diels (1893a), p. 9; Nelson (1909), p. 105.

<sup>303</sup> Hippocrates *Flat.* V [VI p. 96, 12 – 19 Li.] = [CMG I 1 p. 94, 1 – 7 Heiberg]. Jouanna (2012d), p. 125; Van der Eijk (2014), pp. 363 – 364. In *R.* III 405d Plato acknowledges in a way the pathological agency of flatulences. Jori (1993), pp. 171 – 172.

Hippocrates' etiological theory (according to Aristotle) and the pathological interpretation of *pneuma* in the Hippocratic treatise *Breaths* convey the same assumption<sup>304</sup>, that is, massive intake of food in combination with lack of physical exercise, and the intake of too varied kinds of food may both lead to improper digestion. Food in excess brings about an excess of air in the body, be it due to the air inhaled at the same time as eating, or to some extra air that arises from the residues of the undigested food which is eventually added to the extant air in the body. The combination of these two facts is said to block the upper stomach. This blockage generates air bubbles (φῦσαι) that cool down the parts of the body where sanguineous irrigation is major; thereby the whole body becomes excessively cooled, and with it the majority of natural functions become prevented or impeded.

So far, thus, it seems that the portrayal of Hippocrates' etiological views in the *Anon. Lond.*<sup>305</sup> has roots in the writing entitled *Breaths* — a treatise that Aristotle/Meno took as a genuine work by Hippocrates. Yet one must then also take up a substantial reworking by the scribe in order to produce a succinct entry; because of this, the assumption (whereby *Anon. Lond.* would rely on the treatise *Breaths*) yielded discordant opinions from as early as the first decade of the last century. In this sense F. Blass believed that the doctrine attributed to Hippocrates in the *Londiniensis* papyrus must have been in a lost treatise — with a similar content to that in the *Breaths* — stored or circulating in the Lyceum<sup>306</sup>. He suggests that this entry is a composite included in a section taken from a work that is now lost. As to the supposed link between *Breaths* and this particular passage in the *Londiniensis* dealing with Hippocrates' etiological theories, Blass raised a happy double objection by showing that neither the term περιπτώματα in col. V, 42 – 43 nor the comparison with the water lettuce in col. VI, 22 – 29<sup>307</sup> occur in the *Breaths*. Later on, in a contribution on the issue at hand, F. Steckerl<sup>308</sup> underscored anew the mistake of tracing Hippocrates' theory (as described

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<sup>304</sup> Col. V, 35 – 37.

<sup>305</sup> Van der Eijk (2014), p. 352.

<sup>306</sup> Blass (1901), pp. 408.

<sup>307</sup> Blass (1901), pp. 405 – 407. It was H. Diels, however, the first who took this detail into account. Diels (1893b), p. 424. In Plato *Ti.* 90a – b we see a formulation which resembles the simile with the water lettuce: (« God has given to each of us, as his daemon, that kind of soul which his housed in the top of our body and which raises us — seeing that we are not an early body being that part which, we say, dwells at the top of the body, and inasmuch as we are a plant not of an earthly but a heavenly plant — up from earth towards our kindred in the heaven [...]; for it is by suspending our head and root from that region whence the substance of our soul first came that the Divine Power keeps upright our whole body») [Trans. Bury (1961), pp. 245, 247]. Beside this coincidence, H. Diels argued that the comparison between the aquatic plants and the nature of man might have been drawn from Hippocrates *Nat. Puer.* XXVI [VII p. 526, 14 – 19 Li.]. Diels (1893b), p. 424 – 426.

<sup>308</sup> Steckerl (1945), pp. 166 – 180, especially pp. 175 – 176. Cfr. also Jouanna (1992), p. 91.

above) in the treatise *Breaths*<sup>309</sup>. Steckerl argued that the theory of the φύσσι as pathological agent — therefore also the source of Hippocrates' theory of causation of disease in *Anon. Lond.* cols. V, 35 – VI, 43 — was rather drawn from the *Ancient Medicine*<sup>310</sup>, another treatise in the Hippocratic collection. In the light of Steckerl's remark one gains an appreciation of the possible root of the misunderstanding hitherto: the gases resulting from digestion are the immediate cause of some ailments, but the residues from which such gases arise are first and foremost the real cause of ailments. The etiology that was based on the pathologic action of residues, as pictured in the *Anonymus Londiniensis*, could be taken as the last breath of a theory of the causation of illness that ended up eventually overturned by a new explanatory paradigm basically made of Hippocratic humoralism (*vulgata Hippocratica*)<sup>311</sup> and Galenism<sup>312</sup>.

Independently of the criticisms and reformulations suggested by Blass and Steckerl, in the *Anonymus* we bump into a theory that looks to be in conflict with everything which, in general, we have been told and taught about Hippocrates. For this reason it is fairly plausible that in the Aristotelian doxographical source that the scribe used Hippocrates' etiological view was placed beside the theories of those physicians who held the food residues to be the cause of disease. Such a doctrine, admittedly highly unusual at first glance, could have lasted for some time<sup>313</sup> among medical circles before being finally superseded by the “orthodox humoral theory” that the scribe of the *Anonymus*, for the purposes of this issue, judged genuinely Hippocratic.

The author of *Anon. Lond.* argues in fact that, if we were to believe Aristotle, Hippocrates should be considered as a physician partaking in the views of those who ascribed the causation of disease to the residues; yet, in his opinion, the version that Aristotle offers of Hippocrates is incorrect. By way of counterargument, in cols. VI, 45 – VII, 1 the scribe brings into discussion the

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<sup>309</sup> Hippocrates *Flat.* VII [VI pp. 98, 16 – 100, 12 Li.] = [CMG I 1 pp. 94, 23 – 95, 18 Heiberg]. Diels (1893a), p. 8.

<sup>310</sup> Hippocrates *Vet. med.* XXII [I pp. 630, 6 – 634, 4 Li.]. Steckerl (1945), pp. 175 – 176. As to the question whether the *Ancient Medicine* was written by Hippocrates, É. Littré and Th. Gomperz considered this treatise as Hippocrates' genuine work. Cfr. Steckerl (1945), p. 180 n. 9; Jouanna (1993), p. 17.

<sup>311</sup> Manetti (1996a), p. 296.

<sup>312</sup> By judging Galen's interpretation of humoral theory, the *Anonymus* papyrus offers a quite original reading of Hippocrates. Manetti (1999), pp. 303 – 304. According to D. Manetti there is nothing in the *Anon. Lond.* suggesting that the scribe would have held radical doctrinal differences in respect to Hippocrates. Manetti (1999), p. 310. Manetti's interpretation is in conflict with J. Jouanna, who actually contends that the author of *Anon. Lond.* holds a clear-cut anti-Hippocratic view.

<sup>313</sup> It is significant that a very similar theory can be found in the physician of Pergamon. According to Galen, from the effluvia (ἀναθυμιάσεως) of the residues (περιττούς) not only headaches occur in some, but also the symptoms of effusions and in some also epileptic convulsions. Galen *De san. tuenda* VI 10 [VI pp. 425, 12 – 426, 1 K.].

treatise *The Nature of Man*<sup>314</sup>, since he assumes that it is precisely to this writing that one should go to read Hippocrates' real opinions about the causes of disease<sup>315</sup>. As a matter of fact it is in *The Nature of Man* where the contrast between the two categories of disease and the two types of causes to which the *Londiniensis* makes reference is asserted with the greatest clarity<sup>316</sup>. The alternative put forward by the scribe tallies much better with the Hippocratic humoral theory to which we are accustomed<sup>317</sup>. Imagine that the contents expounded in *The Nature of Man* are such as Hippocrates' real doctrine, the physician of Cos should be placed then in the second of the groups reviewed in the second section of the *Anonymus* papyrus.

That would do were it not for the fact that the objection raised by the scribe introduces three non-trivial matters. The first one lies in the conjectural reading of the papyrus at this point<sup>318</sup>, so that in view of the lacunary nature of the papyrus we can only guess that the scribe is presumably alluding to the title of the Hippocratic treatise *The Nature of Man*. In the second place, the obscurity of the issue is to do with the fact that it is rather strange that the author gives at this point a specific title of a work while, in fact, he does not mention the name of the second treatise which, it seems from the content, is also purportedly alluded to (i.e. *Diseases*)<sup>319</sup>; this belying in addition what looks to be the dominant all through the papyrus: the omission of the title of the sources on which the author dwells. The third difficulty lies in the scribe's apparent unawareness of the fact that Hippocrates might not have written *The Nature of Man*; for, to the Aristotelians<sup>320</sup> it was Polybus of

<sup>314</sup> As it seems, Hippocrates *Nat. hom.* IX [VI pp. 52, 11 – 56, 12 Li.]. The disagreement is grounded in the intermingling of both passages with some other content that the scribe apparently drew from Hippocrates *Morb.* I.

<sup>315</sup> Col. VI, 43 – 44: « Ὅτι δὲ αὐτὸς Ἱπποκράτης λέγει γί(νεσ)θ(αι) τὰς νόσο(υς) », (« But what Hippocrates himself says is that diseases are caused by... ») [Trans. Jones (1947), p. 39]. Diels (1893b), p. 430. This short passage was translated into Italian by D. Manetti in *CPF Aristoteles* 37T, p. 346, later on in more detail in Manetti (1996a), pp. 296 – 297. Though giving an inconsistent quotation, the general intendment of the passage is recollected in Vegetti (1995c), p. 94 n. 23.

<sup>316</sup> Jouanna (2012d), p. 127. As a matter of fact, in his translation of *The Nature of Man* W. H. S. Jones remarks that the *Anonymus* quotes, or rather paraphrases, *Nat. hom.* IX. Cfr. Jones (1979), p. 25 n. 1. For a less restrictive typology of causation of disease in the Hippocratic collection see *Hum.* XII [V p. 492, 7 – 10 Li.].

<sup>317</sup> Or the so-called 'Hippocratic vulgata of the Imperial period' as we see it expounded, for example, in Hippocrates *Nat. hom.* IV [VI pp. 38, 19 – 40, 2 Li.]; V [VI p. 40, 15 – 16 Li.]. Cfr. Jones (1984a), pp. XLVIII – XLIX; Manetti (1996a), p. 296. In any case, either the predominance of one humour upon the rest or their uneven mixture are likely to engender harmful gases. Steckerl (1945), p. 177.

<sup>318</sup> Col. VI, 45 – VII, 1: « [±2]γ.[4/5]......( )...ερί φουεω( )||άνθ[ρωπ] ». Cfr. Manetti (1996a), p. 301; Ricciardetto (2014), pp. 49 – 50; (2016), p. 9.

<sup>319</sup> Hippocrates *Morb.* I 2 [VI p. 142, 13 – 20 Li.]. Manetti (1996a), p. 300. Cfr. supra *Comment.* on col. VII, 1 – 5; VII, 10.

<sup>320</sup> Jouanna (1992), p. 94. Like Galen eventually will also do, the scribe of *Anon. Lond.* considers that the book *The Nature of Man* was written by Hippocrates. Galen does not care much about the attribution of the treatise to Polybus, since he thinks that master and disciple agreed in the fundamental. Galen is much more concerned with certain people who did not attribute *The Nature of Man* to Hippocrates. Jouanna (2012i), pp. 317, 319 – 324.

Cos<sup>321</sup> (Hippocrates' disciple and son-in-law) who was credited with doing so — and it was perhaps on account of this familial bond that Polybus's theory became ascribed to Hippocrates.

As regards the first objection, insight into the content immediately following<sup>322</sup> in the *Londiniensis* points to a factual reference to Hippocrates' (Polybus's) *The Nature of Man*. Even though the scribe holds that it is an explanation that does not really match the facts, he claims that, besides an excessive cooling or heating of the bile or the phlegm<sup>323</sup>, Hippocrates advanced two other possible causes for disease: the air (ἀπὸ τοῦ πνεύματος), and the alimentary habits or the diet (ἀπὸ τῶν διατημάτων)<sup>324</sup>. So in short, general diseases originate from the miasmas contained in the air, and individual diseases originate from dietary regimen (this distinction is made in two Hippocratic treatises, *Breaths* and *The Nature of Man*)<sup>325</sup>. By the former cause, airborne miasmas, is meant the agent that acts upon a population when many people are suddenly and almost at the same time gripped by the same illness. Seeing that in the Corpus Hippocraticum it is rather scarce<sup>326</sup> to see occurrences where the term 'epidemic' (ἐπιδημία) takes the medical sense we nowadays

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<sup>321</sup> Diels (1893b), p. 430; Giannantoni (1984), p. 49; Manetti (1986), p. 63 n. 26; Jouanna (1988), p. 19; Vegetti (1995c), p. 93; Thivel (2001), p. 207; Nutton (2004), pp. 59 – 60; Byl (2011a), p. 242; (2011b), p. 93; Jouanna (2012j), pp. 335, 338; Manetti (2014), p. 233 n. 12; Ricciardetto (2016), pp. LXXI n. 20, XCIII – XCIV. Polybus's opinions are expounded in col. XIX, 2 – 18. At *HA* III 3, 512b 12 – 513a 7 Aristotle gives a detailed description of the blood vessels, and for that he quotes extensively the middle part of (Polybus's ?) *The Nature of Man*. Cfr. Diels (1893b), p. 430 n. 2; Blass (1901), p. 409; Jouanna (1993), pp. 23, 49; (2012i), pp. 315 n. 3, 320 – 323; Ricciardetto (2014), p. XLIV n. 278; Van der Eijk (2014), pp. 348 – 349. Aristotle and his heirs, who were in a far better position to know the truth than we are, believed that Hippocrates was not the author of the treatise *The Nature of Man* and gave credit for it to Polybus. Even when it had later become firmly associated with Hippocrates, Sabinus and Galen himself believed that parts of it were written by another and far more fallible author.

<sup>322</sup> Col. VII, 18 – 21.

<sup>323</sup> It should be kept in mind, moreover, that the quaternary humoral scheme (blood, phlegm, black bile, and yellow bile) as we see expounded in Hippocrates *Nat. hom.* IV-V is, as such, unattested in the majority of books of the Hippocratic collection. *Anon. Lond.* makes mention of only three humours (phlegm, bile, and blood); so that, on grounds of this detail, at this point in the argument the author of the *Anonymus* could not have been paraphrasing Hippocrates' (Polybus's) *The Nature of Man*. We should remember that Philolaos of Croton only conceded the existence of those same three humours, and as has been said, it is likely that he found this theory in the philosophy of the pre-Socratic sophist Prodicus, who is credited with having written a treatise titled, precisely, Περὶ φύσεως ἀνθρώπου. Cfr. Galen *De fac. nat.* II 11 [II p. 130, 4 – 5 K.]; Diels (1893b), p. 419 n. 1; Manetti (1990), p. 230; and *supra Comment.* on cols. XVIII, 8 – XIX, 1. The only argument to which we could resort to claim that it is not the case seems to lie in the division established by the scribe himself, inasmuch as Philolaos (Prodicus) belongs to the second group of authors reviewed in the doxographical section; but, at any rate, Hippocrates' theory of causation of disease appears to be also a meddling in the logical order of the arguments that the scribe proposes.

<sup>324</sup> Hippocrates *Nat. hom.* IX [VI p. 52, 11 – 13 Li.]; [VI p. 54, 1 – 4 Li.]. Jouanna (2012e), p. 143 n. 20. At *Nat. hom.* IX [VI p. 54, 19 Li.] the air, in its morbid attribution, is termed « ὃ ἀναπνέομεν », literally « what we breathe in ». Cfr. Manetti (1996a), p. 299.

<sup>325</sup> Jouanna (2012d), pp. 126 – 127.

<sup>326</sup> Another similar use can be found in Hippocrates *Progn.* XXV [II p. 188, 12 – 14 Li.].

attribute to it<sup>327</sup> (that is, ‘pestilence’)<sup>328</sup>, or the fact that the majority of the population suddenly comes down with the same illness at once — which is also the intended meaning below in col. VII, 18 – 21; and in considering also that it is precisely this scenario that we find in *The Nature of Man*<sup>329</sup>; it could be by that token that this writing that the Peripatetics attributed to Polybus, which will be eventually assigned to Hippocrates, was the treatise taken into consideration in the *Anonymus* papyrus. We should add that the objection that the scribe raises against this general Hippocratic theory seems at this point to be in consonance with the content of *The Nature of Man* itself<sup>330</sup>.

#### 6. « Aristote, fils de médecin, lecteur attentive d’Hippocrate »

We have extracted on purpose the heading for this last section from J. Jouanna<sup>331</sup> because it seems to grasp most of what has been said hitherto. It is time to set out some conclusions. So far,

<sup>327</sup> By ἐπιδημία it was generally meant ‘visit, notes taken by a physician while sojourning, sporadic arrival to a certain place, general affection coming about in one place at the same time, pestilence’ etc. Cfr. Jouanna - Grmek (2000), p. 230 n. 6; Pino - Hernández (2008), pp. 200 – 201; Jouanna (2012d), p. 124.

<sup>328</sup> The view in which air is deemed a morbid agent is likely to do with the arrival of *Plasmodium falciparum* (5<sup>th</sup> century BC) in the core of populations that had never been exposed to the parasite of malaria. The Hippocratic assumption whereby air was a morbid agent had terrible consequences because it prevented the necessity of seeking other possible causes beside, namely, human contagion. In the Hippocratic Corpus, contagion is not regarded as possible cause of disease; pestilence or epidemic diseases are attributed to respiration of morbid miasmas carried in the air (νοσηρὴν τινα ἀπόκρισιν, *inquinamentum aeris*). Cfr. Hippocrates *Nat. hom.* IX [VI p. 52, 14 – 17 Li.]; *Flat.* VI [VI p. 98, 2 – 13 Li.] = [CMG I 1 p. 94, 10 – 22 Heiberg]. Cfr. Nutton (1989), p. 436; Jouanna - Grmek (2000), pp. VII – VIII; Jouanna (2012d), pp. 124 – 126; Van der Eijk (2014), p. 361. For an Aristotelian consideration of pestilence see Pseudo - Aristotle *Pr.* I 7, 859b. As theoretical possibility, contagion was discarded among human, but it was pointed by vets in relation to what they observed in horses and cattle. Gourevitch (1995), pp. 427 – 429. However, by means of the participle ἀναπιμπλάμενοι Thucydides might well be making allusion to contagion when he describes the pest of Athens (430 BC) in the *History of the Peloponnesian War* II 51 (4/5) [Boheme (1896), p. 122, 5]. Cfr. Alsina (1989), pp. 215, 219; Byl (2011b), pp. 89 – 91; Jouanna (2012b), pp. 31 – 32 n. 21; (2012d), p. 135 n. 24. So far as leprosy, no signs of the most contagious disease in Antiquity have been found in mummies of the pharaonic period, but only in mummies from the 2<sup>nd</sup> century BC onwards. Leprosy broke out and became endemic in Alexandria by the end of the 4<sup>th</sup> century BC because crowds were settled in insalubrious conditions. Cfr. Marganne (1996), p. 2737; Grmek (1997), p. 101. In the Hippocratic Corpus by leprosy (λέπρη) is meant ‘psoriasis’ or ‘elephantiasis’. Cfr. Jouanna - Grmek (2000), p. 123 n. 3.

<sup>329</sup> Cfr. Laín Entralgo (1982), p. 226; Jouanna - Grmek (2000), p. VIII n. 3, 230 n. 6.

<sup>330</sup> Compare for instance col. VII, 23 – 32 « οὐχ ὑγιῶ[ε π]οιούμενος τὴν ἐπιχείρησιν [...] Οὐ γ(ὰρ) δὴ πάντω[ν] σωμάτ(ων)], ἐπεὶ ἕν (ἐστιν) αἴ(τιον), ἤδη μία καὶ νόσο<c> φέρ[εται]||—ἀλλ’[ὄ]περ εἶπομ(εν), πολλὰ καὶ ποικίλ[α εἶδη] » to Hippocrates *Nat. hom.* IX [VI pp. 52, 17 – 54, 4 Li.]: « Φανερόν γὰρ δὴ ὅτι τὰ γε διαιτήματα ἐκάστου ἡμέων οὐκ αἰτία ἐστίν, ὅτε ἄπτεται πάντων ἢ νοῦσος ἐξῆς καὶ τῶν νεωτέρων καὶ τῶν πρεσβυτέρων, καὶ γυναικῶν καὶ ἀνδρῶν ὁμοίως, καὶ τῶν θωρησομένων καὶ τῶν ὑδροποτεόντων, καὶ τῶν μάζαν ἐσθιόντων καὶ τῶν ἄρτον σιτευμένων, καὶ τῶν πολλὰ ταλαιπωρεόντων καὶ τῶν ὀλίγα. », (« It is clear that the diet of each of us cannot be the cause of disease, since it attacks everyone in turn, young and old, women and men and, without distinction, those who drink wine and those who drink water, those who eat barley bread and those who eat wheat bread, those who do a lot of exercise and those who do little »). Trans. Jouanna (2012e), p. 143 n. 20.

<sup>331</sup> Jouanna (1992), pp. 327 – 328.

after this journey through catalogues, treatises, manuscripts, and papyri in order to clarify the alleged bonds of the medicine with Aristotle the matter in question could be summed up as follows.

Caelius Aurelianus quotes literally a passage of a lost book attributed to Aristotle entitled *On Remedies*. However, it could scarcely be affirmed that Aristotle practised medicine in the way we understand it nowadays; so Aristotle did not follow family tradition. The fact that he would not have practised medicine does not mean that he had no interest in it<sup>332</sup>; rather than being a practitioner Aristotle studied the medical art from a theoretical stance, putting special emphasis on the methods displayed by doctors at the time<sup>333</sup>. Just as Hippocrates focused his efforts on disease and the techniques to treat it in a successful manner, Aristotle did so on health, and the means of keeping it, thus subordinating the technical to the theoretical. This is the clue to comprehending the particular doxographical way in which Aristotle approached medical doctrines, particularly Hippocrates's, the most salient physician in Antiquity.

Aristotle's extant writings show proof of his activity as a naturalist, this prompting him to dissect animals, which permitted him to get an approximate image of human anatomy by way of analogy and inference<sup>334</sup>. Furthermore, in many occasions the accounts given by Aristotle can be traced to Hippocratic writings. The Peripatetic tradition immediately after Aristotle dwelled on Hippocratic treatises to entertain in the discussion of medical issues at a theoretical level. Despite the difficulties involved in the transmission and the editing of Aristotle's writings, the last part of his *On Respiration* might preserve the traces of the purported Aristotelian writing *On Health and Disease*. Most experts agree that book X in *History of Animals* was not written by Aristotle, but it is debatable.

Now, as has been argued, cols. V, 35 – VI, 43 in the *Anon. Lond.* yield evidence of Aristotle's acquaintance with a certain set of Hippocratic principles regarding the causation of disease as expounded in the Hippocratic book entitled *Ancient Medicine*. Whether whoever held such an etiological theory was the historical Aristotle, or Meno, or the early Peripatetics is almost impossible to figure out<sup>335</sup> — the silence of the scribe on the sources he used and his proneness to make no distinction in that sense means that this point remains unclear.

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<sup>332</sup> Van der Eijk (1999), p. 498.

<sup>333</sup> Jaeger (1957), p. 55.

<sup>334</sup> This is the meaning of the *dictum* that Aristotle assigns to Anaxagoras at *EN* II 2, 1104a 13 – 14: « δεῖ γὰρ ὑπὲρ τῶν ἀφανῶν τοῖς φανεροῖς μαρτυρίοις χρῆσθαι », (« for one is forced to explain what is invisible by means of visible illustrations ») [Trans. Rackham (1962), p. 77].

<sup>335</sup> Kudlien (1989), p. 359.

Thus, the answer to the question put by Diels<sup>336</sup>, whether the *Anonymus* could in a way help to illuminate the concern of the medicine at the Lyceum, should be given in the affirmative; since, apart from the aforesaid parallels between some Hippocratic writings and some passages in the Προβλήματα, the *Anonymus Londiniensis* papyrus looks for the time being to be the only textual evidence available to support the view that at least one medical treatise attributed to Hippocrates<sup>337</sup> (i.e. *Ancient Medicine*) was known at the Lyceum.

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<sup>336</sup> Diels (1893b), pp. 409, 421.

<sup>337</sup> Ever since Galen it is believed that the *Ancient Medicine* was not by Hippocrates. Jouanna (1992), p. 530; (2012e), p. 149 n. 33. As with *Breaths* and *The Art*, the treatise titled *Ancient Medicine* belongs to a well witnessed literary genre in the Corpus Hippocraticum known as ‘discourses of thesis’. *Ancient Medicine* is a kind of writing that was composed and conceived of as to be read or spoken out loud before an audience Cfr. supra ch. I § 5 n. 116.

### III The Concept ἐντρέχεια in the Anonymus Londiniensis Papyrus

#### 1. Where Is That, and What Is Written?

The first section of the *Londiniensis* papyrus consists of a list of definitions regarding the notion of disease. Before going on to classify the psychical afflictions, the scribe of *Anon. Lond.* goes briefly into dealing with the soul. It is in relation to this topic that the concept ἐντρέχεια comes across, and not just once but twice:

Col. I, 15 – 27: « [[Τούτ(ων) δ]ε κειμέν(ων) δεῖ γινώσκειν ὡς τῶν παθῶν τὰ|[μὲν ψυ]χικά, τὰ δὲ σωματικά, σῶ|[ματικ]ὰ λαμβάνοντες τὰ περι τὴν|[ζωτικ]ήν δύναμιν λαμβανόμενα,|[π(ρὸς) δὲ] τὰς ἄλλας δυνάμεις ἀντιδιατελ|[λό]μενοι, τὴν ζωτικὴν δύναμιν|[τῆ] ψυχῆ. Ψυχὴ δὲ λέγεται τριχῶς·|[ἢ τε] τῷ ὅλῳ σώματι παρεπαρ|μένη καὶ τὸ μόριον τὸ λογιστικὸν|[κ]αὶ ἔτι ἡ ἐντρέχεια καὶ τῆς μ(έν) ἐντρε|[χ]είας ἐπὶ τοῦ παρόντος οὐ χρῆζομ(εν),|[τ]ῶν δὲ ἄλλων δύο σημαυνομένων,|[κα]ὶ μᾶλλον τοῦ λογιστικοῦ·»,

(« This having been established, we must learn that of affections some are said to be psychological, others bodily, including as bodily all those included under the power of life, and distinguishing the powers, especially the power of life, from the soul. The word “soul” is used in three senses: (1) the soul that pervades the whole body, (2) the rational part, and also (3) *entrecheia* ». With *entrecheia* we have nothing to do at present but we have with the other two meanings of soul, especially with the rational part. »)

Col. II, 6 – 9: « ἡ ψυχὴ δυνάμις (ἔστιν).|Λέ|[γ]εται δὲ ψυχ[ῆ] τριχῶς· ἢ τε ὅλη|[κα]ὶ τὸ μέρος τὸ λογιστικὸν] καὶ αὐτὴ ἡ|ἐντρέχεια, [ἦν παραλείπομ(εν)] νῦν »,

(« For in fact the soul is a power. The word “soul” is used in three senses: (1) the whole soul, (2) the rational part and, (3) the *entrecheia* itself. But let us deal now with the two former meanings »)<sup>338</sup>.

The reason for this doubled occurrence owes to the fact that the former is placed in a broad passage deleted by the scribe that he inserted later in col. II, 6 – 9. According to our autopsic study of the papyrus, and after having examined both passages by means of high resolution magnified photographs at the CeDoPaL<sup>339</sup>, it becomes plain that « εντρεχεια/εντρεχεια » is how the *Anonymus* papyrus reads respectively in cols. I, 24 *bis* and II, 9. However, the different translations and interpretations to which the concept ἐντρέχεια has been subject blur what actually counts as

<sup>338</sup> The Greek text reproduces the edition of the *Anonymus Londiniensis* in Ricciardetto (2016), pp. 1 – 2. Trans. Jones (1947), pp. 23 – 25.

<sup>339</sup> For which I ought to express my gratitude to Prof. M. -H. Marganne and to Dr. A. Ricciardetto.

ἐντρέχεια in the *Anonymus*. This third chapter is therefore devoted to putting forward some arguments in order to throw a little more light on the aim of the scribe at this point.

## 2. Some Interpretations

The issue commences with H. Diels, for whom it was a matter of a misreading between ἐντρέχεια and ἐντελέχεια; this being, among others, one of the main reasons that led the philologist to argue that the scribe of *Anon. Lond.* was not really learned in philosophy<sup>340</sup>. Following Diels, the majority of scholars has agreed that the term ἐντρέχεια in the *Londiniensis* is due to a mistake<sup>341</sup>; so that in place of ἐντρέχεια one should find either ἐνδελέχεια or ἐντελέχεια<sup>342</sup>. This is the view of W. H. S. Jones<sup>343</sup>. Insofar as Jones considered the writings of the *Londiniensis* papyrus notes taken by the scribe while attending some lectures<sup>344</sup>, to Jones the term ἐντρέχεια would correspond to misspelling, and the term ἐντρέχεια is to be taken as an error owing to the ἀπὸ φωνῆς<sup>345</sup> nature of the *Anonymus Londiniensis*. From another stance but still considering ἐντρέχεια as an error, there is also P. Podolak. In his quest for the identity of the *Londiniensis*'s author, Podolak comes to the conclusion that the papyrus was not penned by the physician Soranus of Ephesus (2<sup>nd</sup> century

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<sup>340</sup> Diels (1893a), p. XV: « in philosophia plane hospes esse videtur ». The alternative meaning that Diels proposed was « animae status ». Diels (1893a), p. 90. Cfr. also Diels (1893b), pp. 410 – 411; supra ch. I § 2 n. 32.

<sup>341</sup> In col. I, 24 *bis*, the first occurrence(s) of ἐντρέχεια in the *Anon. Lond.*, the word is fairly edited in double square brackets [ ]]. As a matter of fact, the expression « ἡ ἐντρέχεια καὶ τῆς μ(έν) ἐντρε[χ]είας » belongs to a broader passage in the first column which was canceled by the scribe himself by means of a descending semicircular line which covers ll. 16 – 39. Cfr. supra *Comment.* on col. I. In view of that, one could be prompted to draw the hasty conclusion that ἐντρέχεια is a partial mistake in the core of a longer paragraph that the scribe deemed also faulty.

<sup>342</sup> In the *Trial in the Court of Vowels* the comedy writer Lucian of Samosata presents the following situation. The letter Sigma (Σ) brings the letter Tau (Τ) to trial because of feeling that, according to the Neo-Attic style in vogue, she has been almost completely superseded from the majority of the writings when the time comes to write two contiguous consonants. In her apologetic discourse, the letter Sigma recalls to the audience that the letter Delta (Δ) also holds the same grudge against the letter Tau. One of the examples that the letter Delta makes is precisely 'ἐντελεχεια', when in reality the right form should be 'ἐνδελέχεια': « τοῦ μὲν Δέλτα λέγοντος· ἀφείλετό μου τὴν ἐνδελέχειαν, ἐντελέχειαν ἀξιοῦν λέγεσθαι παρὰ πάντα τοὺς νόμους· ». Cfr. Lucian of Samosata *Iudicium vocalium* X 95 [Jacobitz (1882), p. 32].

<sup>343</sup> Jones (1947), p. 4.

<sup>344</sup> Manetti (1990), p. 219; *CPF Aristoteles* 37T, p. 347.

<sup>345</sup> Dorandi (2007), p. 54.

CE)<sup>346</sup>. In his argument against Soranus's authorship, Podolak views the gap between ἐντελέχεια and ἐντρέχεια as a lexical deformation (*Verzerrung*) which in no way could be attributed to Soranus because in his view Soranus's command of Aristotle, especially *On the Soul*, precluded that the Ephesian physician could have made a mistake in that wise<sup>347</sup>. A. Ricciardetto, in the fourth place, gives first a description of the immediate context of the occurrence in the papyrus, afterwards equating ἐντρέχεια to ἐντελέχεια for no apparent reason<sup>348</sup>.

Wherefore, there is no interpretation — be it by H. Diels, W. H. S. Jones, P. Podolak, A. Ricciardetto, or by extension anyone else in a manner attributing the presence of the word ἐντρέχεια to a mistake on the basis of an Aristotelian ἐντελέχεια — compatible with ἐντρέχεια (the term the papyrus actually contains), this being so because they have fallen into an error of looking at the issue the wrong way round. The point made by Jones was abandoned long ago. Jones's assumption hardly stands when the time comes to give account of a number of details concerning correction and amendment in the second and the third section of *Anon. Lond.*, and is rendered too when considering that the first occurrence(s) of ἐντρέχεια happen(s) in a cancelled paragraph which can be barely explained on grounds of a situation involving dictation or lecture attendance. At any rate, the reason the translator of *Anon. Lond.* into English adduced is at odds with the hypothesis of the autographical origin of the papyrus<sup>349</sup> which, in our opinion, contributes much more to clarifying other pressing topics in the *Anon. Lond.* This notwithstanding, if it is borne in mind that the nub of the problem is in the first section of the *Anonymus*, one realises that, unless obeying a certain blind automatism, the fact of putting ἐντρέχεια in reliance with a supposed Aristotelian voice ἐντελέχεια has no reason to be; for, so it seems, what is believed to result from fixing the gaze on an Aristotelian doxography is the second and not the first section in the *Londiniensis*.

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<sup>346</sup> I regret having shared that view in an earlier stage of my research. I was misled by my partial knowledge of the issue at hand at that time, as well as because of feeling somehow feasible — in the light of the contents concerning the existence of pores and emanations in the third section — that the writing in the *Londiniensis* could have belonged to a physician leant towards medical Methodism. Cfr. Crespo (2014), p. 3. M. Wellmann was of the firm opinion that Soranus wrote the *Anonymus* papyrus. Jouanna (2016), p. 1. Wellmann took the *Anon. Lond.* as a fragment of Soranus's Εἰσαγωγή and considered that Soranus drew from Alexander Philaethes' books Βίαι ἰατρῶν or Αἰρέσεις καὶ συντάγματα. Cfr. Wellmann (1922), pp. 414, 421 – 428; Ricciardetto (2014), p. LI. Wellmann's assumption about Soranus as the author of the *Anon. Lond.* proves inconsistent from a chronological point of view. Cfr. Marganne (1996), p. 2721; Manetti (1999), p. 95; Ricciardetto (2016), p. CXVII n. 379. D. Manetti contends that M. Wellmann also failed in striving to bridge some of the contents in the *Anon. Lond.* with medical Methodism. Manetti (1986), p. 65 n. 29. For other arguments against Wellmann's assumption see Withington (1929), pp. 187 – 188; Manetti (1990), p. 221 n. 11; (2003), p. 336.

<sup>347</sup> Cfr. Podolak (2010), pp. 99 – 102.

<sup>348</sup> Cfr. Ricciardetto (2014), p. 42; Ricciardetto (2016), pp. LII – LIII n. 138. On this point T. Dorandi also apparently concedes that it is a mistake by the scribe. Dorandi (2016), p. 203: « (*intellege ἐντελέχεια*) ».

<sup>349</sup> Cfr. supra ch. I § 2.

A contrary view could be made by saying that from the catalogue of notions reviewed in the first section and their definitions it follows that the philosophical matrix of the section is mainly shaped according to Aristotle's philosophy, or else in opposing Aristotelianism to Stoicism<sup>350</sup>. Anyway, in such a counterargument a no less important linguistic factor would come either dismissed. By equating the term ἐντρέχεια in the *Anonymus* papyrus with the Aristotelian notion of ἐντελέχεια one risks contorting the text, leaving the notion untranslated, or betraying the real meaning of the concept<sup>351</sup>. Apropos of this, J. Jouanna has highlighted the blunder in rendering ἐντρέχεια as 'entelechy'. Though the words resemble each other, for example, in relation to the way they are formed (i.e. by a prefix in -έν and an abstractive particle in -εια), their respective stems are undeniably radically different. Thus, while in ἐντελέχεια there is the idea of "having a goal in (one)itself" (in fact meaning 'being-as-holding-in-a-τέλος')<sup>352</sup>, in ἐντρέχεια there is implicit something like "to run towards"<sup>353</sup>. Besides this difference, ἐντελέχεια is a notion coined by Aristotle and fully attested in the Corpus Aristotelicum whereas ἐντρέχεια is neither<sup>354</sup>.

J. Jouanna has underlined moreover that when it comes to speak about the soul in terms of 'impulse, instinct, innate strength, inertia, leap' or any other related meaning the *Anon. Lond.* does not constitute the only occurrence of ἐντρέχεια in Greek literature. In that regard, Jouanna has taken into consideration an expression drawn from Procopius of Gaza<sup>355</sup>. But since Procopius displays ἐντρέχεια in the definition of σύνεσις<sup>356</sup> (a *terminus technicus* in Aristotle that amounts to saying

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<sup>350</sup> Cfr. *supra Comment.* on cols. I – II.

<sup>351</sup> Beckh - Spät (1896), p. 2: « Entrechie »; Jones (1947), p. 23: « entrecheia »; Ricciardetto (2014), p. 1; (2016), p. 2: « entéléchie ».

<sup>352</sup> Miller - Miller (1998), p. 124.

<sup>353</sup> To go to the point, it could be of interest studying the inclusion of ἐντελέχεια in the definition of the word 'motion' that Aristotle gives at *Ph.* III 1, 201a 9 – 11. There ἐντελέχεια refers to a "stable continuing process of motion", but at its very least it would entail accepting that ἐντρέχεια is a mistake in place of ἐντελέχεια, a position against which we actually contend.

<sup>354</sup> It is worth noting that in Aristotle the term ἐντρέχεια is never attested. The 43 occurrences of the term the TLG provides belong, all of them, to authors from the midst of the 1<sup>st</sup> century BC onwards, as if ἐντρέχεια were a "neologism" that was increasingly used as the Imperial period wore on.

<sup>355</sup> To define the term σύνεσις the theologian Procopius of Gaza (6<sup>th</sup> century CE) uses the expression « ἐντρέχεια διανοίας ». Cfr. Procopius *Comm. in Isaiam* p. 1924, 15. Jouanna (2016), p. 4.

<sup>356</sup> Aristotle concedes that intelligence is necessary to discern which is prudent, but he means a practical intelligence which bears no relation with a high specialized theoretical knowledge. Aristotle *EN* VI 10, 1143a 4 – 6. Therefore, in Aristotle's definition what is intended is the intelligence of the person who easily gets the meaning, who comprehends a given situation with no difficulty, the type of intelligence that characterises the wit man (ὁ εὐσυνεστής, σνιων); what amounts to saying 'sagacity, readiness in giving an answer' etc. In contrast to wisdom (σοφία), or the virtue of the rational and scientific part of the soul, the σύνεσις is the virtue of the sensible part of the soul midway the nutritive soul (deprived of every kind of virtue) and the lower part of the rational soul, whose virtue par excellence is called prudence (φρόνησις). Aristotle *EN* VI 12, 1144a 10 – 11.

‘natural witness, quick comprehension, sagacity’ etc.), the example adduced by Jouanna — although shedding some more light upon the issue — is still the best to refute the thesis put forward by Diels, for the sense that Procopius attributes to ἐντρέχεια is charged with an exceedingly rational nuance which is absent, in the immediate context, in the meaning that the scribe of the *Londiniensis* papyrus seemingly assigned to ἐντρέχεια when he wrote it.

### 3. ἐντελέχεια: a Philosophical Insight

#### 3.1 Brief Historical Exposition

Thus if, as has been argued, ἐντρέχεια is somehow radically different to ἐντελέχεια, maybe by virtue of an apophatic approach it is possible to gain some appreciation of the former by enquiring into the second concept.

The theory of the ἐντελέχεια corresponds to a late stage in the development of Aristotle’s philosophy, when he drifted away from Plato’s position on the opposition of soul and body. Plato’s allegory of soul as “the power” of a team of winged horses and their charioteer in the *Phaedrus*<sup>357</sup> is, primarily, a metaphor that implies movement and motion (perhaps one of the first pictures of the soul as the agent responsible for movement and motion)<sup>358</sup>; and this first sense is apparently what the tradition will transmit. Aristotle took up Plato’s postulates on the soul in a particular way, a perspective that led him to uphold the position that the soul is the form of the body which was, furthermore, unlikely to overcome the body after death<sup>359</sup>.

In the *Tusculanae*<sup>360</sup> Cicero takes up Aristotle’s argument whereby the soul is said to be made of a very fine substance different to the four Greek classical elements. The Latin author contends that soul is compounded of a special kind of matter that withholds the higher faculties in

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<sup>357</sup> Plato *Phdr.* 246a – e.

<sup>358</sup> *P. Oxy.* VII 1017 (*P.Lit.Lond.* 147, *Brit. Libr.* inv. 2048 = MP<sup>3</sup> 1401) (2<sup>nd</sup> or 3<sup>rd</sup> century CE) in fact a long excerpt from the dialogue (i.e. *Phdr.* 238c – 251b). *P. Oxy.* VII 1017 col. XX, 4 – 6 runs as follows: « Ψυχή [πᾶσ]α ἀθά[ν]α[τος]. τὸ γὰρ αὐτ[οκ]εῖνητόν ἀθά[ν]α[τ]ο[ν] » « every soul is immortal since what moves by itself is immortal ». Cfr. Hunt (1910), p. 131. According to A. Hunt, the compound ‘αὐτ[οκ]εῖνητόν’ could also be read as ‘[ἀει]κείνητόν’; so that the translation would take then a slight but significant turn: « every soul is immortal since what moves eternally is immortal ». The same passage will be latterly used by Cicero in the *Somnium Scipionis* VI 25 (27) [Ziegler (1960), p. 135, 10 – 11].

<sup>359</sup> Aristotle *de An.* I 3, 406b 3 – 5.

<sup>360</sup> Cicero *Tusculanae disputationes* I 10 (22) [Pohlenz (1965), pp. 228, 24 – 229, 25]: « (*scil.* Aristoteles) quantum genus adhibet vacans nomine et sic ipsum animum ἐντελέχειαν appellat novo nomine quasi quandam continuatam motionem et perennem. »

man and stands as a principle of movement due to her divine origin. Cicero lays also the stress on the difficulties that Aristotle found in giving a name to that peculiar fifth element<sup>361</sup>. In Cicero's view, since Aristotle was somehow unable to find a proper name for that (hence the expression ἀκατονόμαστον), the Greek philosopher had to coin a new concept, this being the origin of the term ἐνδελέχεια<sup>362</sup> according to Cicero.

But, to bring back the concern to our present interest, the most striking aspect of the whole thing is perhaps that, in considering its immediate context, the sense that ἐντρέχεια carries in the *Anonymus* papyrus looks to bear no relation to the Physics of the bodies that Aristotle opposed to the sublunary sphere; rather it seems much more akin to the primary meaning intended in the image that Plato displays in the *Phaedrus* (power, might, strength, energy etc.); and in regard to its concrete application to human soul — still stuck in the semantic field of motion — ‘instinct’<sup>363</sup>, or even ‘impulse’.

### 3. 2 *Parts of the Soul in the Anonymus Papyrus?*

It must be now emphasised that the expression « Λέ[γ]εται δὲ ψυχ[ῆ] τριχῶς »<sup>364</sup> in cols. I, 21; II, 7 cannot be taken as meaning that soul has three separate parts<sup>365</sup>, nor as a definition of soul (as Ricciardetto apparently understands)<sup>366</sup>; rather it looks that by such expression the scribe is intending that the term ψυχή can be construed in three ways.

A perusal of Aristotle's writings makes plain that the philosopher never posited a threefold psychological scheme; it seems that nobody has noticed that nowhere in Aristotle is it said that the soul has three parts. In this instance, it seems instead a matter of a deep misunderstanding resulting from mixing the faculties of the soul in Aristotle (nutritive, sensitive, thinking, imaginative,

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<sup>361</sup> In our opinion the reference text in this particular sense could be *Mete.* I 3, 339b 20 – 30, where Aristotle attributes to Anaxagoras the fact of being the first philosopher to theorise about the ether.

<sup>362</sup> I.e. continual and everlasting movement. Cfr. Bidez (1943), pp. 33 – 34, 41.

<sup>363</sup> Albeit this is the first meaning that A. Ricciardetto assigns to ἐντρέχεια, he does not use it in his translation, alas he makes an incomprehensible equation between ἐντρέχεια and ἐνδελέχεια. Cfr. Ricciardetto (2016), p. LIII n. 138.

<sup>364</sup> The argument also applies to the expression in col. III, 38 – 39: « Λέγεται τε νόκος διχῶς, κοινῶς τε καὶ ἰδίως ».

<sup>365</sup> Thus, in the expressions « τὸ μόνιον τὸ λογικτικὸν » in col. I, 23 and « τὸ μέρος [τὸ λογικτικὸν] » in col. II, 8 — by means of which the scribe describes one of the three ways to speak about the soul — neither the division of the soul in other parts is implicit nor into a concrete number of parts.

<sup>366</sup> Ricciardetto (2016), pp. LII – LIII n. 138: « l'auteur de l'*Anonyme* va définir cette dernière (*scil.* the soul) de trois manières [...] sur cette définition de l'âme [...] ».

appetitive, locomotive etc.)<sup>367</sup> with the parts of the soul as can be found, for example, in Plato<sup>368</sup>. In the *Nichomachean Ethics* and in the *Politics*<sup>369</sup> Aristotle clearly sets forth that the soul has (only) two parts (δύ' εἶναι μέρη τῆς ψυχῆς): the rational (τό τε λόγον ἔχον) and the irrational (τὸ ἄλογον), and keeps on arguing that the former is in turn subdivided into two other parts; the scientific (τὸ ἐπιστημονικόν), with which we apprehend (θεωροῦμεν) the objects whose principles are not contingent (μὴ ἐνδέχονται) — i.e. necessary, and another subpart that Aristotle terms ‘calculating’ or ‘arithmetic’ (τὸ λογιστικόν) which serves to perceive the objects whose principles are contingent (τὰ ἐνδεχόμενα). In the *Nichomachean Ethics* the calculating part is called ‘deliberative’ (βουλευτική) — or ‘practical’ in the analogous passage in *Politics*.

In view of this it could be assumed thence that for Aristotle the deliberative is the part which is in charge of deliberating and handling the affections<sup>370</sup>. The reason why the scribe decides to leave apart or not to deal with the soul in its concrete sense of ἐντρέχεια<sup>371</sup> is namely because it has nothing to do with the discernment of the affections<sup>372</sup>; this latter being (we remind the reader) one of the main tenets the scribe of *Anon. Lond.* addresses in the first section of his writing<sup>373</sup>. Apart from all these details, what Aristotle describes as ἐνδελέχεια in its application to the soul is the wholeness of the psyche<sup>374</sup> not only in terms of the sum of its parts, but its integrity and stability as

<sup>367</sup> Cfr. e.g. Aristotle *de An.* II 2, 413a 22 – b 13.

<sup>368</sup> Plato *R.* IV 439 c – e. In col. XV, 26 – 28, in which the scribe addresses the rational part of the soul, the word ‘parts’ (μέρη) is precisely restored by the editor: « Καὶ [μὴν] αὐτῆς τεττῆς {τε της} ψυχῆς [μέρη] (εἶναι) λέγων τὸ μ(έν) λογιστικόν »; however, from col. XVI, 33 – 36 it becomes plain that in Plato one can in fact speak of a tripartite division of the soul. The Platonic tripartite division of the soul will exert eventual influence on Galen, who placed the sensible soul in the heart, the vegetative soul in the liver, and the rationale soul in the ventricles of the brain. Grmek (1997), p. 160. At *Ti.* 69c 5 – 71a 3 Plato gives a description of the irrational soul.

<sup>369</sup> Aristotle *EN* VI 1, 1139a 3 – 8; *Pol.* VII 14, 1333a 16 – 30.

<sup>370</sup> In Aristotle’s opinion we deliberate about what is up to us and attainable « βουλευόμεθα δὲ περὶ τῶν ἐφ’ ἡμῖν καὶ πρακτῶν », while about what is exact and sufficient there is no possible deliberation. Cfr. Aristotle *EN* III 3, 1112a 30 – 1112b 1; VI 6, 1140b 25 – 28.

<sup>371</sup> Col. I, 24 – 25: « τῆς μ(έν) ἐντρέ[χ]είας ἐπὶ τοῦ παρόντος οὐ χρήζομεν », col. II, 8 – 9: « ἡἐντρέχεια, [ἦν παραλείπομεν] νῦν. »

<sup>372</sup> Among the Stoics the affections (πάθη) were held as judgements (κρίσεις). Another reason for not taking the sentence « Λέ[γ]εται δὲ ψυχ[ῆ] τριχῶς » as if it were intending that the soul is divided in three separate parts is that the Stoics (Zeno of Citium) professed an eightfold division of the soul. Cfr. Diogenes Laertius *Vitae philosophorum* VII 110 [Marcovich (1999a), p. 508, 14 – 16]. However it might be, sensible perception — i.e. the συμπτώματα of the sentient body, the sensations, and the πάθη — does not belong to soul (ψυχή) in Epicurus’s philosophy, rather to the soul is assigned the task of reflecting the movements of which the perceptions are said to consist, a reflex that in turn unchains another movement. This fundamental distinction is what makes bodily sensations (αἴσθησεις) to appear as representations (φαντασίαι) in the soul, and consequently, what makes also possible that bodily pleasure (ἡδονή) and distress (ἀλγηδών) become joy (χαρά) or pain (λύπη) in the soul. Cfr. Diano (1974), pp. 47 – 49.

<sup>373</sup> Cfr. *supra Comment.* on cols. II, 18 – III, 7.

<sup>374</sup> Aristotle *de An.* II 4, 415b 15 – 20.

constituted by the interdependency of the functional parts of the whole; and this is in conflict with the former alleged definition of soul in the passage as « ἡ τε ὅλη »<sup>375</sup>.

Having stated so far why the expression « Λέ[γ]εται δὲ ψυχ[ῆ] τριχῶς » should not be confused with nor pass for a tripartite division of soul, we should like now to bring up other arguments in order better to understand in what way it is also necessary to argue against an interpretation of the same expression as if it were a definition.

### 3.3 *The Discourse about the Soul Is not the Soul*

To begin with, since the participle σημαίνόμενον can mean ‘above-mentioned’ or ‘aforementioned’, the translation of col. I, 25 – 27 could be then « with *entrecheia* we have nothing to do at present, but we have with the other two aforementioned, and foremost the rational (*scil.* part) ». Such a translation could bias the reader against the general meaning of σημαίνόμενον (i.e. meaning); on the other hand it could be objected nevertheless that as a matter of fact σημαίνόμενον does not take, as far as we know, the sense of ‘*definiens*’ in a definition. In addition to this point of dissent, when in the same first section the author of the *Anonymus* gives definitions of concepts he does it in a “systematic way” by recourse to somewhat of a reported speech that affects the style of the writing<sup>376</sup>; but it appears that the scribe does not address the soul as if he wanted to give a definition of it.

However, what differentiates definition from predication comes clearly to the forefront a bit later in the papyrus, when, immediately after having given a definition of ‘disease’, the scribe states that the notion can be used in two senses<sup>377</sup>. According to Aristotle<sup>378</sup> expressions in the *Londiniensis* papyrus like « Λέ[γ]εται δὲ ψυχ[ῆ] τριχῶς » or « Λέγεται|τε νόσος διχῶς » or « τύποι| καὶ γενικώτερον εἰπεῖν τριχῶς » are a typical case of ‘predication καθ’ ὑποκειμένου’. As opposed to ‘predication ἐν ὑποκειμένῳ’, the formula « καθ’ ὑποκειμένου λέγεσθαι » or equivalent implies

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<sup>375</sup> Col. II, 7.

<sup>376</sup> E.g. col. I, 7 – 11: « διάθεσις δυνάμειος ἡδηπο|[τε εἴτε τ]ῆς ζωτικῆς εἴτε τῆς σώμα|[τικῆς εἴ]τε τῆς ἐν τοῖς σώμασι|[ένούσης] ψυχικῆς κατὰ κίνησιν|[ῆ ε]χέειν »; col. II, 4 – 6: « Ψυ|χικὸν δ’(εἶναι) πάθος τὸ|το[ι]οῦτο· διάθεσις ψυχῆς κατὰ κίνη|[ci]ν ἢ ε]χέειν »; col. III, 33 – 38: « νόση|μα μ(έν) γ(άρ) (έστιν) ἔμμονος κατασκευῆ περι μέροσ|35τι τοῦ σώματος χρόνου ὑπολήπτου|[τ]ῆς λύσεως ἔχουσα, νόσος δὲ ἔμμονος|κατασκευῆ περι ὅλον τὸ σώμα τῆς λύσεω(c)|\_\_ὑπολήπτου ἔχουσα χρόνου.».

<sup>377</sup> Col. III, 36 – 39: « νόσος δὲ ἔμμονος|κατασκευῆ περι ὅλον τὸ σώμα τῆς λύσεω(c)|\_\_ὑπολήπτου ἔχουσα χρόνου. Λέγεται|τε νόσος διχῶς, κοινῶς τε καὶ ἰδίως ».

<sup>378</sup> Aristotle *Cat.* 2, 1a 20 – 1b 6; 1b 10 – 11.

that whenever something is predicated about something this latter is taken as a subject, and this in turn means that what is predicated is held to appertain to the essence of the thing of which it is predicated. What is predicated of a subject must be more general than the subject itself, and its name and interpretation must be applicable to the subject too, that is, must be liable to be predicable of a subject in a synonymical way. Species and genres of a subject fulfil such demand, whereas the subject of which something is predicated or is a substance (τὸ ὑποκείμενον) or else an accident. As to the former possibility, one can distinguish the following principal meanings:

- 1) In opposition either to εἶδος or to ἐντελέχεια, the matter in which underlies the form<sup>379</sup>.
- 2) Insofar as it is a hylomorphic compound, and in opposition to the πάθη or the συμβεβηκότα, the substance that underlies accidents<sup>380</sup>.
- 3) In opposition to τὸ κατηγορούμενον, a substance is also the logical subject about which some attributes are said<sup>381</sup>.

In light of this distinction, a more cogent reason indeed against taking the expression « Λέ[γ]εται δὲ ψυχ[ῆ] τριχῶς » as a definition of soul and against the translation of ἐντρέχεια as ‘entelechy’ is the indication the scribe gives in col. II, 6: « ἡ ψυχὴ δύναμις (ἐστιν) »<sup>382</sup>. Somehow calling for the active side of the φύσις, it is well-known that in the frame of Aristotle’s metaphysical system the term δύναμις means ‘potency’. Aristotle introduces two different terms as counter-poles to δύναμις and even explicitly juxtaposes ἐνέργεια to ἐντελέχεια, i.e. ‘actuality’, in certain passages<sup>383</sup>. In being opposed to the notion of ‘potency’ (δύναμις), according to the logical law of transitivity as well as to the Aristotelian principle of non-contradiction, if the soul is said to be a force then in a supposed definition of soul the notion of entelechy is automatically forestalled<sup>384</sup>.

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<sup>379</sup> Aristotle *Metaph.* I 3, 983a 29 – 30.

<sup>380</sup> Aristotle *Cat.* 2, 1a 20, 27; *Metaph.* I 3, 983b 16; VI 12, 1037b 15 – 17.

<sup>381</sup> Aristotle *Cat.* 2, 1b 10, 21. Meanings 1) and 2) are furthermore given in Aristotle *Metaph.* VI 3, 1029a 1 – 5; 13, 1038b 4 – 6; VII 1, 1042a 26 – 31.

<sup>382</sup> Beckh - Spät (1896), p. 3: « Kraft »; Jones (1947), p. 25: « power »; Ricciardetto (2014), p. 1; (2016), p. 2: « propriété ». For a more detailed description of the notion of δύναμις cfr. supra *Comment.* on col. II, 6.

<sup>383</sup> Aristotle *Metaph.* IX 3, 1047a 30 – 32; 8, 1050a 21 – 23.

<sup>384</sup> The definitive argument for the first section of the *Anonymus* is grounded in some Aristotelian work is in fact the expression in col. II, 6 « ἡ ψυχὴ δύναμις (ἐστιν) » as long as the word ἐντρέχεια does not be translated as ‘entelechy’. Cfr. supra § 2. In translating the term « δυνάμειον » in col. XII, 11 as « propriétés » A. Ricciardetto is apparently unaware of such distinction. Cfr. Ricciardetto (2014), p. 9; (2016), p. 15.

The point now would be to sketch an interpretation of ἐντελέχεια and how it differs from the closely related concept ἐνέργεια, but that would mean to go astray from the goal of the present chapter.

#### 4. *Conclusions*

Inasmuch as the word the scribe wrote in col. II, 9 can only be ἐντρέχεια, the premise whereby ἐντρέχεια is a misspelling or a mistake that the scribe of *Anon. Lond.* made on account of a purported Aristotelian ἐντελέχεια should be discarded. If we take the view that is much more worthwhile putting the effort into finding the possible sense of ἐντρέχεια, it has been hopefully demonstrated by dint of different arguments that among all the possible translations of ἐντρέχεια that of ‘entelechy’ proves the most faulty. So, in order not to leave the notion untranslated, it seems fair to take the meaning of ἐντρέχεια in the *Anonymus* papyrus as ‘instinct’, ‘impulse’, or ‘impulsivity’.

## *Herodicus of Selymbria*

### 1. *General Remarks*

A distinctive trait in ancient Greek medicine is the insistence on dietetics as central to all therapeutics. Dietetics provided detailed and complex rules whereby one might regulate one's life throughout the year. The medicine of the end of the 5<sup>th</sup> and the beginning of the 4<sup>th</sup> century BC experienced an evident dietetic turn<sup>385</sup>, or at least it is the conclusion at which one arrives by judging some books in the Hippocratic collection such as *Regimen in Health*, *Epidemics II-IV*, *Ancient Medicine*<sup>386</sup>, or *Aphorisms*. Perhaps the most representative personage of such a growing trend was Herodicus of Selymbria. Herodicus drew a lot from dietetic prescriptions, and he was also able to articulate them in a form acceptable to intellectuals of his time, to the point where Plato considered Herodicus's meddling in medicine<sup>387</sup> as problematic.

In col. IX, 20 – 36 the scribe of *Anon. Lond.* recollects the etiological theory of a physician called Herodicus<sup>388</sup>. The identity of the personage is unclear, for while his name can be easily made out unfortunately his corresponding ethnicity is this time omitted in the papyrus. According to H. Diels<sup>389</sup>, the personage to whom *Anon. Lond.* makes mention is Herodicus of Selymbria. However, in one of her contributions<sup>390</sup> D. Manetti has thoroughly argued that the hypothesis that Diels put forward is far from watertight; in Manetti's view, there is neither cogent argument nor definitive proof for assenting to Diels's belief.

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<sup>385</sup> Kollesch (1989), p. 193. Joly (1967), p. 1 n. 1: « Nous sommes assurés qu'à la fin du V<sup>e</sup> siècle, la littérature diététique était déjà très développée ».

<sup>386</sup> Above all Hippocrates *Vet. med.* IV. Vegetti (1995c), p. 83. For the polemic concerning the attribution and the origins of the Hippocratic treatise *Regimen in Health* see Jouanna (2012i), pp. 323 – 324, or the note to the treatise entitled *Du régime salulaire* in the bibliographical section.

<sup>387</sup> Polybus of Cos and Herodicus of Selymbria (5<sup>th</sup> - 4<sup>th</sup> century BC) regarded themselves as Hippocrates' true heirs. Cfr. Vegetti (1995c), p. 11.

<sup>388</sup> Taken from Diels's edition, the passage concerning Herodicus was separately collected and translated into German in Grensemann (1975), pp. 15 – 16 fr. 8a. The first translation into Italian was by A. Jori, afterwards the same passage was edited again by D. Manetti. Cfr. Jori (1993), pp. 159 – 160; Manetti (2005), pp. 297 – 298. Cfr. also Debru (1996), p. 182 n. 19; Ricciardetto (2014), p. XXXIX.

<sup>389</sup> Diels (1893b), pp. 421 – 422: « Ich glaube daher in der Identificirung dieses Herodikos mit dem Platonischen nicht fehlgegriffen zu haben ». W. H. S. Jones takes H. Diels's assumption for granted. Cfr. Jones (1947), p. 49. For an extended bibliography on the personage, and how Herodicus is pictured in the Hippocratic collection see Vegetti (1995c), p. 91 n. 20.

<sup>390</sup> Cfr. Manetti (2005), pp. 295 – 313.

‘Herodicus’ was a reasonably widespread name in the medical circles of the time<sup>391</sup>. There is evidence for instance of the existence of two other contemporary<sup>392</sup> physicians by that name: Herodicus of Cnidos and Herodicus of Leontini (one of the siblings of Gorgias the sophist)<sup>393</sup>. Given that in cols. IV, 40 – V, 34 the author of the *Anonymus* papyrus has dealt with the Cnidian doctor, the issue now is to clarify whether the Herodicus in the *Londiniensis* papyrus is the Selymbrian or the Leontinian. On grounds of the main lines and the features of the doctrine assigned to Herodicus in the papyrus, and on the basis of the fact that an athlete trainer (ἀλείπτης)<sup>394</sup> named Herodicus of Selymbria is largely attested to in other medical and philosophical sources, I assume — in agreement with Diels and W. H. S. Jones — that the scribe of *Anon. Lond.* is at this point concerned with Herodicus of Selymbria<sup>395</sup>.

Wherefore, we shall first go into the theories ascribed to Herodicus in the London papyrus. But since only this single perspective might blinker the portrayal of Herodicus, once we have got the picture of him from the papyrus, to deepen that view we shall compare, in the second place, the description in the *Londiniensis* with the different accounts of Herodicus as they are respectively found in the Corpus Hippocraticum, in Plato, and in Aristotle.

## 2. *Herodicus in the Anonymus Londiniensis*

From the description in the *Londiniensis* papyrus it appears that Herodicus put the cause of disease down to the imbalance between the functions — opposed but complementary — of

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<sup>391</sup> Jori (1993), p. 158 n. 2.

<sup>392</sup> The estimated chronology for Herodicus of Selymbria is 460-450 / 390-380 BC. Jori (1993), pp. 157 – 158.

<sup>393</sup> Plato *Grg.* 456 b – c. A scholium on Plato *Grg.* 448b stresses that the personage in question is not the Selymbrian but Gorgias’s brother. Cfr. Grensemann (1975), pp. 20 – 21 fr. 17; Percy (1993), pp. 445 – 446; Vegetti (1995c), p. 51; Jouanna (2012c), pp. 39 n. 2, 51.

<sup>394</sup> It comes as no surprise, since the gymnast trainer is a figure that, from an early period, appears often along with doctors as authority on diet. Cfr. Jaeger (1957), p. 60. One of the criticisms that Plato launches to Herodicus is precisely the fact that he managed to pass for a doctor, despite being in origin an athlete trainer. Kollesch (1989), p. 195. Herodicus is not the only example in this sense, for Galen speaks about the gymnast Theon of Alexandria and his four volumes on exercise and workout entitled *Gymnastics*. Galen cites a passage of this book in which it is discussed the ideal quantity and quality of the massage, and he contrasts its content with Hippocrates’ opinion about the subject. Though being likewise criticised, Galen deems that Theon’s knowledge in this particular regard is higher and more complex than Hippocrates’. Galen *De san. tuenda* II 3 [VI p. 96, 2 – 4 K.]; 4 [VI p. 114, 4 – 7 K.]; III 3 [VI p. 182, 4 – 15 K.]. Anyway, from the case concerning Herodicus we learn that physicians will not be the only health educators anymore, but the gymnast and masseur will play also an important role in the teaching and the practice of that part of medicine called ‘Hygiene’. By ‘hygiene’ is technically meant “applied physiology”, that is, the study and the endeavour to create the conditions most conducive to the normal function of the body and its organs. Jouanna (1988), p. 22.

<sup>395</sup> There is no full agreement on this point. Cfr. e.g. Ricciardetto (2016), p. LXXVIII.

assimilation and dispersion which occur at every layer in the chain of life. In respect to human beings, and more concretely to human health, Herodicus maintained that illnesses arise from a disproportion between the matter that our body assumes and the matter that our body consumes; so that Herodicus conferred a quantitative<sup>396</sup> slant on the notions of health and disease. In this way, according to Herodicus, when the intake of food is excessive and furthermore not balanced by any kind of physical activity (which amounts to a bad regimen for life in a broader sense) in the long run this combined situation produces negative effects on health. Medical intervention is consequently intended to regain the natural balance between the two primordial physiological activities of assumption and consumption. In the eyes of Herodicus the only way to do it is by means of combining a correct diet with physical activity<sup>397</sup>. Since the sick body is in some way out of balance, it must be brought back into balance either by removing whatever is in excess or by building up whatever is deficient<sup>398</sup>.

### 3. *Herodicus in the Corpus Hippocraticum*

The portrayal of Herodicus in the *Epidemics VI*<sup>399</sup> fits quite well with the report on his etiological views in the *Anonymus papyrus*, this coincidence being another prop to support the view that “the Herodicus” in the *Londiniensis* is the Selymbrian:

« Ἡρόδικος τοὺς πυρεταίνοντας ἔκτεινε δρόμοισι, πάλησι πολλῆσι, πυρίησι, κακὸν, τὸ πυρετῶδες πολέμιον πάλησι, περιόδοισι, δρόμοισιν, ἀνατρίψει, πόνος πόνῳ αὐτοῖσιν, ὄγκοι φλεβῶν, ἔρευθος, πελίωσις, χλωρότης, πλευρῶν ὀδύνη λαπαραία. ».

(« Herodicus killed fever patients with running, much wrestling, hot baths. A bad procedure. Fever is inimical to wrestling, walks, running, massage; that is trouble on trouble for them. Swelling of the blood vessels, redness, lividness, pallor, soft pains in the ribs »)<sup>400</sup>.

<sup>396</sup> Jori (1993), p. 160. This pernicious unevenness is in a way insinuated in Hippocrates *Aph.* II 17 [IV p. 474, 8 – 9 K.].

<sup>397</sup> This being the reason why Herodicus of Selymbria is credited with being the founder of Dietetics. Steckerl (1958), p. 67. Cfr. Grensemann (1975), pp. 8 – 9 fr. 6b. The author of *Regime I* recognises that such correct balance depends on each individual, hence he claims that one might have a complete and exact knowledge of health for men if it were possible to discover the μέτρον of food and the ἀριθμός of exercise for each individual. Cfr. Hippocrates *Vict.* I 2 [VI p. 470, 14 – 17 Li.]; Lloyd (1968), p. 75 n. 17.

<sup>398</sup> Hippocrates *Flat.* I [VI p. 92, 11 – 13 Li.] = [CMG I 1 p. 92, 8 – 10 Heiberg]. Cfr. Jouanna (2012c), p. 48.

<sup>399</sup> According to Diels the passage in the *Anon. Lond.* dealing with Herodicus was likely drawn from Hippocrates *Epid.* VI 3, 18 [V p. 302, 1 – 4 Li.]. Cfr. Diels (1893a), p. 14. The fragment is collected in Grensemann (1975), p. 17 fr. 8. 6. Cfr. Kollesch (1989), p. 195; Jori (1993), pp. 161 – 162.

<sup>400</sup> Trans. Smith (1994), p. 243.

The fragment above is of interest not only because of its furnishing us with an idea of how the “official medicine” coeval to Herodicus judged his therapeutical practices, but also because it is the only occurrence in the *Epidemics* where the procedures displayed by a physician are addressed to a proper name<sup>401</sup>. This fact aside, the impression that one gains from the Hippocratic passage is that Herodicus’s method is counterproductive or indeed pernicious for the patient<sup>402</sup>. As we shall show, such a pejorative stance will be the dominant one among the rest of the extant mentions of Herodicus in Greek literature. But, what is the real cause for the contempt raised in the *Epidemics VI*?

To our mind the problem lies in the difference of therapeutical paradigms. The premises from which the author of the *Epidemics* and Herodicus departs are in actual fact divergent and conflict with each other; it is no accident then that the author of the *Epidemics VI* deems the whole of the procedures prescribed by Herodicus as erroneous. If Herodicus’s therapeutical method is undermined in the *Epidemics* it is because the physician of Selymbria pretends to restore the health of anyone down with fever by dint of exhausting workouts, baths, fights, and massages<sup>403</sup>. Since a feverish patient suffers from a feeble and weak condition, according to the principles ruling Hippocratic medicine it is impossible that the health of the ailing person can get better by following prescriptions like those Herodicus suggests: weakness cannot be overcome with more weakness, nor by causing more fatigue. On the contrary, the most sensible course seems to be to prescribe rest and repose in order to give the patient the opportunity of strengthening his general bodily condition<sup>404</sup>.

The question lies therefore in a radical difference of perspectives, which leads in its turn to two possible explanations for the criticism that the Hippocratic author brings into discussion. In the first place, Herodicus fails by getting stuck to the general principle whereby any morbid process is

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<sup>401</sup> Jori (1993), p. 161 n. 12. In the rest of the *Epidemics* one just finds generic references in this sense.

<sup>402</sup> Though not belonging to the Hippocratic collection, perhaps Asclepiades of Bythia (2<sup>nd</sup> - 1<sup>st</sup> century BC) is the most noticeable medical counterpoint to the trend that Herodicus inaugurates, which, to some extent, will be followed by the majority of ancient physicians. If we were to give credit to Galen, Asclepiades and his heirs « ἀλλ’ οἱ περὶ τὸν <Ἀσκληπιάδην> » believed that gymnastics contributes nothing to good health « τὰ γυμνάσια μηδὲν εἰς ὑγίαν συντελοῦντα », indeed, they were firmly convinced that Herodicus’s theories were nothing but the distorted result of too much free time; so that, with great scholarship, the Methodist physicians devised all kind of arguments in order to show their contempt against Herodicus’s methods. Galen *De san. tuenda* I 8 [VI pp. 37, 11 – 14; 39, 3 – 5 K.].

<sup>403</sup> It is perhaps worth remarking in this sense that, properly speaking, Galen will term ‘exercise’ only those vigorous movements that alter the respiration and increase the intrinsic warmth in the body. Galen *De san. tuenda* II 2 [VI p. 85, 9 – 10 K.]; II 9 [VI p. 137, 10 – 12 K.].

<sup>404</sup> For a more detailed description of such a *vis medicatrix naturae* cfr. Vegetti (1995c), p. 38 n. 30. Hippocrates *Vict.* I 15 [VI p. 490, 10 – 11 Li.]

explained by virtue of an excess in the nourishment. Although such an overall rule might be true and might even work in some cases, it is inapplicable to all kind of possible diseases, this case being a clear example. In the second place, the author of *Epidemics VI*<sup>405</sup> is of the firm opinion that the cure for this concrete case is to be found by way of allopathy (hence the famous dictum *contraria contrariis curantur*)<sup>406</sup> and according to the application of treatments that will have the opposite effect from the present condition<sup>407</sup>.

#### 4. Herodicus According to Plato<sup>408</sup>

In Plato<sup>409</sup> the medical art presents two main aspects: gymnastic, whose aim is to attain and to preserve the sound condition of the body; and medical, whose major scope is that of reestablishing the health<sup>410</sup>. By the former Plato does not only intend suitable exercises for the body, but also a sound hygienic regimen which aims at developing and maintaining states of health. Along with the diet, the regimen involves a progressive cure of the patient's general condition by means of gymnastic exercises, rests, baths, massage sessions, a change of water and air if necessary, and the stress on the hygienic conditions of the ailing person<sup>411</sup>.

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<sup>405</sup> Galen affirmed that the *Epidemics II, (IV), VI* were the notes that Hippocrates wrote for himself (not for the public), and that such books represented an early and incomplete stage in Hippocrates' medical practice and experience; therefore, those treatises were the last to be read. Cfr. Galen *In Hipp. Epid. VI comment.* III 2 [CMG V 10, 2, 2 p. 128, 8 – 16 Wenkebach - Pfaff]. Cfr. Roselli (1989), pp. 182 – 183. Besides *Epid. II* and *IV*, *Epid. VI* is said to have been written between 399-395 BC. Cfr. Zaragoza - Gonzalez (1989), p. 206.

<sup>406</sup> Galen *In Hipp. Epid. VI comment.* II 9, 914 [CMG V 10, 2, 2 p. 69, 14 Wenkebach - Pfaff]: « τὰ ἐναντία τῶν ἐναντίων ὑπάρχειν ἰάματα ». The fundamental distinction between allopathic and homeopathic therapy could have roots in Empedocles' philosophy. As to the Hippocratic collection, the principles of the allopathic cure are expounded in *Flat.* I 4 – 5; *Epid.* I 5; *Nat. hom.* IX; *Vet. med.* XIII. Cfr. Jouanna (1992), pp. 481 – 482. Galen took the allopathic method as a distinctive trait of dogmatic or rationalistic medicine. Cfr. also Kollesch (1989), p. 192; Camassa (2006), p. 22; Byl (2011a), p. 248; Van der Eijk (2014), pp. 353, 360.

<sup>407</sup> Nutton (2004), pp. 96 – 97.

<sup>408</sup> Plato *Phdr.* 227d; *R.* III 406a – c, *Prt.* 316d – e.

<sup>409</sup> Plato *Grg.* 464b – c. Cfr. Vegetti (1995c), p. 66.

<sup>410</sup> Plato *Ti.* 24c 1 – 2; *Euthd.* 291e – 292a.

<sup>411</sup> Jaeger (1945), pp. 26 – 31; King (1954), p. 39; Vegetti (1995c), p. 28. If we wish to be more precise about what Greek doctors understood by regimen (δίαίτια) over and above the principal triad of food, drink and exercise, we must add some secondary elements, in particular bathing and, sometimes, sexual relationships. Jouanna (2012e), p. 139.

In the *Protagoras*<sup>412</sup> Herodicus of Selymbria is depicted as a sophist<sup>413</sup>. Given that the textual evidence of sophistic activity is rather rare (reducible to a few fragmentary witnesses on papyrus)<sup>414</sup>, all that can be said about sophistry depends to a great extent on Plato's opinion<sup>415</sup>. The appearance of the sophists in the cultural arena of classical Greece is no new fact; what is new is the peculiar use of an extant old word (σοφιστής) that Plato picks up and takes out of its usual meaning to fasten it upon the eminent paid teachers of the Socratic age<sup>416</sup>. That it is true one can learn by studying, for instance, the use of the term σοφιστής in *Ancient Medicine*<sup>417</sup>, a book definitely earlier than Plato. In this concrete case the substantive 'sophist' is used as a synonym of 'philosopher', thereby completely rid of the dishonourable reputation that the notion will take in the Greek literature to come due to Plato's forgery<sup>418</sup>.

#### 4.1 Herodicus the Sophist

In the *Sophist*<sup>419</sup> Plato provides a corollary with all the necessary clues to make clear what he intends by 'sophist'; up to six possible different meanings are acknowledged:

- 1) A paid hunter who pursues the young and wealthy.
- 2) A merchant in articles of knowledge for the soul<sup>420</sup>.

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<sup>412</sup> Plato *Prt.* 316 d – e.

<sup>413</sup> *Prt.* 316d is collected in Grensemann (1975), p. 16 fr. 8.4. Cfr. Jori (1993), pp. 163, 165; Vegetti (1995c), p. 15.

<sup>414</sup> Grote (1859), p. 364. A noticeable witness in this sense concerns Antiphon, the sophist. *P. Oxy.* XI 1364 (*Cambridge Univ. Libr.* inv. add. 6355) + *P. Oxy.* 52.3647 = MP<sup>3</sup> 92 = LDAB 230) comprises 13 fragments of a treatise by Antiphon entitled *On Truth* (fr. I - II are the completest). Cfr. Grenfell - Hunt (1915), pp. 92 – 104.

<sup>415</sup> Kranz (2002), p. 343: « Die fehlende oder falsche Rezeption der Verischen Impulse der Sophistik ist die Kehrseite des Erfolges von Platon ».

<sup>416</sup> Grote (1859), p. 355.

<sup>417</sup> Hippocrates *Vet. med.* XX [I p. 620, 7 Li.]: « ἰητροὶ καὶ σοφισταί ».

<sup>418</sup> Jones (1984a), p. 5. Another subject is the contempt that the author of *Ancient Medicine* displays for the philosophers-sophists's meddle in medical issues; but, for present purposes, it suffices to note that the writer of *Ancient Medicine* does not draw a distinction between philosopher and sophist.

<sup>419</sup> Plato *Sph.* 231d – e.

<sup>420</sup> Definitions 1) and 2) resemble the accusation of Socrates in Plato *Ap.* 24b – c: « Σωκράτη φησὶν ἀδικεῖν τοὺς τε νέους διαφθείροντα καὶ θεοὺς οὐκ ἢ πόλις νομίζει οὐ νομίζοντα, ἕτερα δὲ δαιμόνια καινά. », (« — *scil.* the sworn statement — states that Socrates is a wrongdoer because he corrupts the youth and does not believe in the gods the state believes in, but in other new spiritual beings ») [Trans. Fowler (1960), p. 91]; Diogenes Laertius *Vitae philosophorum* II 40 – 41 [Marcovich (1999a), pp. 119, 20 – 120, 1]: « ἀδικεῖ δὲ καὶ τοὺς νέους διαφθεῖρων », (« impiety and corrupting the youth »). Trans. Hicks (1950a), p. 169.

- 3) A retailer<sup>421</sup> of those same articles of knowledge.
- 4) A seller of his own productions of knowledge.
- 5) An athlete in contests of words, in the art of disputation (ἐριστικὴν τέχνην).
- 6) A purger of souls, who removes opinions that obstruct learning.

It turns out that in almost four of the definitions above Protagoras's *modus agendi*<sup>422</sup> (i.e. the sophist's activity) is straightforwardly connected with business or with some commercial matter. More particularly, the last two definitions seem to be featuring the sophist the most<sup>423</sup>. But the nub of Plato's criticism is that the sophistic art is based on getting benefit by selling knowledge when, in reality, what is sold is not that. Herodicus is reputed to flatter his followers, and he tries to attract people to him by promising health and sound condition by means of gymnastics and diets, but his real aim is to obtain economic benefit from them. According to Plato, the true physician is a healer of the sick, not a moneymaker<sup>424</sup>. From Plato onwards the history of philosophy will insist on the fact that true philosophical endeavour is clearly in conflict with economic benefit. Yet, what is the reason for this grudge against the fact that someone might earn money<sup>425</sup> by teaching a particular body of knowledge?

At the root of the query there might be a particular philosophical conception of human life. In Antiquity to become a better man, and in general, to live a virtuous lifestyle was held to be contrary to a business and materialistic oriented life (ἄσχολή, *negotium*). Apart from this prejudice, perhaps the influence of Cratylus — a disciple of Heraclitus — is also relevant to the question. For Plato the sophist is by definition someone specially trained to be able to speak about everything. Sophistry consists in constructing a reliable opinion (φάντασμα)<sup>426</sup> about any topic whatsoever (πολυμαθία)<sup>427</sup> by way of images, pictures, analogies, hypothesis and the like; contrarily,

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<sup>421</sup> The word that Plato uses in the dialogue is κάπηλος, which is related to the Anglo-German stem *shop / koop / Kaufen*, the Scandinavian *Koven*, or the Slavonic *konámь*; all this altogether in turn related to the Latin voice *caupo, -nis*. Cfr. *OLD* (1968), p. 288.

<sup>422</sup> Cfr. e.g. Plato *Prot.* 328b.

<sup>423</sup> Cfr. Wild (1946), pp. 276, 308.

<sup>424</sup> Plato *R.* I 341c.

<sup>425</sup> Xenophon *Mem.* I 6 (5) [Hude (1934), p. 39, 13 – 16]; Galen *Quod opt. med.* [I pp. 56, 16 – 57, 16 K.].

<sup>426</sup> Wild (1946), p. 283.

<sup>427</sup> Cfr. DK Heraclitus 22[12]B 40[16] [Diels (1951), p. 160]: « πολυμαθὴν νόον ἔχειν οὐ διδάσκει », (« Much learning does not teach understanding»). Trans. Kahn (1979), p. 37. This pejorative regard towards the πολυμαθία is found elsewhere in Plato, for instance, at *Lg.* 811b 4 – 5; 819a 5 – 6, and although its spurious nature, also in *Alc.* 2 146e – 147a.

philosophy is conceived by Plato as committed to the discovery of the real nature of something already in existence.

The portrait that Plato gives of the sophist is that of someone who seeks money<sup>428</sup>; the sophist tries to get some benefit by deceiving the young affluent aristocrats of Athens<sup>429</sup>. It is by dint of science, a false reputation for erudition, or the different arts involved in virtue that the sophist attempts to gain the confidence and the favour of the well-positioned youth; the sophist seeks thus to sell learning, in the case of Herodicus, the selling of promises of wellbeing and health.

#### 4. 2 *Herodicus, that Risible Creator of Idle People*

Now, turning to some other Platonic dialogues in connection with Herodicus, we should deal first with the *Phaedrus*. The mention of Herodicus in the *Phaedrus*<sup>430</sup> is minimal, no more than an ironical comment, but serves anew to reinforce the ridiculous and the counterproductive of the methods proposed by Herodicus.

It remains to speak about Plato's pillar work of political ideas. In *Republic*<sup>431</sup> Plato puts Herodicus's therapeutics down and condemns Herodicus's method as alien to the medical procedures of the Asclepiadians theretofore<sup>432</sup>; Plato underscores moreover the pernicious effect of the practices introduced by Herodicus on his patients and on the wellbeing of the polis. In Plato's view the cluster of rules and indications that Herodicus prescribes neither cure his patients — on the contrary<sup>433</sup>, just serve to lengthen their unhealthy condition (νοσοτροφία) — nor are of assistance in the development and prosperity of the State. As a result, Herodicus's therapeutics yield an increasing number of unproductive people. If Plato is unsympathetic to Herodicus that is because the methods of the latter fail to attain the ancillary role of the medical art to politics and the needs of the State. As hygienist, Herodicus's methods aimed to rule over the population, but not to heal the

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<sup>428</sup> Plato *Sph.* 226a 1: « τὸ χρηματιστικὸν γένος », « the moneymaker genus ». The true practice of medicine is incompatible with the indecent pursuit of monetary gain (*quaestus*). In the *Prt.* 311 b – c we learn from Plato that Hippocrates taught medicine for remuneration. Cfr. Nutton (2004), pp. 56, 116; Jouanna (2012h), p. 278. Cfr. infra ch. VII § 3.1 n. 686.

<sup>429</sup> Plato *Sph.* 223b.

<sup>430</sup> Plato *Phdr.* 227d. The passage is collected in Grensemann (1975), p. 17 fr. 8. 7.

<sup>431</sup> Plato *R.* III 406a – c. The passage is extracted from Grensemann (1975), p. 18 fr. 8. 8.

<sup>432</sup> Jouanna (1993), p. 65. At *R.* III 405c – 408b the pharmacological medicine of the ancients is considered by Plato as more valuable and effective than the new Dietetics of his time. This notwithstanding, in *Ti.* 89a – d Plato seems to be for a natural and dietetic medicine, which in a way contradicts what he himself expounds in the *Republic*.

<sup>433</sup> Schuhl (1960), pp. 73 – 74; Jori (1993), pp. 175 – 176, 181 – 182.

citizenship. Herodicus's prescriptions were apparently oriented to a social elite, to people who in being free from any obligation to work had therefore full time to take care of their health<sup>434</sup>.

### 5. *Herodicus According to Aristotle*

Once, and only briefly, in one of his books<sup>435</sup> Aristotle also makes an allusion to a personage called Herodicus. The characteristics of the citation, it is true, do not yield much. In short, for Aristotle health amounts to a δύνάμις, that is to say, to being capable of developing and carrying out a particular activity or faculty without imposing pain on the body<sup>436</sup>. In Aristotle's opinion, the sheer abstinence of pleasure is incompatible with the true, sound condition of the body; for health abides in a moderated mixture which comprises also some pleasure<sup>437</sup>. From this remark it follows that Aristotle is presumably referring to the exaggerated workouts and the iron discipline that Herodicus of Selymbria is credited with prescribing to his patients and followers.

### 6. *Conclusions*

The most general conclusion to be drawn from all the points above is that the *Anon. Lond.* proves one more time to be a valuable testimony. In contrast with the rest of Greek literary sources that make mention of Herodicus, the papyrus provides a sketch of Herodicus in which the Selymbrian is not merely and uncritically dismissed; the description provided by the scribe in the papyrus is, in a manner, the most neutral and impartial<sup>438</sup> of all those examined. Considering the way

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<sup>434</sup> In the Hippocratic treatise entitled *Regimen* such distinction stands, for its author distinguishes between two audiences, on the one hand the majority of people who do not choose their food or drink due to the needs of their profession, and on the other hand, the minority of those who are able to refrain from other occupations so as to not neglect their health. Jouanna (2012e), p. 151.

<sup>435</sup> Aristotle *Rh.* I 5, 1361b 4 – 5. The passage is collected in Grensemann (1975), p. 18 fr. 8. 9. Cfr. Jori (1993), p. 194 n. 69.

<sup>436</sup> Aristotle's conception of health is in this wise very similar to Galen's view in *De san. tuenda*. I 5 [VI p. 18, 9 – 10 K.]: « ἐν ἧ μῆτε ὀδυνώμεθα μῆτε ἐν ταῖς κατὰ τὸν βίον ἐνεργείαις ἐμποδιζόμεθα, καλοῦμεν ὑγείαν », (« — *scil.* health — is that condition in which we do not suffer pain and are not impeded in the activities of life »). Trans. Green (1951), p. 15.

<sup>437</sup> Aristotle *EN* II 2, 1104a. Frere (1988), pp. 65 – 66.

<sup>438</sup> Jori (1993), p. 159. Contrariwise, J. Kollesch contends that the *Anonymus* papyrus throws a little light on the transmission of Herodicus's real theory of causation of disease. The strong point in Kollesch's view resides in the fact that Herodicus could hardly have drawn the word περίπτωμα from Aristotle. In view of this, the place that Herodicus occupies in the doxographical section of the *Anon. Lond.* would depend on the entire subjectivity of the scribe. Cfr. Kollesch (1989), p. 197. Cfr. also *infra* ch. V § 3 n. 487.

the other physicians are portrayed and reviewed in the second section of the *Londiniensis* papyrus, the scribe's impartiality speaks this time about his aim of offering an objective and aseptic account of the doctrines he expounds.

Another pertinent conclusion ensuing from the Platonic depictions of Herodicus is that, despite not belonging to a strict medical ambience, Herodicus was able to introduce his method into the world of professional therapeutics<sup>439</sup>. With Herodicus a path starts in ancient Greek medicine whereby hygiene, gymnastics, and therapeutics will become entangled<sup>440</sup>. However it might be, Plato sees in Herodicus the materialisation of the dietetic turn that the medicine of his days was taking, this being the reason why Plato derides and ridicules Herodicus with irony<sup>441</sup>. According to Plato's description, such a new turn consisted in a senseless and inefficient mass of practices with no social benefit at all, indeed, were intended to lengthen the illness.

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<sup>439</sup> Jori (1993), p. 193.

<sup>440</sup> This situation will last almost until Galen, since it is the physician of Pergamon who will set out the boundaries between the specialist in applied physiology, the expert in exercise, and the professional concerned with healing. In Galen we see what could be considered a linguistic explanation for Herodicus's interference in the medical field. At *De san. tuenda* II 8 [VI pp. 135, 14 – 136, 6 K.] Galen wrote: « εἴπερ γὰρ ἅπαντες οἱ τεχνῖται παρωνύμως ὀνομάζονται τῶν τεχνῶν, ἃς μεταχειρίζονται, πρόδηλον, ὡς ὁ τὴν ὑγιεινὴν τέχνην μετερχόμενος ὑγιεινὸς ἂν εὐλόγως προσαγορευέοιτο, καθάπερ καὶ ὁ τὴν περὶ τὰ γυμνάσια μόνον γυμναστὴς καὶ ὁ περὶ τὰς ἰάσεις ἰατρός. εἰ δέ τις ἢ γυμναστὴν ἢ ἰατρὸν ὀνομάζοι τὸν ὑγιεινὸν δὴ τοῦτον, ἀπὸ μέρους τε προσαγορεύσει τὸ σύμπαν καὶ οὐ κυρίως, ἀλλ' ἐκ καταχρήσεως ἢ ἐπὶ διαστάσεως, ἢ ὅπως ἂν τις ἐθέλη καλεῖν, οὕτω ποιήσεται τὴν προσηγορίαν. αἴτιον δὲ τούτου τό, μιᾶς οὔσης τῆς περὶ τὸ σῶμα τέχνης, ἐφ' ὅλης αὐτῆς ὄνομα μηδὲν τετάχθαι κύριον », (« For if all artisans are named paronymously from the crafts which they practice, it is clear that he who practises the art of hygiene should properly be called a hygienist, just as he who is concerned with gymnastics alone is called a gymnast, and he who is concerned with healing is called a physician. But if anyone calls the hygienist either a gymnast or a physician, he names him altogether in part and not correctly but he will make the appellation by misuse, or ambiguously, or however otherwise anyone may wish to term it. And the reason for this is that, since there is only one art concerned with the body, no appropriate name has been established for the whole of it»). Trans. Green (1951), p. 80. We should add that Galen does not use the word *παρωνύμως* in the technical sense that Aristotle concedes in the *Categories* (i. e. things that are said by way of derivation, more particularly, when the meaning of a word results altered by way of the slight modification in the grammatical declension). Cfr. Aristotle *Cat.* 1, 12 – 15.

<sup>441</sup> Plato *R.* III 406a – 408a. Cfr. King (1954), pp. 46 – 47.

***Plato, the Medicine, and the Paraphrase  
on the Timaeus in the Anonymus Londiniensis Papyrus***

1. *Plato, the Physician*

It is generally agreed that, surpassing the efforts and the ability of the physicians of his own day, in the *Timaeus*<sup>442</sup> Plato attempted the first comprehensive account of the body as a unified anatomical-physiological structure. In the *Timaeus* we find for the first time the submission of the medical art to natural science in a systematic way. However, given that scholars have attributed scant value to Plato's scientific views, very little heed<sup>443</sup> has been paid to the medical section in the *Timaeus*. In this sense, the all-pervasive teleology of the *Timaeus* is often mentioned as being one of its main unscientific features<sup>444</sup>. There is furthermore the common claim that whatever natural science Plato did was, in any event, unoriginal; so that his account of natural phenomena and processes is an amalgam of the ideas of his predecessors and contemporaries. Yet quite apart from Plato's reputation among subsequent historians of medicine, all this remains always superset to Critias's comment on the privilege he concedes to Timaeus<sup>445</sup> to be the first in speaking. Far from being a possible fable, the status of the matters recounted thereafter — including the medical section in the *Timaeus*<sup>446</sup> — apparently stands for the ultimate answer given by the greatest astronomer of the time to the causes of disease, and should therefore be taken seriously.

In the light of the medical doctrines expounded in the *Timaeus* it seems that there are several places where they are probably in part at least original. Plato's pathological views were not based on first-hand experience, but by judging some of the contents in the medical passages in the *Timaeus* what we see is a supposed non-medical man<sup>447</sup>, Plato, using ideas that were at the forefront

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<sup>442</sup> Vegetti (1995c), pp. XII, XXII.

<sup>443</sup> Prince (2014), p. 910.

<sup>444</sup> Lloyd (1968), p. 81. Here we shall not go into discussing whether Plato's natural philosophy is imbued with teleology, but Lloyd's position is seemingly prescinded from some passages where Plato clearly aims at giving a plain account of the phenomena on the basis of the "Physics" and the medicine of his time. It becomes plain, for instance, if it is examined the explanation that Timaeus gives to epilepsy. Cfr. Plato *Ti.* 79e 10 – 80a 9; 81a 2 – b 5; 85a 5 – b 2.

<sup>445</sup> Plato *Ti.* 27a 3 – 6.

<sup>446</sup> Almost a half of the text of the *Timaeus* is devoted to physiology; it is in fact one of the largest and most important physiological tracts that has survived from classical times. Horne (1963) pp. 321 – 322.

<sup>447</sup> A remark that could bias the reader against such claim can be found in Miller (1962), p. 176: « No one would maintain that Plato had any specialized or direct knowledge of his own in the field of medicine ».

of medical debate of the time<sup>448</sup>. Some believe that in fact in the *Timaeus* Plato expounds his own medical opinions<sup>449</sup>. To take two examples, there is first what has been called “the psychopathology of Plato”<sup>450</sup>. It is true that the idea that certain disorders of the psyche (especially madness) arose from physical origins had appeared in various previous contexts and in many earlier writers, notably among some Hippocratic authors; but the account in the *Timaeus* of the ‘diseases of the soul that are due to the disposition of the body’ is remarkable not only due to its being comparatively full and detailed, but also for the fact that Timaeus explicitly refers to the three regions of the soul<sup>451</sup>, and suggests that there may be somatic causes for lust and for cowardice, for example (which are, presumably, disorders of the τὸ ἐπιθυμητικόν and of τὸ θυμοειδές) as well as for forgetfulness and stupidity (where τὸ λογιστικόν is presumably affected). If the notion that some of the disorders of the soul may be due to physical causes is not entirely new, what is — or appears to be — original in the version in the *Timaeus* is that Plato combines this doctrine with his own developed psychology, the doctrine of the tripartite soul in the *Republic*.

A second interesting feature of Timaeus’s pathological theories is that when he describes diseases that arise from the corruption of the ‘secondary structures’ in the body (e.g. marrow, bone, flesh etc.)<sup>452</sup> Timaeus incorporates his theory of the ultimate structure of matter. He interprets some of the changes that he supposes to take place in the body (the interpenetration of one substance by another, the disintegration of one substance by another) in terms of the structure and properties of the basic triangles of which they are composed. While the idea that diseases may arise from the disorder of the component substances in the body was a commonplace of Greek medical theory, Plato seems to have taken care to combine this doctrine with, and adapt it to, his own physical

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<sup>448</sup> In this sense, Eryximachus’s speech in *Smp.* 186a – 188e is at all a parodical entertainment by Plato; in the *Phdr.* 268a we learn from Plato that Eryximachus was a renowned doctor of the time. Cfr. Vegetti (1995c), p. 68.

<sup>449</sup> Jouanna (1993), p. 65.

<sup>450</sup> Plato *Ti.* 86b ff.

<sup>451</sup> Plato *Ti.* 87a 3 – 4.

<sup>452</sup> Cfr. e.g. Plato *Ti.* 41d, 82b – c.

theory<sup>453</sup>. In addition, the use of technical terms in the *Timaeus*<sup>454</sup> could be another proof of the fact that Plato could have had at his disposal an anatomical knowledge of a more detailed slant. In the same way, Timaeus's unified theory of all three physiological processes (respiration, digestion, and nutrition)<sup>455</sup> is a good deal more complex than any other preceding Plato, and cannot be paralleled in any earlier investigator.

## 2. Plato and Hippocrates

Galen, who wrote a commentary on the biological sections of the *Timaeus*, was convinced that Plato had studied medicine with Hippocrates<sup>456</sup>, and that Plato's view of the body could reveal much more about Hippocrates' teaching than one could get from the Corpus Hippocraticum. The bonds and boundaries as well as the mutual interdependence between philosophy and medicine in Classical Greece, and in particular, between Plato and Hippocrates, have been the object of controversy. Many have drawn attention to the several medical analogies in the Corpus Platonicum, or to the reasons for the privileged position of medical art in Plato's philosophy. This notwithstanding, the references by name to Hippocrates in Plato are less than a handful; namely two<sup>457</sup>. It should be remembered moreover that, in contrast to Aristotle, Plato is imprecise and vague

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<sup>453</sup> Cfr. Plato *Ti.* 86e – 87a. Jouanna (2012g), p. 223.

<sup>454</sup> More concretely the occurrences 'τὰ νεῦρα' and 'τοῦς ἐπιτόνους' in the same sentence at *Ti.* 84e 5 – 6. Cfr. Burgess (1998), p. 27. By the same token, the expression « καὶ φ(ασι)τὰς μ[ε]τριοπαθείας νεῦ[ρ]α (εἶναι) τῶν πράξινων » in col. II, 20 – 22 is said to dwell on a Platonic metaphor consisting of comparing both, the body and its actions, to a puppet which is moved by a higher divine instance. Plato *Lg.* I 644d 9; *R.* III 411b. Cfr. Ricciardetto (2014), p. 43; Dorandi (2016), p. 203 n. 24. It is worth noting that at Plato's time the word νεῦρα had yet to take on the technical meaning that it will have in the Hellenistic period. Thus, after Erasistratus's investigations in the field of medical anatomy, the word νεῦρα will experience a significant semantic shift; from meaning 'tendon', 'ligament', and 'sinew' νεῦρα would go on to acquire the concrete meaning of 'nerve'. Wilson (1959), p. 295; Longrigg (1993), pp. 208, 210; Nutton (2004), p. 77. Along the same lines, Plato ignored the distinction between the conjunctive and the voluntary motion nerves (συνδετικά ἢ προαιρετικά νεῦρα), insofar as such a distinction is due to Herophilus, whose anatomical investigations yielded the first description of the nervous system as it stands (or is represented) in modern medicine. Vegetti (1993), p. 92; French (2000), p. 91. As to Aristotle, he had no knowledge of the nervous system as such. Praxagoras believed that the heart was the source of the nerves (the Coan physician conceived of the nerves as fine and thin prolongations of the arteries); hence the bounds between arteries, *pneuma* and mobility/motion in Praxagoras's anatomical and physiological system. Nutton (2004), p. 126.

<sup>455</sup> Plato *Ti.* 77e ff.

<sup>456</sup> Galen *De usu part.* I 8 [III p. 16, 7 – 9 K.]. There have been signalled many parallelisms and resemblances between the Hippocratic treatise entitled *Regimen* and the *Timaeus*, but in point of fact the first work is generally held as spurious or pseudo-Hippocratic. On the influence that Hippocrates exerted on Plato see Jouanna (2012i), p. 332 n. 20.

<sup>457</sup> Plato *Prt.* 311b – c bis, 318a, 328d; *Phdr.* 270c. Cfr. Jones (1984a), pp. XXXIII – XXXIV, XLIII; Jouanna (2012i), p. 325. The two earliest explicit references to Hippocrates of Cos occur in Plato. Nutton (2004), p. 117.

at the time to give direct quotations<sup>458</sup>, so that what could be inferred on Hippocrates from Plato's dialogues is rather unreliable or offers little room for confidence. Plato was doubtlessly aware of the fame that Hippocrates gained in Athens as a teacher of medicine<sup>459</sup>, the high interest the physician of Cos attracted among a great number of disciples<sup>460</sup> did not pass unnoticed to Plato. He knew likewise of the existence of different (and rival) medical trends<sup>461</sup>. In the *Republic*<sup>462</sup> the traditional medicine (surgical and pharmacological) is contrasted with the abusive and useless methods set out in medical dietetics, especially by Herodicus of Selymbria<sup>463</sup>. Between these two tendencies, in another dialogue<sup>464</sup> Plato allows a third one — in apparent agreement with the principles expounded in the *Phaedrus* — which seems to point to Hippocrates of Cos as the ultimate reference of the good practices of the medical art<sup>465</sup>. Yet, beside these facts, almost nothing else comes out in this regard. Adding even more complication to the issue, it is very difficult to tell what is properly Hippocratic from what is not in the 60 or so books figuring in the Corpus Hippocraticum; wherefore, the purported influence that Hippocrates' ideas could have exerted on “the medical sections”<sup>466</sup> in Plato's *Timaeus* appears practically unsolvable<sup>467</sup>.

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<sup>458</sup> Vegetti (1995c), pp. XV, 104, 107.

<sup>459</sup> Hippocrates' activity in Athens (c. 440 – 420 BC) takes place in parallel to those of Anaxagoras and the main sophists. Cfr. Vegetti (1995c), pp. 10, 14.

<sup>460</sup> Jouanna (1993), pp. 6 – 7, 12; Vegetti (1995c), p. XIV.

<sup>461</sup> Miller (1962), p. 176; Jori (1993), p. 171.

<sup>462</sup> Plato *R.* III 406a.

<sup>463</sup> Cfr. supra ch. IV § 4.

<sup>464</sup> Cfr. Plato *Chrm.* 156 b – c. Cfr. Kranz (1944), p. 198; Vegetti (1995c), p. 16.

<sup>465</sup> As regards these good medical practices according to Plato's criterium, at *Tht.* 166e 3 – 167a 4 Protagoras describes the doctor as the person who is able to turn a worse situation into a better one with the help of the right administration of drugs and remedies.

<sup>466</sup> The whole last part of the *Timaeus* (i.e. *Ti.* 69 ff.) is devoted to biological or medical theories of one sort or another; it has been also the portion of the work most sharply criticised.

<sup>467</sup> The same difficulty arises when it comes to the assessment of the method alluded at *Phdr.* 270c – d, that is, whether or not such a procedure corresponds to any particular passage in the Corpus Hippocraticum. Vegetti (1995c), pp. 103 ff., 106 – 107 n. 5. For an extended bibliography on this subject see Jouanna (2012c), p. 39 n. 3. By means of a thorough comparative study of the use of the concept δύνανται in the Hippocratic collection and in Plato, H. von Staden has come to the conclusion that Plato was directly or indirectly familiar with at least some of the divergent traditions (no longer extant) represented in the Hippocratic collection. Cfr. von Staden (1998), p. 272. J. Jouanna has stated moreover: « I know of no other text in pre-Platonic literature that is so close to the *Timaeus* as that of *Regimen* ». Jouanna (2012g), p. 225.

## 2. 1 *The Mention of Hippocrates in the Phaedrus*

The reference to Hippocrates at *Phaedrus* 269c – 272a, the second to the Coan physician after the *Protagoras*, is linked to a particular method which Phaedrus endorses as a necessary condition for scientific knowledge. The value of such method resides in the fact of its being applicable to the knowledge of any object (φύσις)<sup>468</sup> whatsoever; and as far as the medical art<sup>469</sup> is concerned, then also to the body. What does this method consist of? Many scholars have provided insight into this query looking for the cornerstones of Plato’s epistemology<sup>470</sup>. In short, it is agreed that the backbone of the procedure abides in the division or diaeresis (διαίρεσις)<sup>471</sup>. The task is basically bound to the decomposition of the body, to divide the body in its different εἶδη, this meaning “typologies” or “kinds”<sup>472</sup>. The method ascribed to Hippocrates is to do with the classification of the different constitution types in order to establish a coherent causal link between such constitutions and the kinds of food or remedies that suit each one the most<sup>473</sup>. Therefore Hippocrates’s method in the *Phaedrus* is neither meteorological nor cosmological, but causal<sup>474</sup>.

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<sup>468</sup> The first attestation of the word φύσις in Greek literature occurs in the *Odyssey* X 304, and it is directly related to the medical art. Cfr. Jouanna (2012i), pp. 325, 328. For the variety of meanings that the term φύσις takes on Plato’s dialogues see Kranz (1944), p. 195. The passage from the *Phaedrus* apparently means that it is impossible to obtain true knowledge of the body prescinding from that of the whole universe (ἄνευ τῆς τοῦ ὅλου φύσεως). The sentence yields a double interpretation: a meteorological reading (more leant towards medicine), and a cosmological one (more bent on speculative reasoning). As to this second interpretation, the essential point to note is that the creation of the human body is not carried out by the Demiurge, but by some minor subordinate entities to which the Begetter commands the task. Apart from this difference, the assemblage of the human body is made according to the physical principles employed in the construction of the world body (e.g. *Ti.* 42e); hence the correspondence between the cosmos and the body. However, as J. Jouanna has contended, both interpretations could be mistaken, for Jouanna is of the opinion that neither interpretations suit the real intended meaning of φύσις in the *Phaedrus*. Cfr. Jouanna (1977), pp. 15 – 16, 22; (1992), p. 89.

<sup>469</sup> Beside medicine, rhetoric is deemed as the τέχνη for excellence. Steckerl (1945), p. 166. In the *Phaedrus* both arts are constantly intertwined; thus, medicine works on bodies precisely the same way that rhetoric does on souls. Kranz (1944), p. 196; Schuhl (1960), p. 76; Jouanna (2012c), p. 39.

<sup>470</sup> Jouanna (1993), p. 64.

<sup>471</sup> Likewise, the participants in Plato’s *Sophist* take the decision of applying the method based on the diaeresis with a view to finding a definition (ὀρισμός) of what, by contrast to ‘philosopher’ and to ‘politician’, should be intended by ‘sophist’. Since being applicable to whatever subject-matter, the partakers in the dialogue consider the method of division as the proper procedure to attain true knowledge.

<sup>472</sup> At *Phdr.* 271a 7 Plato claims that the body is πολυειδές. Such claim raises the question about what did Plato mean by εἶδη in that particular context (presumably something like “type, constitution type, etc.”). Jouanna (1977), p. 25. It is worth reporting what Galen wrote on this point, since he put the majority of healing failures down to the ignorance of his contemporary colleagues at classifying in species and genres the different ailments: « καὶ μὲν γε ὡς ἐκ τοῦ μὴ γινώσκειν κατ’ εἶδη τε καὶ γένη διαρεῖσθαι τὰ νοσήματα, συμβαίνει τοῖς ἰατροῖς ἀμαρτάνειν τῶν θεραπευτικῶν σκοπῶν ». Galen *Quod opt. med.* [I p. 54, 7 – 9 K.].

<sup>473</sup> This topic has been addressed earlier in *Phdr.* 268a – c apropos of the fake physician who knows about the remedies and their properties but ignores to whom those should be administered, precisely because he is not acquainted with the different constitution types.

<sup>474</sup> Jouanna (1977), p. 26.

The moot point in the passage is the verisimilitude in the description given by Phaedrus; that is to say, to clarify how far Plato's mention of the method followed by Hippocrates is actually represented in the Hippocratic collection. From a skeptical position it has been objected, on the one hand, that none of the books in the Corpus Hippocraticum conveys the methodology assigned to Hippocrates at *Phaedrus* 270 c – d<sup>475</sup>. The reference to Galen is believed, on the other, to be an allusion to the book entitled *The Nature of Man*<sup>476</sup>. W. D. Smith and F. Kudlien have suggested that Plato's reference to Hippocrates is possibly bound up with *Regimen*<sup>477</sup>. On this argument there are some who maintain, following É. Littré<sup>478</sup>, that in the *Phaedrus* one may see the traces of *Ancient Medicine* (especially ch. XX)<sup>479</sup>, or likewise, that the method praised by Plato presents points in common with other treatises in the Hippocratic collection<sup>480</sup>. At this juncture, the only sure things are that Hippocrates's method was famous enough during his lifetime as to be mentioned by Socrates' interlocutor; and for the present purpose, that there is also an evident parallelism between the method of division that Plato attributes to Hippocrates and the procedure that the author of the *Londiniensis* follows when, in the first section of the papyrus, he sets himself the task of classifying the different kinds of affections<sup>481</sup>.

### 3. Plato's Views in the Anonymus Londiniensis Papyrus

We should like to consider some points that D. Manetti already noted: as such, the long passage dealing with Plato within the second section in the *Londiniensis* papyrus can be taken as a

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<sup>475</sup> Jaeger (1957), p. 54. Thus, in the *Phaedrus* Hippocrates could be just « a name without works ». Jouanna (1977), p. 17. Plato is credited with having deliberately written arguments containing mistakes or missed opportunities for rebuttals; these gaps are usually explained on grounds of the supposition that Plato wanted to draw readers in and to encourage them to correct his mistakes. Prince (2014), p. 913.

<sup>476</sup> Galen *In Hipp. Nat. Hom. comment. Praef.* [XV pp. 4, 7 – 5, 10 K.] = Praef. (4/6) [CMG V 9, 1 pp. 4, 20 – 5, 9 Mewaldt]. Cfr. Jouanna (2012i), pp. 329 – 331.

<sup>477</sup> Kudlien (1989), p. 357.

<sup>478</sup> Hippocrates [I pp. 294, 563 Li.]; [II pp. XVI, XXXVII – XXXVIII Li.]; Jones (1984a), p. XXXV.

<sup>479</sup> Steckerl (1945), p. 174; Jouanna (1992), p. 88. In the same vein, J. Jouanna states: « Ainsi la méthode prônée par l'*Ancienne médecine* est, jusque dans les termes, singulièrement proche de celle de l'Hippocrate du *Phèdre* ». Jouanna (1977), p. 27.

<sup>480</sup> According to M. Vegetti in particular with *Airs, Waters, Places* and *Epidemics I - III*. Cfr. Vegetti (1995c), pp. XV, 121.

<sup>481</sup> Dorandi (2016), p. 202 n. 16; Sedley (2017), p. 1.

separate instance<sup>482</sup>. Given that the paraphrase on the *Timaeus* transmitted in the *Anon. Lond.* is earlier than Galen's commentary, then, besides Cicero's translation of the dialogue, the *Anonymus Londiniensis* constitutes one of the oldest pieces of evidence of a direct use of the *Timaeus* in Antiquity<sup>483</sup>.

For the scribe of the *Londiniensis* papyrus Plato serves as an introductory and salient example of the latter cluster of authorities described in the second section of the papyrus, that is, the group embracing the physicians who attributed the causation of disease either to the elements in us or to their uneven combination. As the first to be mentioned<sup>484</sup>, Plato comes before Philolaos, Polybus, Menecrates, Petron, and Philistion. Given that to the scribe they all share close etiological views, in the *Londiniensis*<sup>485</sup> papyrus we find them accordingly cast in one and the same group. The attention paid to Plato in the papyrus is, by far, greater than to any other author in the same subsection<sup>486</sup> and passes over the chronological order<sup>487</sup> that the scribe apparently displays in the second subsection. Thus, by way of example, Philistion — who is credited with exerting considerable influence on Plato's medical views<sup>488</sup> — occupies the last place in the second subsection (cols. XX, 25 – XXI, 8?) when in reality he should precede Plato. It should also be taken into consideration that while the author of *Anon. Lond.* takes issue with the majority of the authors he reviews, Plato is never criticised in the papyrus; this probably owes to the fact that the

<sup>482</sup> Manetti (1999), p. 118.

<sup>483</sup> *CPF* Plato 129T, p. 547.

<sup>484</sup> Col. XIV, 11.

<sup>485</sup> Judging by what the scribe deems to be Hippocrates' theory (cols. VI, 43 – VII, 1) in the previous subsection (cols. IV, 28 – XIV, 6), it could be that the first author mentioned in the *Londiniensis* who, to some extent, put the causes of disease down to the elements in us was Hippocrates, and not Plato. Although lacunar, the fragment at the basis of our claim (cols. VI, 43 – VII, 12) is as follows: « Ὡς δὲ|αὐτὸς Ἰπποκράτης λέγει γί(νεσ)θ(αι) τὰς νόσο(υς)|45 [± 2]γ.[4/5] ..... ( )...εἰ φουσεω( ) ||ἀνθ[ρωπ- λέ]γει δι[ | ἢ ὑπ[ | ]|.ω|χοληῆς καὶ φλέγμα[τ]ος, γ[ | ταῦτα, ἐπειδὴ γιγόμενοις [ | καὶ οὗτοι σύν(εστιν) ὅσθ[ | ἐκάς]του|παρόντος εἰλ[.]ετι.τοσ[.]α.[ | ]|.ω|εῖναι ἐν ἡμῖν κ(ατὰ) φύσιν τὸ αἶμα τὸ [θερμότ(ατον)]τῶν [ύ]γρῶν, ». For space reasons the long illegible blanks in the papyrus are not included.

<sup>486</sup> Lloyd (2003), p. 152.

<sup>487</sup> This points to the fact that the scribe of the *Londiniensis* outlined the second subsection by bearing in mind a gradual complexity in the theories he wanted to expound; accordingly, one could assume that in the scribe's eyes Plato was who gave the most puzzled explanation to the causation of disease.

<sup>488</sup> E.g. Plato *Ti.* 86a. Plato knew about Philistion's theories during his first sojourn on Sicily (388 BC). Cfr. Galen *Meth. med.* I 1 [X pp. 5, 15 – 6, 8 K.]; Vegetti (1995c), p. 49. Prescinding from the problems concerning the authenticity of Plato's epistles, Philistion is cited in *Ep.* II 314e. It is in general believed that Plato wrote the second epistle in the meantime of his second and third journey to Sicily (367 – 363 BC), precisely when it is agreed that he composed the *Timaeus* (the book in which Plato supposedly reassumes all what he could have learned with Philistion). Bidez - Leboucq (1944), pp. 7, 17 – 18; Abel (1957), p. 116; Nutton (2004), p. 115. For Philistion's influence on Plato see Schuhl (1960), p. 74; Miller (1962), p. 176 n. 6; Lloyd (1968), p. 79; Jones (1984a), p. XLIX; Vegetti (1995c), pp. XIII, XX, 15; Ricciardetto (2016), p. XCVIII.

opinions the scribe expresses in the third section are indebted to or in agreement with Plato<sup>489</sup>. The amount of time focused on Plato suggests that for the section devoted to the *Timaeus* in the papyrus the author had to hand a wide array of materials, or else more than a nosological doxography<sup>490</sup>.

As the scribe is at this point dealing wholly with the issue of the causation of illness, he adduces for that purpose an explanation based on the mixture, this being the main reason why the author of the *Londiniensis* dwells on Plato's *Timaeus*. In the papyrus the content regarding Plato's views (Πλάτων)<sup>491</sup> closely follows the text in the *Timaeus*<sup>492</sup>. The passages in the *Timaeus* paraphrased in the *Londiniensis* papyrus correspond, more concretely, to *Ti.* 42e, and 73b – 84e<sup>493</sup>. As far as the general lay-out is concerned, the paraphrase of the *Timaeus*<sup>494</sup> is arranged according to the discussion of three main topics: the body<sup>495</sup>, the soul<sup>496</sup>, and the causes of disease<sup>497</sup>. For the sake of concision, the second tenet in Platonic psychology cannot be studied in the present

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<sup>489</sup> In general one gets the impression that the author of the *Anon. Lond.* has Plato and Aristotle in high esteem, while takes Erasistratus, Herophilus, and Asclepiades as dialectical adversaries. Cfr. Manetti (1996a), pp. 298, 300; (1999), p. 141; Ricciardetto (2016), pp. CXIV – CXVII. Manetti considers the contents in the columns devoted to Plato as belonging to the Platonic-Academic tradition in a wide sense, and in some way, also as connected with the medical dogmatic tradition, which traces, in turn, a line that extends to Herophilus. Cfr. Manetti (2003), p. 336.

<sup>490</sup> *CPF* Plato 129T, pp. 550 – 552. Cfr. *infra* ch. VI § 1. 1 n. 595.

<sup>491</sup> Cfr. cols. XIV, 12, 27; XVIII, 7.

<sup>492</sup> The argument starts with the constitution of the animated bodies (*Ti.* 42e – 43a), afterwards it follows a synthesis on human anatomy and physiology (*Ti.* 73b ff.), and it finishes with the causes of ailments (*Ti.* 82a ff.). Cfr. *CPF* Plato 129T, p. 548. Two traits of exception have been signalled. The first is the description of the material κρᾶσις, which has primacy in respect to the description that accounts for the functions of the parts of the body. The second feature lies in the scribe's apparent aim of distributing the whole report on Plato in two further minor subsections, one dealing with the body and another with the soul. Cfr. *CPF* Plato 129T, p. 549. This second trait remains somehow obscure because in the *Timaeus* the creation of the body precedes that of the soul.

<sup>493</sup> In disagreement with H. Diels — who put col. XIV, 12 – 15 in reliance with *Ti.* 82a — Manetti proposes *Ti.* 32b 9 – c 4 (or even *Ti.* 42e – 43a) as the passages that the scribe could have taken into account. Cfr. *CPF* Plato 129T, p. 551.

<sup>494</sup> Cols. XIV, 12 – XVIII, 8. The long passage devoted to Plato in the *Londiniensis* papyrus was edited, translated into Italian, and commented on by D. Manetti in *CPF* Plato 129T, pp. 528 – 579. Cfr. *supra* *Comment.* on cols. XIV, 12 – XVIII, 8; Ricciardetto (2014), pp. XLII – XLIII.

<sup>495</sup> Cols. XIV, 12 – XVI, 32.

<sup>496</sup> Cols. XVI, 33 – XVII, 11.

<sup>497</sup> Cols. XVII, 11 – XVIII, 8. Along with this threefold structure, in the exposition of Plato's medical theories in the *Anonymus* D. Manetti has individualised a kind of formal scheme that can be applied to the descriptions of Polybus, Menecrates, Petron (and perhaps also of Philistion). The pattern consists of three different steps: 1) description of the bodily elements according to every author; 2) identification and enumeration of the cause(s) of disease; 3) description of the differences between diseases. Cfr. Manetti (1990), p. 223.

chapter<sup>498</sup>; but according to the stated arrangement in the paraphrase we shall go into the details of some concerns regarding, first, the formation of the body, and secondly, the causes of disease.

### 3. 1 *Epigenesis and Stoichiology in Plato's Timaeus in the Light of the Anonymus Londiniensis*

In col. XIV, 39 – 44<sup>499</sup> the scribe of the *Londiniensis* undertakes the study of the marrow, its composition, and its preponderance in relation to the body (the topic is addressed right through until col. XV, 25). Hence, the writing in the papyrus is at this point taking into account *Timaeus* 73a – 74a<sup>500</sup>. In the *Anon. Lond.* the spinal marrow is featured with the comparative κυριώτερος<sup>501</sup>, which is hardly surprising if it is borne in mind that to Plato the marrow is the primordial and the original substance in our body<sup>502</sup> — to the point that the divine (θεῖον) part of the soul is placed in the head whereas the mortal one (θνητόν) is said to abide in the marrow<sup>503</sup>. As to the formation of the bodily tissues<sup>504</sup>, not only is the generation of the marrow the ἀρχή for all the other tissues, but the marrow is also composed of the primary triangles of fire, water, air, and earth mixed symmetrically<sup>505</sup>. From the *Timaeus* we learn that the semi-divine instances (οἱ παῖδες τὴν τοῦ πατρὸς)<sup>506</sup> to whom the demiurge commands the construction of the human body begin to perform their task by forming

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<sup>498</sup> Yet it is necessary a brief comment on the expression « τὸ μ(έν) λογιστικόν » in col. XV, 28. Plato distinguished three different kinds of soul: an immortal one — placed in the brain (τὸ λογιστικόν) and created by the Demiurge, and two other mortal types of soul, which he considered as created by lesser divinities: the so-called irascible soul (τὸ θυμοειδής) placed in the thorax, and the appetitive soul (τὸ επιθυμητικόν), to which Plato assigns the task of vitalising the abdominal viscera. Cfr. Plato *Ti.* 70d. In the light of the contents in *Ti.* 91a – d, Plato could have even hypothesised a “a genital soul”, a fourth type of soul which is said to preside during the sexual intercourse.

<sup>499</sup> « Ἔτι γε μήν φ(ησιν) ὡς ὁ μυελὸς|συνέστηκεν [ἐ]κ τῶν τεσσάρων στοιχείων καὶ κυ[ρ]ιώτερός (ἐστὶ) τ(ῶν) ἐν ἡμῖν|ἀπάντ(ων), χρώμενος πιθανότητι λόγων|τοιαύτη: ἀνῆφθαι γ(άρ) ἐκ τοῦ μυελοῦ|τὴν ψυχὴν τὴν τὸ ὅλον σῶμα διοικ(οῦσαν)|| », (« Moreover Plato says that the marrow is composed of the four elements and is the primer among all the elements that are in us, relying on the plausibility of the following argument. The soul he affirms which pervades the whole body has been attached to the marrow »). Trans. Jones (1947), p. 63. Ll. 39 – 41 probably reflect Plato *Ti.* 73b 1 – c 2.

<sup>500</sup> Diels (1893a), p. 22.

<sup>501</sup> Plato *Ti.* 84c 3 – 7.

<sup>502</sup> Abel (1957), pp. 112 – 114; Burgess (1998), pp. 21, 30. If the marrow is the primordial part of the body, it naturally follows that the most dangerous and deadly diseases overcome when the marrow is sized by an affection. Plato *Ti.* 84c 3 – 7. Federova (1998), p. 76 n. 1.

<sup>503</sup> Plato *Ti.* 73b 6 – d 7.

<sup>504</sup> Plato *Ti.* 73b 1 – c 2.

<sup>505</sup> Miller (1962), p. 183 n. 27.

<sup>506</sup> Plato *Ti.* 42e 6.

first the substance of the marrow, then the structure of the body is built outwards from this point and around the marrow<sup>507</sup>.

In contrast to Plato's opinion about the nature and function of the bones, — to which the philosopher assigns the role of securing either the marrow or the sperm<sup>508</sup>, the scribe of *Anon. Lond.* approaches the position<sup>509</sup> from another angle. He insists on the fact that the presence of bones is mainly due to the fact that they are to bear the weight of the whole body. In this particular, the scribe seems to drift away from Plato and come closer to Aristotle<sup>510</sup>. Such a shift towards Aristotelianism applies also to his interpretation<sup>511</sup> of the role and the nature of fat (πιμελή), for, by stating that fat is integrated in the bones and has a nutritive function, the scribe of *Anon. Lond.* distances himself again from the Platonic text<sup>512</sup> and adheres to an Aristotelian view<sup>513</sup>.

The epigenetic primacy of the marrow in Plato brings up the origin of sperm<sup>514</sup>, a common subject-matter where philosophy merged with medicine<sup>515</sup>. One could distinguish three different spermatogenic paradigms in Antiquity: the encephalogenic<sup>516</sup>, the pangenic<sup>517</sup>, and the

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<sup>507</sup> Plato *Ti.* 73a 10 – 74a 5.

<sup>508</sup> Plato *Ti.* 73d 7; 74a 4 – 7.

<sup>509</sup> Cfr. col. XV, 30 – 33.

<sup>510</sup> Aristotle *PA* II 9, 655a 10 – b 1.

<sup>511</sup> Col. XVII, 35 – 40.

<sup>512</sup> Plato *Ti.* 82d 1 – e 3.

<sup>513</sup> Aristotle *HA* III 17, 520a 8; *PA* II 5, 651a 20.

<sup>514</sup> Plato *Ti.* 73b 1 – d 2.

<sup>515</sup> Debru (1999), p. 464.

<sup>516</sup> That is to say, the theoretical assumption whereby it is said that the sperm arises from the brain. This was the belief of Alcmaeon of Croton and Diocles of Carystus. Wellmann (1901), p. 211. Apropos of the high rate of infertility among the Scythes see Hippocrates *Aer.* XXII [II pp. 78, 5 – 14 Li.].

<sup>517</sup> According to a common belief of the end of the 5<sup>th</sup> century BC, Democritus and Anaxagoras defended a theory in which the sperm was said to come forth the assemblage and the synergy of all parts of the body. The term 'pangenes' (sometimes 'pansomatism') refers to the theoretical assumption whereby the generative material is drawn from all parts of the parent's bodies; thus, it was believed that, because of containing something of every part, the seed could reproduce or replicate each part in the offspring. According to the stoichiology that we see in the Hippocratic treatise titled *Diseases* IV, the seed of man comes from every humour in the body, or in other words, is made from the body's four forms — blood, phlegm, bile and water (ὕδρωψ) — in a concentrated, potent form. The pangenic paradigm is recognisable in many treatises of the Hippocratic collection, e.g. *Genit.* I [VII p. 470, 1 Li.]; II [VII p. 472, 13 – 16 Li.] (where the sex of the *nasciturus* is determined by the strength or the quantity of the father's or mother's sperm); *Aer.* XIV (II 60, 1 – 6 Li.); or *Morb. Sacr.* II [VI p. 364, 19 Li.]. Cfr. Jouanna (1992), p. 383; (2012c), p. 45 n. 17; Tress (1998), pp. 238 – 239. In the *Vict.* I 27 [VI p. 500, 1 – 8 Li.] the sex of the newborn is determined by temperature, a view which is close to Aristotle's. Judging by Plato *Ti.* 73d 7 or 74a 4 – 7 one is prompted to assume that, regarding the origin of human seed, Plato also held a pangenic view. Aristotle was sharply critical of pansomatism, since he offered numerous grounds for his rejection of the theory: matter is not self-organizing, pansomatism fails to explain observed facts of resemblance or dissimilarity, etc. Cfr. Aristotle *GA* I 17, 721b 12 – 18, 724a 13; 20, 729a 6.

haematogenic<sup>518</sup>. In connection with this, in assigning the origin of human seed not to the brain but to the spinal marrow<sup>519</sup>, Plato is credited with holding an encephalomyelogenic theory, that is, a slight variation of the encephalogenic paradigm. Yet, in considering the remarks that J. Jouanna has made in this respect, such a tripartite scheme (or derived) seems ill-founded<sup>520</sup> or imprecise. Jouanna argues that it is a mistake to suppose that there was an encephalogenic theory as such; he contends instead that encephalogenesis is a misleading variation of the pangenic theory. Hence, according to Jouanna, in the ancient medical and philosophical texts what we find is only a pangenic theory that was read and interpreted in many different ways. Properly speaking, there is room for neither an encephalogenic nor for an encephalomyelogenic theory; hence, Plato's spermatogenic theory would be neither peculiar nor as genuine as scholarly tradition in general claims.

Now, in another order of things, the third major section in Timaeus's speech is largely about the formation and organisation of the human body, which is said to be made up of four kinds or elements (earth, fire, water, and air)<sup>521</sup>. Just before expounding the theory of disease<sup>522</sup> and health, Timaeus explains the formation of some parts of the body such as flesh, muscle, hair, and nails<sup>523</sup>; afterwards he will address such issues as respiration, circulation of blood<sup>524</sup>, old age, and natural death<sup>525</sup>. As regards the composition of the flesh and the sinews, — a topic in which Plato is far from being clear (indeed, giving contradictory versions)<sup>526</sup>, the scribe of the *Anonymus* papyrus moves again towards Aristotle's<sup>527</sup> view, so that on the basis of an Aristotelian interpretation of the facts the paraphrase in the *Londiniensis* papyrus corrects in a way the confusion of the Platonic text.

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<sup>518</sup> The hematogenic theory consists in attributing the origin of human seed to blood. This opinion was held by Parmenides, Diogenes of Apollonia, and Aristotle. DK Parmenides 28[18]B 18 [Diels (1951), pp. 244 – 245]. Cfr. Laín Entralgo (1987) pp. 86 – 87; Morel (2008), p. 46 n. 16.

<sup>519</sup> Plato *Ti.* 73c, 86c 4 – 5, 91a 8 – b 5. Cfr. von Staden (1989), pp. 289, 291.

<sup>520</sup> Cfr. Jouanna (1992), p. 384.

<sup>521</sup> Plato *Ti.* 69a – 92c. Cfr. Jouanna (2012j), p. 337.

<sup>522</sup> Plato *Ti.* 82a – 86a.

<sup>523</sup> Plato *Ti.* 74e – 76e.

<sup>524</sup> Plato *Ti.* 77c – 80c.

<sup>525</sup> Plato *Ti.* 81b – e.

<sup>526</sup> Cfr. e.g. Plato *Ti.* 74c – d alongside 82c 8 ff. *CPF* Plato 129T, p. 575.

<sup>527</sup> Aristotle *PA* II 3, 650b 14.

At *Timaeus* 83a 5 – e 1 Plato proceeds to a fuller description of the humours. A classification of the different kinds and species of bile, serum, and phlegm is given beside their specific origin, colour, and major characteristics. As to blood, it is named « the stream of nutriment on which the flesh and the whole body feed »<sup>528</sup>. At the end of the description Plato sums up by saying that all these humours become agents (ὄργανα) of disease<sup>529</sup>.

### 3. 2 Plato's Nosological Views and the Etiology Assigned to Him in the Londiniensis Papyrus

In *Timaeus* 81e – 86a, near the end of his discourse on the creation of the cosmos, Timaeus outlines a theory of bodily health<sup>530</sup> and disease. He begins his speech saying: « How diseases originate is, I take it, obvious to all »<sup>531</sup>. As Timaeus presumably goes too far in the assumption, perhaps a reasoned explanation of Plato's views might be of assistance.

Part of the problem presented hereafter has possible roots in the fact that, whereas in the *Timaeus* we are told about typologies of disease, the author of the *Anonymus* papyrus is concerned with the causes of disease. Although both fields are certainly entwined they are not identical, this difference being what might have prompted some of the variants that one comes across in reading one text in the light of the other and vice versa. The theory of bodily diseases in the *Timaeus* is grounded in three major kinds:

- 1) Diseases that arise when an element increases or decreases unnaturally (παρὰ φύσιν), when elements change places, or when the wrong variety of an element is present<sup>532</sup>. This first cause lies in Philistion's views. Disease is conceived either as a deficiency (ἔνδεια), an excess (πλεονεξία)<sup>533</sup>, or a wrong (re)placement (μετάστασις) of the constitutive elements of the body<sup>534</sup>.

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<sup>528</sup> Plato *Ti.* 80d 7 – 81a 2.

<sup>529</sup> Plato *Ti.* 83e 2.

<sup>530</sup> In the *Grg.* 504b Plato describes the physical sound condition in terms of a harmonious state of the body. The definition of health that Plato gives at *R.* IV 444d 1 – 5 runs as follows: « Ἔστι δὲ τὸ μὲν ὑγίειαν ποιεῖν τὰ ἐν τῷ σώματι κατὰ φύσιν καθιστάναί τε καὶ κρατεῖσθαι ὑπ' ἀλλήλων, τὸ δὲ νόσον παρὰ φύσιν ἄρχειν τε καὶ ἄρχεσθαι ἄλλο ὑπ' ἄλλου. », (« to produce health is to establish the elements in a body in the natural relation of dominating and being dominated by one another, while to cause disease is to bring it about that one rules or is ruled by the other contrary to nature »). Trans. Shorey (1953), p. 419. Cfr. also Frere (1988), p. 56.

<sup>531</sup> Plato *Ti.* 81e 6.

<sup>532</sup> Plato *Ti.* 82a 1 – b 7.

<sup>533</sup> To Plato the majority of ailments are actually derivative from excess. Cfr. also Hippocrates *Aph.* II 17, 51 [IV pp. 474, 8 – 9; 484, 9 – 12 K.].

<sup>534</sup> Cfr. Miller (1962), p. 178; Federova (1998), p. 73.

2) Diseases that arise when generation is reversed. Since generation has several stages, its reversal can produce several kinds of disease<sup>535</sup>.

3) Diseases that arise due to air (πνεύματος)<sup>536</sup>, phlegm (φλέγματος), and bile (χολή)<sup>537</sup>.

Plato's explanation of bodily diseases constantly emphasises the primary physical causes of disease and attributes them to the constitutive elements of man's φύσις. Underlying the whole theory of causation of disease is the conception of the natural σύστασις and τάξις of the primary elements and the tissues of the body, and the principle of the regularity and uniformity of the motions of the constituent elements in the flux and change of the body<sup>538</sup>. From the three aforementioned types of bodily disease it seems that Plato mainly likens disease to a disordered movement<sup>539</sup>, inasmuch as such disordered motion is in conflict with the regular movement in virtue of which it is recounted that the world has been created. Thus, disease might correspond either to unnatural movements within the body, to unnatural movements into the body, or to the failures in moving substances out of the body<sup>540</sup>. It is in the second distinction (2) where Plato introduces the notion of 'secondary structures of the body'<sup>541</sup>. On that view, disease is the result of the dissolution of the proper teleology of the body, a disruption that is ultimately caused by its very corporeality. In other words, at level (2) bodily diseases arise when the body is incapable of maintaining its proper teleological organisation against the disruptive attacks from outside<sup>542</sup>. Since the body, with its tissues and structures, is composed of the four elements in various proportions, it is by its very nature liable to the disintegrative action of the motions of the elements when it suffers contact with them<sup>543</sup>. In fact, Timaeus views disease agents, and diseases themselves, in terms of

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<sup>535</sup> Plato *Ti.* 82b 8 – 84c 7. *Ti.* 82b 9 – d 1 is more precisely linked to col. XVII, 25 – 44.

<sup>536</sup> Timaeus's conviction is that air can unchain countless diseases. Plato *Ti.* 84d 2 – e 2.

<sup>537</sup> Plato *Ti.* 84c 8, 84d 1 – 86a 8. We shall not go into consider, in the way B. D. Prince does, whether the relation of 1) in regard to 2) and 3) resembles the relationship that there might have a particular genus with its species. Cfr. Prince (2014), pp. 909 – 910, 914 – 916. In the *Ti.* 71b, 83c Plato recalls to the reader that 'bile' is the name which tallies the most with the diversity of the constitutive elements in us. Cfr. Schuhl (1960), p. 78.

<sup>538</sup> Miller (1962), p. 186.

<sup>539</sup> Miller (1962), pp. 178 – 179.

<sup>540</sup> Grams (2009), p. 162.

<sup>541</sup> Cfr. *supra* § 1.

<sup>542</sup> Plato *Ti.* 77a, 82b. That is why the cosmos, a living being that has a body after all, is unaging and unperishing; for there is nothing out of cosmos that may interfere with its arrangement. Plato *Ti.* 31a, 33a.

<sup>543</sup> Miller (1957), p. 109.

living organisms submitted to the principles ruling the process of coming-to-be and corruption<sup>544</sup>. To our mind, the point to be realised is that Timaeus's views can easily give place to a theory where disease becomes possible when things enter or leave the body, this being one of the main topics in the third section of the papyrus<sup>545</sup>. The principle of constant change and flux which profoundly characterises the body of man as subject to inflow and outflow<sup>546</sup> (as well as all else in the phenomenal world) is Plato's deepest apprehension of the nature of the body, and it is quite logically the foundation upon which he proceeds to explain the causation of disease.

As regards the third typology above signalled (3)<sup>547</sup>, rather than with those involving the elements or the tissues of the body, Plato is here mainly dealing with diseases affecting various organs or parts (or with the body as a whole); yet it is still the conception of the τάξις of the body and its parts, and their orderly functioning, which is essential to his explanations. The *pneuma* may be a cause of illness only in connection with some other substance, with the *rheumata* arising from phlegm, or with the phlegm or the bile resulting from the disintegration of the flesh. That is why the *pneuma* is logically included with bile and phlegm in the narration of the third type (εἶδος) of disease<sup>548</sup>. In what follows we shall speak about them in the same order, and by contrasting the Platonic text with the portrayal of Plato in the London papyrus we shall try to make out the controversial points in-between.

### 3. 2. 1 *The Air as Cause of Disease; a Comparative Approach*

Plato's account of air as disease begetter lies in the disruption of the regular supply of *pneuma* throughout the body. In the *Timaeus* it is assumed that some diseases occur when the passage of the *pneuma* through the pores of the skin is impeded<sup>549</sup>. The doctrine of a pan-somatic respiration (καθ' ὅλον τὸ σῶμα) bridges medical thought and pre-Socratic philosophy<sup>550</sup>. Plato's

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<sup>544</sup> Plato *Ti.* 89b – c.

<sup>545</sup> Cfr. supra ch. I § 2 n. 17.

<sup>546</sup> Plato *Ti.* 43a 6 – 7.

<sup>547</sup> Plato *Ti.* 84c 8 – d 2: « Τρίτον δ' αὖ νοσημάτων εἶδος τριχῆ δεῖ διανοεῖσθαι γιγνόμενον, τὸ μὲν ὑπὸ πνεύματος, τὸ δὲ φλέγματος, τὸ δὲ χολῆς. », (« A third class of diseases takes place in three ways, being due partly to air, partly to phlegm, and partly to bile »). Trans. Bury (1961), pp. 228 – 229. Plato addresses this third type of cause at *Ti.* 84c 8 – 86b 2. Cfr. also Abel (1957), pp. 111 – 112; Miller (1962), p. 184.

<sup>548</sup> Miller (1962), p. 184 n. 31.

<sup>549</sup> So did first Philistion and later Diocles. According to Diocles such stoppages were due to the influence of bile and phlegm upon the blood contained in the veins. Cfr. Longrigg (1995), p. 441; Nutton (2004), p. 122.

<sup>550</sup> Debru (1996), pp. 178 – 179.

explanation of respiration as taking place through the ‘pores of the skin’<sup>551</sup>, through the mouth, and through the nose<sup>552</sup> is doubtlessly rooted in Empedocles<sup>553</sup> or in the vein of others who, like Philistion<sup>554</sup>, appertained to Empedoclean tradition<sup>555</sup>.

However, a far more interesting and puzzling question is the odd confusion between πνεῦμα and φῦσα<sup>556</sup> when the scribe turns to the third class of disease (3) examined in the *Timaeus*. The πνεύματος mentioned in the *Timaeus* is substantially and radically different to the φύσας in the *Anon. Lond.* While the former notion is directly connected with the lungs and their role in the process of respiration, in the *Anonymus* papyrus such air is to do with the process of digestion, or more concretely, with its final step. In this latter case, it is a matter of the gases (φύσας) that rise from the residues<sup>557</sup> of the food. Thus, in the *Timaeus* the most similar explanation that one can find to the version given in the papyrus is the description of a certain pathological air (still called πνεῦμα) within the body, which is said to arise from the disintegration of the flesh<sup>558</sup>; hence the supposed origin of such air is neither external nor in breath. Yet, then, an issue of classification arises, for, inasmuch as it results from the putrefaction of the flesh that air can never be considered as pertaining to the third type of disease mentioned above (3), but should rather belong to the second one (2). The confusion could be explained by the close and complex relationship between

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<sup>551</sup> As opposed to the respiration taking place through the mouth (ἀναπνοή), Galen specifically terms this process διαπνοή. Cfr. Galen *In. Plat. Tim. comm.* III 17 [CMG Suppl. I pp. 22, 9 – 23, 13].

<sup>552</sup> Plato *Ti.* 78e – 79e.

<sup>553</sup> Cfr. Aristotle *Resp.* VII 473a 15 – 474a 7.

<sup>554</sup> Cfr. Miller (1962), p. 184 n. 30.

<sup>555</sup> The most representative text in this specific matter is the likeness of Empedocles’ theory of respiration that Aristotle reports at *Resp.* VII 473b 9 – 474a 6. Cfr. DK Empedocles 31[21]B 100 [Diels (1951), pp. 347 – 349]; Kirk - Raven (1957), pp. 341 – 342 fr. 453. Aristotle recollects this passage in order to address a sharp criticism against Empedocles’ views. The papyrus known as *Empedocles of Strasbourg* (*P. Strasb. gr. inv.* 1665 – 1666) has nothing to contribute to this particular concern.

<sup>556</sup> At Plato *Ti.* 84d 1 we read « ὑπὸ πνεύματος », while in the *Londiniensis* (col. XVII, 46) the third cause is attributed to « παρ[ὰ τὰ]ς φύσας ».

<sup>557</sup> Col. XVII, 44 – XVIII, 1: « Παρὰ [δὲ] τὰ περιττώματα συνίστα[νται τριχῶς] αἱ νόσοι, ἢ παρ[ὰ τὰ]ς φύσας [τὰς ἐκ τ(ῶν) πε]ριττωμ[άτ(ων)] », (« Residues produce diseases in three ways: because of the gases arising from the residues »). Trans. Jones (1947), p. 71. Terms like πνεῦμα or φῦσα not always are clearly delimited, hence the problems that both words often put from a semantic point of view. By judging the immediate context, in the *Anon. Lond.* it is suggested that φῦσα is a gas that results from the process of digestion; whereas by φύσαι Plato and Hippocrates meant the air that comes in the body along with food. Hippocrates *Flat.* VII [VI pp. 98, 21 – 100, 5 Li.] = [CMG I 1 pp. 94, 23 – 95, 11 Heiberg].

<sup>558</sup> Plato *Ti.* 84e 2 – 5.

nosology and etiology, and secondly, by the effect of some nosological views forged in the Aristotelian system<sup>559</sup>.

### 3. 2. 2 Bile and Phlegm as Causes for Disease; a Comparative Approach

The more general conclusion that one can learn from reading *Anon. Lond.* col. XVII, 44 ff. in connection with the third type of disease described in the *Timaeus* is that the scribe of the *Anonymus* papyrus considered bile and phlegm as residues<sup>560</sup>. The scribe's position looks unambiguous in this respect inasmuch as in col. XVII, 11 – 14 it is clearly stated that Plato posited three different types of disease<sup>561</sup>, a tripartite typology whereby the constitutive elements of the body are considered as the first kind of cause and residues the third kind. In this way, Plato's position again seems unique, at least from two different stances. It is different to some ancient stoichiologic paradigms wherein the constituents (στοιχεῖα) of the body are believed to be only two (bile and phlegm)<sup>562</sup> and not four. On the other hand, Plato's view on this subject does not really chime either with what is clear from the second section of *Anon. Lond.* For, while among the physicians who put the causation of disease down to the residues of the food (περιττώματα) the presence of bodily fluids is generally regarded as a pathological sign, in introducing the other group in the doxographical section Plato should, contrariwise, consider the bile (a fluid in the last term) as a plain constituent of the body; but that belies the account in the *Timaeus* and in the *Anonymus* papyrus.

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<sup>559</sup> Cfr. supra ch. II § 5.

<sup>560</sup> In col. XVII, 35 – 40 we see expounded in detail the putrefaction of the flesh and the resultant morbidic humours that ensue from that process. Cfr. Plato *Ti.* 82d 1 – 83c 6; *CPF* Plato 129T, p. 576. All the different kinds of bile and phlegm which are there reviewed are considered residues (περιττώματα). In the light of *Somn. Vig.* III 458a 2 – 5, Aristotle could have upheld a very similar view regarding phlegm.

<sup>561</sup> Plato *Ti.* 81e ff.

<sup>562</sup> Cfr. supra *Comment.* on col. XII, 8 – 11. In this sense *Anon. Lond.* seems to be in accordance with Plato *R.* VIII 564b – c. It should be stressed, however, that in the Hippocratic collection this criterium is far from being monolithic. Thus, for example, according to the author of the treatise titled *Regimen* — which seems highly improbable that was written after the *Timaeus*, man, like all living beings, is formed of two other basic principles: water and fire. Cfr. Jouanna (2012b), pp. 200, 214. In other treatises the constitutive principles are said to be three in number (phlegm, bile and blood); so that the quaternary humoral scheme (blood, phlegm, black bile, and yellow bile expounded in *Nat. hom.* IV-V) is, as such, unattested in the majority of books of the Hippocratic collection. The only sure thing is that in the Hippocratic writings it is avoided all kind of monistic view.

In relation to Plato's consideration of bile either as non-constitutive element<sup>563</sup> or as pathological agent<sup>564</sup> it is worth recalling two other authors also reviewed in the *Anon. Lond.* : Dexippus of Cos and Petron of Aegina (5<sup>th</sup> century BC?). From the portrait of their respective opinions about the causes of disease, it follows that for Dexippus (who belongs to the first group) bile is a residue from nutriment<sup>565</sup>; whereas for Petron<sup>566</sup> (who is placed among the authors in the second group) bile is a non-constitutive element of the body, being rather the result of a pathological process<sup>567</sup>; so that in Petron's view a body in sound and good health lacks bile<sup>568</sup>. Dexippus's and Petron's stances help to make clear the apparently transitional position that Plato occupies in what is generally accepted to be the doxographical section of the *Anon. Lond.* papyrus.

Of no minor import, and in relation to the same issues, cols. XVII, 44 – XVIII, 1 in the *Anon. Lond.* disclose another concern which has to do with the usage of the term περίττωμα to delineate part of Plato's etiology. A look at an index whatsoever of the *Timaeus* reveals that περίττωμα (a typical Aristotelian lexical item)<sup>569</sup> does not occur in any Platonic dialogue. Why then does it occur in the papyrus? Is it another telling example accounting for the scribe's indirect access to the authors with whom he was dealing? Or, is it another argument for the autographical nature of the London papyrus? On this point, we should add that when in the *Parts of Animals*<sup>570</sup> Aristotle takes up 'bile' as subject-matter he declares that while bile is present in some animals, it is absent in others. According to Aristotle, bile is a residue formed when the blood is not as pure as it should be;

<sup>563</sup> Plato affirms that bile is naturally formed from old blood. *Ti.* 85d 6 – 7: « χολή φύσει παλαιὸν αἷμα γεγонуῖα ». By contrast, in Hippocrates (Meno) *Nat. hom.* XV [VI p. 66, 10 Li.] we see stated that most fevers come from bile «Οἱ πλεῖστοι τῶν πυρετῶν γίνονται ἀπὸ χολῆς ».

<sup>564</sup> Because of essentially being a residue from old blood, the gravest diseases occur when bile is mixed with pure blood. Cfr. Plato *Ti.* 85c 2.

<sup>565</sup> Col. XII, 8 – 11: « ὁ Δέξιππος ὁ Κωῖος οἶεται συν[ίτασθαι] τὰς νόσους ἀπὸ τῶν τῆς τροφῆς περιττωμάτων, τοῦτ' ἔστιν ἀπὸ τε χολῆς καὶ φλέγματος », (« Dexippus the Coan thinks that diseases are produced from residues of nutriment, that is from the powers of bile and phlegm »). Trans. Jones (1947), p. 55.

<sup>566</sup> Col. XX, 17 – 20: « Περὶ δὲ τῆς χολῆς ἰδιώτερον παθολογεῖ. Φησὶ γὰρ ἀπὸ τῶν νόσων ἀναγεῖσθαι τὰς νόσους, οὗτος δὲ ἀπὸ τῶν νόσων τὴν χολήν », (« As to bile, however, he holds pathological views more peculiar to himself, saying that it is produced as the result of diseases. For whereas the others say that diseases come from bile, he says that bile comes from diseases »). Trans. Jones (1947), pp. 79, 81.

<sup>567</sup> Petron is of the opinion that bile is a non-constitutive humour, a kind of matter which arises παρὰ φύσιν (so too for Plato). Cfr. Miller (1962), p. 185; Jones (1984a), p. XLIX.

<sup>568</sup> Col. XX, 21 – 24: « Καὶ σχεδὸν οὗτοι Φιλόλαος οἶεται μὴ (εἶναι) ἐν ἡμῖν χολήν οἰκείαν. Καὶ κατὰ μὲν τοῦτο συνηγόρευεν τῷ Φιλόλαῳ, ». The scribe stresses that Petron and Philolaos agree on this point. Cfr. DK Philolaos 44[32]A 28 [Diels (1951), p. 406].

<sup>569</sup> Jouanna (2012a), p. 7.

<sup>570</sup> Aristotle *PA* IV 2, 676b 17 – 677b 12.

but as such bile does not serve any particular purpose nor does it has any finality (οὐκ ἐνεκά τινός), it is just that sometimes nature uses such residues for its own convenience<sup>571</sup>. In Plato, by contrast, phlegm and bile have no natural function in the structures and processes of the body because they are humours which arise unnaturally (παρὰ φύσιν). Hence Plato believed that these humours, unless they are purged with comparatively minor effects upon the body, cause disorder and disease in whatever part of the body they may happen to attack<sup>572</sup>.

Timaeus goes on to say that all the inflammations in the body are caused by bile<sup>573</sup>, and describes a kind of “contest” between the bile and the fibrins (ιβῶν) in the blood<sup>574</sup>. The fibrins tend to congeal and thicken the blood, while the bile tends to heat and thin it. In Plato’s opinion, whichever of the agents “wins” depends largely on how much bile enters the blood at once. Each substance “acts” in a characteristic way, so predicting the results of their interactions amounts to figuring out which substance will be the “stronger”<sup>575</sup>. In the papyrus, the scribe takes the part where Plato deals with the fibrins in exactly the opposite way intended by Plato<sup>576</sup>. Thus, whereas Plato affirms that the fibrins help in the maintenance of the liquid state of the blood in the right balance, neither too liquid nor too solid (so as to become coagulated)<sup>577</sup>, the scribe of the *Londiniensis* claims that the removal of the fibrins prevents the blood from coagulating<sup>578</sup>.

Another point of dissension ensuing from a comparison of both texts consists in the ambivalence of the properties attributed to bile and to phlegm. In Plato, the humour with a hot and burning nature is assigned to bile<sup>579</sup>, while in the *Londiniensis* papyrus that property is ascribed to phlegm. In that way, according to the report that the scribe gives of Philolaos of Croton<sup>580</sup> — the

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<sup>571</sup> Aristotle claims furthermore that bile is not the cause of acute diseases. Cfr. Van der Eijk (2005), pp. 152 – 153.

<sup>572</sup> Miller (1962), p. 185.

<sup>573</sup> Plato *Ti.* 85b 5 – 7. Previously, in *Ti.* 85a, Plato has addressed a disease which he deems to be caused by white phlegm.

<sup>574</sup> Plato *Ti.* 82d, 85c – 86a. For an Aristotelian perspective on the topic cfr. e.g. *PA* II 3, 650b 18 – 4, 651a 12.

<sup>575</sup> Prince (2014), pp. 923 – 924.

<sup>576</sup> *CPF* Plato 129T, p. 574.

<sup>577</sup> Plato *Ti.* 85c – e.

<sup>578</sup> Col. XVII, 30 – 32.

<sup>579</sup> Plato *Ti.* 85b – 86a.

<sup>580</sup> Cols. XVIII, 8 – XIX, 1 were collected by H. Diels in DK Philolaos 44[32]A 27 [Diels (1951), pp. 405 – 406]; while Kirk - Raven just transmit col. XVIII, 8 – 28. Cfr. Kirk - Raven (1957), pp. 312 – 313 fr. 401. The same passage was addressed by D. Manetti in *CPF* Hippo Crotoniates 1T, pp. 16 – 31. Cfr. also Diels (1893b), pp. 417 – 418; Ricciardetto (2014), p. XLIII.

physician that follows Plato in the doxography — one is to find an evident connection between phlegm (φλέγμα) and its alleged burning power (φλέγειν)<sup>581</sup>. Such a word game was first posited by Democritus<sup>582</sup>, and it fits with the philological turn taken by the medicine of the Imperial period. However, if contrasted with “Hippocrates”, both Plato’s and Philolaos’s opinions on the subject look quite irregular. In the Hippocratic book *The Nature of Man* phlegm is considered the coldest constituent in our body, wherefore its presence becomes noticeably increased in winter<sup>583</sup>. How then can one explain the inflammatory power of phlegm on the basis of its cold nature? A possible argument to which one could turn to explain the paradoxical fact that the coldest of the elements in us actually possesses a burning power is in the fact that there seems to be no difference between something extremely hot and something extremely cold.

As regards phlegm, lastly, we learn from Timaeus that it is essentially acid and saline. In the *Timaeus* there is also the description of a particular kind of such bodily residue, the so-called ‘white phlegm’<sup>584</sup>. Somewhat contrasting it with the black type of bile (μελαίνης χολῆς), Timaeus underlines that white phlegm is a kind of serum<sup>585</sup> that results from the decomposition of soft tissue in combination with air. White phlegm becomes a nosological agent when it gets caught up in some part of the body (through not finding a proper way out). In such a case the white phlegm is acted upon by the air that forms bubbles due to its enclosure in the body<sup>586</sup>, and from the combined action of both factors white scabs, eczemas, or tetter come about. We are told, however, that it is when white phlegm mixes with black bile in the head that the situation worsens, since that mixture might even cause epileptic fits if the affected person is awake.

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<sup>581</sup> Col. XVIII, 44: « ἀπὸ γ(άρ) τοῦ φλέγειν φλέγμα εἰρήσθ(αι) ». Diels (1893a), p. 33; (1893b), p. 419. Cfr. *supra Comment.* on col. XVIII, 44.

<sup>582</sup> DK Democritus 68[55]A 159 [Diels (1952), p. 127] according to Soranus *Gynaeciorum* III 2, 17 [CMG IV p. 105, 1 Ilberg]. Cfr. Manetti (1990), p. 230.

<sup>583</sup> Hippocrates *Nat. hom.* VII [VI p. 46, 1 – 3 Li.]. The same idea can be found in Hippocrates *Salubr.* V [VI p. 78, 4 – 5 Li.]. In taking under consideration the influence of the “phenomena up above” (μετέωρα) on health and disease, this type of medicine was known as *metereologica*. Cfr. Jouanna (1993), pp. 29 – 30, 52.

<sup>584</sup> E.g. Plato *Ti.* 83d 6, 85a 1: « λεύκον φλέγμα ».

<sup>585</sup> Plato *Ti.* 83c 7 – d 6. At *Mete.* IV 7, 384a 31 – 32 Aristotle considers the sickly blood as a kind of serum made from phlegm and water.

<sup>586</sup> Plato *Ti.* 85a 1 – 2: « διὰ τὸ τῶν πομφολύγων πνεῦμα ». Cfr. Hippocrates *Flat.* VII [VI pp. 98, 14 – 100, 12 Li.] = [CMG I 1 pp. 94, 23 – 95, 18 Heiberg]. Cfr. also Nelson (1909), p. 14; Crespo (2014), p. 4 n. 34.

#### 4. *Conclusions*

The *Anon. Lond.* provides an extended and serious treatment of the medical ideas contained in the *Timaeus*. An analysis of the scribe's position on a number of tenets discussed in the dialogue reveals that, if he really did so, the author of *Anon. Lond.* read Plato from a perspective akin to that of Aristotle. Although perhaps insufficient to allow us to reach any firm conclusion, and notwithstanding the significant confusion between  $\piνεῦμα$  and  $\phiῦσα$  described above, other additional and combined facts apparently point towards an indirect knowledge of the *Timaeus* by the scribe, or else at the perusal of a doxographical source strongly imbued with Aristotelianism. Some of these hints are the alteration of the chronological order as regards Plato's position in the doxographical section, the absolute silence about the title of the dialogue (a recurrent trait in the papyrus), or the usage of a notion alien to Plato in the section devoted to the philosopher.

*The Paraphrase on Aristotle's De somno et vigilia  
in the Anonymus Londiniensis Papyrus*

1. *The Paraphrase on De somno et vigilia in the Anonymus Londiniensis Papyrus*

1.1 *Description and General Traits*

Aristotle's influence on the *Anon. Lond.* is plain beyond doubt from cols. XXIII, 42 – XXIV, 9 where the scribe makes an excursus on *On Sleep and Waking*<sup>587</sup>:

Τούς γε ὕπνου, ὡς φησιν ὁ Ἄρι<στο>τέλης, ἀποτελεῖσθαι τοῦτον τὸν τρόπον· τῆς γὰρ καρδίας φύσει θερμῆς ὑπαρχούσης|καὶ [ἐ]ξ αὐτῆς ἀνηρημένου τοῦ θερμοῦ|τ[ο]ῦ δ' ἐγκεφάλου ψυχροῦ, συμβέβηκεν|περὶ τῷ ἐνκεφάλῳ συνίτασθαι|ὑγρότητα τὴν ἀναφερομένην ὑπὸ|τ[ῆ]ς θερμότητος ἀπὸ καρδίας|[ῆ]ν δὲ συνισταμένην κ(ατα)ψύχεσθαι<sup>588</sup>|[κ]αὶ ἐκ τοῦ κα[τά]ρρου] πάλιν κ(ατα)φέρεσθαι,|[μὴ] δυναμένην διὰ τὸ βάρος ἐπιμέ|[νειν] ἐν τοῖς τόποις, εἰς [δὲ τῆ]ν καρδίαν||  
deest versus|\_\_\_καὶ τῆι μίξει τὸ θερμόν. [           <sup>7</sup>Ω]δε τ[ὸν ὕπνον γί(νεσ)θ(αι)],| τὴν δὲ ἐγγήγορσιν ἀποτελεῖσθαι [ἀ]ν[α]λ[ο]υμένης|τῆς ὑγρότητος ἀπάσης τῆς περι τῷ [ἐγκεφάλῳ],| ἔπειτα τοῦ θερμοῦ πάλιν πλεονάζοντ[ο]ς. 2/3||τοι γε ἑαυτὸν ἐπαινεῖ ὁ Ἀριστοτέλης ὅτι π[α]ρὰ [τοῦς] ἄλλους καὶ τὸν ὕπνον καὶ τὴν ἐγγήγορσιν αἰ[τι]ο[λο]γεῖ, ἐκείνων αὐτὸν [μ]όνον τὸν ὕπνον αἰ[τι]ο[λο]γούντων, μηκέτι δὲ καὶ τὴν ἐγγήγορσιν.|

(« And sleep, as Aristotle says, is brought about in this way. The heart is by nature hot, and on it heat depends, while the brain is cold, the consequence being that there gathers about the brain moisture brought up from the heart by the heat, which gathers, cools and sinks again out of the (...) not being able, because of the cold, to remain in these places, to the heart (...) and by the mixing, heat. In this way sleep takes place, while waking occurs when the heat is in great abundance<sup>589</sup> because the moisture about the brain is being all expended. And yet Aristotle praises himself because he, in contrast to the others, gives the reason for both sleep and waking, whereas they give the reason for sleep only, not for waking. »)<sup>590</sup>.

The paraphrase is placed almost at the end of the explanation about the administration (διοίκησις) of the air (πνεῦμα) in the body<sup>591</sup> which, besides that of food, constitutes one of the two principal

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<sup>587</sup> Cols. XXIII, 42 – XXIV, 9 in the *Anon. Lond.* could be taken as a excursus on *Somn. Vig.* III 456b 18 – 29. The passage in the papyrus was separately edited, translated into Italian, and commented on by D. Manetti in *CPF Aristoteles* 22T, pp. 307 – 311. Cfr. supra *Comment.* on col. XXIII, 42 – XXIV, 9.

<sup>588</sup> Col. XXIII, 50 – 52 clearly grounds on Aristotle *Somn. Vig.* III 457b 31 – 458a 10.

<sup>589</sup> Beckh - Spät (1896), p. 35: « ein bedeutendes Uebergewicht erlangt »; *CPF Aristoteles* 22T, p. 309 « dominante »; Ricciardetto (2014), p. 19; (2016), p. 32: « dominante ».

<sup>590</sup> The Greek text reproduces the edition of the *Anonymus Londiniensis* in Ricciardetto (2016), pp. 31 – 32. Trans. Jones (1947), pp. 91 – 93.

<sup>591</sup> Cols. XXIII, 12 – XXIV, 19.

topics discussed in the third section of the *Anonymus* papyrus. The paraphrase<sup>592</sup> preserved in the *Anon. Lond.* is one of the first references to *On Sleep and Waking* (and in general, to the *Parva Naturalia*<sup>593</sup>) after Andronicus of Rhodes's editorial project<sup>594</sup>. Judging by some passages in the papyrus, at certain points the *Anon. Lond.* looks like a collection of notes taken by the scribe while reading and reflecting on different treatises and works<sup>595</sup> (Hippocrates<sup>596</sup>, the *Timaeus*<sup>597</sup>, the Stoics<sup>598</sup> etc.), and what is more significant in this case, on some fragments from the *Parva Naturalia*<sup>599</sup>. The excursus on *On Sleep and Waking* in the *Londiniensis* papyrus apparently reflects a direct knowledge of the Aristotelian treatise by the scribe.

According to Aristotle, both sleep and waking are affections (πάθη)<sup>600</sup> commonly found in all kinds of animal that have sense perception (αἴσθησις) or are endowed with the sensitive part<sup>601</sup>. Aristotle also declares that everything which possesses matter must have an opposite, so that for the sake of this very kind of natural law based on the necessity and interdependence of opposites<sup>602</sup>, sleep and wakefulness complement each other and serve to keep the animal alive and in sound condition.

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<sup>592</sup> The content in the paraphrase resembles Aristotle *GA* V 1, 779a 2 – 27. Cfr. Manetti (1986), p. 69. In addition, col. XXIII, 50 – 52 is a clear reference to Aristotle *Somn. Vig.* III 457b 32 – 458a 5. Cfr. *CPF* Aristoteles 22T, p. 309.

<sup>593</sup> Since some elements in the passage are apparently drawn from (or comparable to) Aristotle *Juv.* IV 469b 7.

<sup>594</sup> Cfr. supra ch. II § 1.

<sup>595</sup> The main doxographical part of the *Anonymus Londiniensis* (i.e. the second section) corresponds to a collage made of several parts of different treatises. Manetti (1990), pp. 219, 221; (1996a), p. 295.

<sup>596</sup> Cfr. supra ch. II § 5.

<sup>597</sup> Cols. XIV, 12 – XVIII, 8.

<sup>598</sup> Manetti (1990), p. 220.

<sup>599</sup> Ricciardetto (2014), p. XXVIII n. 121; (2016), pp. CIII – CIV.

<sup>600</sup> Aristotle *Somn. Vig.* II 455a 26; *Insomn.* III 460b 31 – 32.

<sup>601</sup> 'Sensibility' is in its turn defined as « a movement of the soul through the agency of the body ». Aristotle *Somn. Vig.* I 454a 9 – 10. This definition should be contrasted with the view expounded in Hippocrates' *Insomn.*, particularly in ch. 86, 88 [VI pp. 640, 1 – 14; 642, 11 – 644, 11 Li.]. The Hippocratic treatise concedes a *sui generis* form of dualism in which the soul just plays an ancillary role in regard to the body when this latter is awoken, but when the body is sleeping the soul becomes wholly autonomous and performs all the acts of the body; therefore, the soul performs all the functions of body and of soul during sleep. Cfr. infra § 2. 3 n. 637.

<sup>602</sup> Aristotle *Long.* III 465b 12 – 13; *Somn. Vig.* II 455b 21 – 22. The idea is recurrent and basilar in Heraclitus's philosophy, e.g. Diogenes Laertius *Vitae philosophorum* IX 7 [Marcovich (1999a), p. 636, 8 – 10]: « (*scil.* ὡς ὄϊετο ὁ Ἡράκλειτος) πάντα τε γίνεσθαι καθ' εἰμαρμένην καὶ διὰ τῆς ἐναντιοδρομίας ἡρμουσθαι τὰ ὄντα », (« (*scil.* Heraclitus believed that) all things come about by destiny, and existent things are brought into harmony by the clash of opposing currents »). Trans. Hicks (1950b), p. 415. In fact Aristotle also defined waking and sleep as one of the four couples (συζυγίαι) common to all form of animal. Aristotle *Sens.* I 436a 14 – 15. Cfr. Wiesner (1978), pp. 273 – 274.

## 1. 2 *A Reason for the Excursus*

The question now arises why, before undertaking the description concerning the distribution and the assimilation of the aliment in the body, the scribe of the *Londiniensis* decides to dwell more on the administration of the air by bringing *On Sleep and Waking* into discussion. In light of the immediate context, and considering the scribe's purported knowledge of Aristotle, it can be assumed that the theories of the latter exerted some influence on the discourse of the former. In fact, we learn from Aristotle that the theory of smoky exhalation is analogous (and can be therefore likened) to the theory of emanations<sup>603</sup>. In view of this, our contention is that the scribe found in such analogy the theoretical clue that permitted him to pass from one of the main topics in the third section to the other. Furthermore, the scribe shifted his attention to Aristotle's *On Sleep and Waking*<sup>604</sup> in so far as he deemed such a treatise also as the appropriate text which to base the theory of emanations expounded in the third section.

## 2. *The Paraphrase on De somno et vigilia. Some Doctrinal and Linguistic Features*

### 2. 1 *To Say What Is not Said*

The scribe starts with a general and well-known belief in Antiquity: air is by definition a cold element. Yet, immediately afterwards he stresses that while the air we breathe in is cool the air we breathe out is warm, or at least warmer than the air we take in; how is that possible?<sup>605</sup> The question comes with two further concerns. Firstly, inasmuch as the air's main attribution is changed

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<sup>603</sup> Aristotle *Sens.* V 443b 1 – 2: « ἔτι ἡ ἀναθυμίασις ὁμοίως λέγεται ταῖς ἀπορροίαις », (« Further the smoky exhalation theory is like the theory of emanations »). Trans. Hett (1957), p. 251. For an Aristotelian description of the bodies which are likely to emit exhalations see Aristotle *Mete.* IV 9, 387a 22 – 28. It should be noted nevertheless that such emanations seem not to be equable to the emanations (ἀπορροίαις) that Aristotle attributes to Democritus when he discusses the possible causes of prophecy in dreams. Cfr. Aristotle *Div. Somn.* II 464a 5 – 18. Cfr. also Jouanna (2012g), p. 212. According to Aristotle, in the explanation given by Democritus the organs of the sense perception can actually be acted upon by the emanations arising from the objects of the phenomenal world. Thus, Democritus's account, though lying in an obvious physical assumption, is taken in a gnoseological clue — i.e. how can we “elaborate” representations (that will become indeed eventually accomplished) regardless of the cause of such representations (our mind) is in suspension or inactive (sleeping) — which appears to be a further epistemological development of the assumption. Anyhow, Aristotle dismisses the argument, as he believes that Democritus's theory does not solve the issue called into question. I know no evidence that any contribution might have provided insight into Aristotle's account in *Div. Somn.* and its possible relationship with Hippocrates' *Insomn.* [VI pp. 640 – 662 Li.] At any rate, Atomistic views brought about significant repercussions at the epistemological level; for example, the so-called ‘intromission (visual) theory’, or the theory of ἀναρμῶν ὄγκοι (*solidae moles*) by Heraclides of Pontus. Cfr. Gottschalk (1980), p. 37.

<sup>604</sup> Aristotle *Somn. Vig.* III 456b 1 – 2; 458a 15 – 17.

<sup>605</sup> Cfr. col. XXIII, 36 – 38 alongside Aristotle *Resp.* V 472b 32 – 35; XXI 480b 4 – 5.

it is obvious that something must happen in the body. This observation is explained on the grounds of belief in the qualitative alteration or transformation (ἀλλοίωσις)<sup>606</sup> of a substance either through assuming the properties of the substances that it touches, or through being acted upon by the places through or in which it passes or remains<sup>607</sup>. In the second place, the fact that in the process of respiration some air is always exhaled in turn that not all the inhaled air is actually administered and assimilated. The scribe states that some air exhaled from the body is added to the air we breathe in<sup>608</sup>, so that he apparently acknowledges the existence of a certain innate breath or *connatural pneuma* (σύμφυτον πνεῦμα)<sup>609</sup>.

## 2. 2 Sleep and Waking; a Matter of Cooling and Heating

We should like to discuss this point<sup>610</sup> in more detail. It should be stressed first that, in essence, the position held by most of the later commentators on the *On Sleep and Waking* agree with the scribe's interpretation, for both he and they consider the cause of sleep to be the cooling of the warmth of the heart. Accordingly, in the description of the action of inhaled air upon the innate heat

<sup>606</sup> Cfr. Aristotle *de An.* I 3, 406a 12. Laín Entralgo (1987), p. 121.

<sup>607</sup> Col. XXIII, 36 – 38: « Ψυχρόν τε ὑπάρχον τὸ πνεῦμα(α)|θερμὸν ἐκπέμπται, ἅτε δὴ φερόμενον|διὰ σωμάτων(ων) θερμῶν. », (« The breath, cold to begin with, is exhaled warm, inasmuch as it is borne through warm bodies »). Trans. Jones (1947), p. 91. The same theoretical principle can be found in col. XXIV, 39 – 48. Aristotle assigns such kind of argument to « the old natural philosophers (physiologists) », and it is an explanation that he also adopts. Cfr. e.g. Aristotle *Sens.* IV 441b 1 – 8; *Resp.* XXI 480b 5 – 6 respectively.

<sup>608</sup> Col. XXIII, 33 – 36: « τῷ πνεύματι τινα π(ρο)στίθεται ἀπὸ τ(ῶν) σωμάτων(ων) καὶ πλείονά γε, ἅτινα|καὶ πλεῖον ἀποτελεῖ τὸ ἐκπεμπόμενον|πνεῦμα. », (« even so to the breath certain additions are made, and these too greater than the amount lost, which make the exhaled breath actually greater than the inhaled. »). Trans. Jones (1947), p. 91.

<sup>609</sup> This notion, as such, does not occur in the *Anon. Lond.*; yet it is no less true that in col. VI, 14 – 16 (where the scribe expounds the opinions of Aristotle concerning Hippocrates) we see this tenet somehow assumed: « τὸ γ(ὰρ) πνεῦμα(α)|15ἀναγκαιότατον καὶ κυριώτατον ἀπολείπει τ(ῶν) ἐν ἡμῖν ». The ultimate source for the binomial σύμφυτον πνεῦμα could be Empedocles. Aristotle never makes clear what he means by that kind of *pneuma*. Adding more difficulty indeed, in the Aristotelian writings the epithet σύμφυτον is often omitted. Even so, the notion of *connatural pneuma* refers to something other than ordinary breath. Aristotle uses the expression *connatural pneuma* to individualise the air that belongs to or arises in the body, a kind of air distinct from the inhaled air. By definition, such *connatural pneuma* is not brought in from the outside (οὐ ἐπέισακτόν), thereby, it is presumably drawn (or arises) from the digestive process. Aristotle *PA* II 16, 659b 17 – 19. Cfr. Reiche (1960), p. 9. Aristotle claims that all animals have such *pneuma*, and that they pull their powers thereof. Aristotle *MA* 703a 9 – 10; *Somn. Vig.* II 456a 4 – 11. Insects, as well as the rest of bloodless animals, bring clear evidence of the existence of this *connatural pneuma*; for, contrarily to vertebrates — in which bodily temperature is cooled down by means of air or water — in non-sanguineous animals the thermal balance is achieved with the only help of their *connatural pneuma*. Aristotle *PA* II 16, 659b 13 – 18.

<sup>610</sup> In the first draft of this chapter, I criticised Ricciardetto's translation in col. XXIII, 39 – 41: « On dit avec certitude que le souffle inspiré cert à éteindre la chaleur plus intense autour du coeur et à ne pas consumer les corps, en les rendant compacts ». Cfr. Ricciardetto (2014), p. 18; (2016), p. 31. I regret having done that and ought to emphasise that Ricciardetto's translation is fine. My mistake was due to a misreading, concretely, 'étendre' instead of 'éteindre'; and on the other hand, to the influence exerted by the way the later hermeneutical tradition took up the cause of sleep, for from Alexander of Aphrodisias onward — especially in the Middle Ages — the discussion was centered on the issue whether sleep came about by heating or by cooling the temperature of the heart. Cfr. Wiesner (1978), pp. 254 – 255, 258 – 259. For the same attribution to respiration by means of a likeness with the blacksmith see Hippocrates *Vict.* I 13 [VI p. 488, 14 – 15 Li.].

in the heart it is assumed that respiration serves to quench (καταβέννυθαι)<sup>611</sup> the high temperature in the heart.

Yet, such departing premise does not seem to fit with Aristotle's claim in *On Sleep and Waking* in which it is affirmed that nature supplies breathing and the power of cooling by moisture<sup>612</sup> with a view to the conservation of the heat in the heart. In this passage, respiration is equated to the action of a pair of bellows<sup>613</sup>, and the general conclusion that one might draw from the picture is that, by breathing, the air blown into the heart prevents the consumption of the natural heat and keeps alive the natural fire in the heart<sup>614</sup>.

However, the reader will soon realise that a supposed expansion of the heat by breathing would flatly bely the final cause ascribed to respiration<sup>615</sup>, for the general opinion that Aristotle maintained on this matter is that the object of respiration is to avoid the body becoming completely consumed by its inner fire (heat)<sup>616</sup>. Therefore, to Aristotle the air we breathe in is a cold flow whose function is to cool the heat in the heart. In addition, the preceding interpretation gives rise to some difficulty when it comes to getting the sense of the passage dealing with this issue in the *Londiniensis* papyrus. The scribe passes over or ignores the counterargument above, and broaches his explanation by affirming that it is by means of breathing that the body does not end up entirely dried out because of the heat. Col. XXIII, 39 – 41<sup>617</sup> in the *Anon. Lond.* makes it clear that the

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<sup>611</sup> Col. XXIII, 40: « καταβέννυθαι ». Cfr. *supra Comment.* on col. XXIII. Non prefixed forms of σβέννυμι (or preceded by the preposition ἀπό) are widely attested in the *Corpus Aristotelicum*. By contrast, the compound with κατά — which confers, as is the case, an intensive meaning to the verb — is exceptionally rare (attested only once at *HA V* 19, 552b 17).

<sup>612</sup> As we shall see, this second natural process will be fundamental in Aristotle's enquiry on the physical causes of sleep and waking.

<sup>613</sup> Cfr. Aristotle *Resp.* XXI 480a 22.

<sup>614</sup> This interpretation could stand if the scribe were at this point discussing Herophilus's views on respiration, since for Herophilus respiration is not intended to suffocate the heat of the body, but to refurnish it with the right amount of *pneuma*. Cfr. Vegetti (1993), p. 94. It is clear, however, that the scribe is paraphrasing Aristotle, that is, not addressing the issue from a Herophilean perspective.

<sup>615</sup> Aristotle *Juv.* V 469b 27 – 32. Cfr. Thivel (2005), p. 240.

<sup>616</sup> Vegetti (1993), p. 81.

<sup>617</sup> Hence our translation into Italian: « Per cui viene detto certamente che la respirazione si produce al fine di soffocare il caldo eccessivo [che c'è] intorno al cuore e affinché i corpi non si compattino col consumarsi ». I want to express my thankfulness to Dr. R. Medda (Università degli Studi di Cagliari) for his valuable remarks and patience while revising the Italian translation of the *Anon. Lond.*

purpose of the respiration is to quench the excessive pericardial heat<sup>618</sup>, and also to prevent the body becoming completely dried up.

In Aristotle's writings one finds, furthermore, another kind of argument to reject the claim above in virtue of which respiration could serve to warm up the whole body or the brain; for, so far as the causation of sleep is concerned, neither seems to be the case. In Aristotle's view, the cause of the expansion or extension of the heat is not breathing, but food<sup>619</sup>. While it is fine for the brain to remain cold according to its own nature, the grey matter must be heated<sup>620</sup> by the warm vapours rising from the heart (ἀπὸ καρδίας)<sup>621</sup> during digestion so as to allow sleep. In this way, it is precisely the contrast in the overall bodily temperature — resulting from the heat of digestion meeting the cold in the head — which brings about sleep, and on account of this factor the respiration seems to bear little or no relation to the whole process.

### 2.3 Aristotelian Physiology and the Contents in the Paraphrase

Having said this, one cannot accept uncritically the apparently incongruous components in the account at hand; for what kind of relationship might air then have with digestion<sup>622</sup>, the heart, and sleep? In what follows we shall try to make this point clearer.

To Aristotle, the digestive process consists of different steps where heat<sup>623</sup> and air play a primordial, interwoven role<sup>624</sup> as to the transformation of food into blood<sup>625</sup>. Digestion (or nutrition)

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<sup>618</sup> In the *On Respiration* the majority of clues in this particular matter drives us to such conclusion. Cfr. *Resp.* IV 472a 31 – 33, 472b 4 – 5; V 472b 35 – 473a 2; IX 475a 25 – 28; X 476a 7 – 8; XV 478a 15 – 25; XVI 478a 29 – 33; XVII 479a 8 – 9; XVIII 479b 4 – 6; XIX 479b 11 – 12; XXI 480a 27 – 480b 2. The cooling purpose which Aristotle ascribes to respiration is moreover in agreement with the description of Philolaus's theory in col. XVIII, 26 – 28. Manetti (1990), pp. 227, 231.

<sup>619</sup> Aristotle *Resp.* VI 473a 2 – 11.

<sup>620</sup> Aristotle *PA* II 7, 652b 26 – 27: « Ὁ μὲν οὖν ἐγκέφαλος εὐκρατον ποιεῖ τὴν ἐν τῇ καρδίᾳ θερμότητα καὶ ζέσιν », (« The brain, then, makes the heat and the boiling in the heart well blent and tempered »). Trans. Peck (1961), p. 151.

<sup>621</sup> Col. XXIII, 49.

<sup>622</sup> Such link between nutrition and respiration is somehow established at Plato *Ti.* 80d 1 – e 1. In Plato's view, the air contributes to the distribution of the nutriment through the whole body — and in a manner also to the expansion of the heat with which digestion is said to come about. So far as this matter, however, Plato does not use (*scil.* “ignores”) any technical term (e.g. ἀνάδοσις, i.e. distribution or repartition) to explain the process, but he sets out this meaning by means of periphrastic locutions (e.g. ἐπαντλεῖν, ἐπίρρυτα etc.).

<sup>623</sup> Aristotle *PA* II 3, 650a 4 – 5; *Mete.* IV 3, 380a 8; Pseudo - Aristotle *Pr.* I 17, 861a 23.

<sup>624</sup> To the point of being sometimes difficult to distinguish digestion from respiration and vice versa. It is also the reason why the first word often was confused with perspiration. Cfr. *supra Comment.* on col. XXXIII, 43 – 51.

<sup>625</sup> To Aristotle, blood is the finest and ultimate nutritive principle; so that every living being has blood or some analogous principle. Cfr. Aristotle *PA* II 3, 650b 12 – 13; *Juv.* III 469a 1 – 2; *Resp.* VIII 474b 4 – 6.

could well be compared to a complex alchemic process in virtue of which raw matter becomes suitable for the growth and the longevity of the body by means of the combined agency of air and heat. From the general portrait of the process<sup>626</sup>, it turns out that Aristotle conceived the body as a big complex cauldron<sup>627</sup> made of different departments specially designed to transform matter into blood. For Aristotle, the heart is like a gushing express pot where ingested food, although arriving highly elaborated, comes out absolutely fit for purpose as a consequence of the last mixing (as if it were a “pasteurization”) to which the nutriment is subject<sup>628</sup>. Therefore, insofar as the process whereby the body makes the most of the solid and liquid matter it takes in, the digestive process is accomplished in the heart, not in the stomach; so that it is properly in the heart where the core of the concern should be placed.

Warm air results from the successive refinement of food, and according to the “principle of the natural places”, by virtue of its warmth such resultant air tends to ascend<sup>629</sup>. Once this hot air reaches the head, whose main organ (the brain) is the coldest and the most humid part of the body<sup>630</sup>, the confluence between the heat and the cold produces a condensation-like process (συνικταμένην)<sup>631</sup>; and it is the dominance of humidity in the head which leads us to fall asleep<sup>632</sup>. Contrarily, the reheating of the head when all the moisture therein is exhausted is the reason for waking and the recovery of conscious sensibility. This up-down thermic imbalance is cyclic<sup>633</sup> and repeated on a daily basis. Given that Aristotle states that sleep comes mainly after eating, the regular

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<sup>626</sup> Cfr. supra ch. II § 5.

<sup>627</sup> Jouanna (1993), p. 50.

<sup>628</sup> For another instance of the theory of οἰκεῖος τόπος see col. XXXIV, 45 – 49.

<sup>629</sup> Cfr. Aristotle *Mete.* I 4, 341b 7 – 13; *PA* II 7, 653a 30 – 32; *de An.* I 3, 406a 27 – 30. Such principle has deep roots and is widespread in Greek speculation, but it can be found explicitly formulated at Plato *Ti.* 79d 5 – 6: « τὸ θερμὸν δὴ κατὰ φύσιν εἰς τὴν αὐτοῦ χώραν ἔξω πρὸς τὸ συγγενὲς ὁμολογητέον ἵεναι », (« heat, by Nature’s law, goes out into its own region to its kindred substance »). Trans. Bury (1961), p. 213.

<sup>630</sup> The expression in col. XXIII, 46: « τ[ο]ῦ δ’ ἐγκεφάλου ψυχροῦ » presumably reflects Aristotle *Somn. Vig.* III 457b 30 – 31: « πάντων δ’ ἐστὶ τῶν ἐν τῷ σώματι ψυχρότατον ὁ ἐγκέφαλος ». Cfr. Aristotle *Sens.* II 438b 29 – 439a 4; V 444a 10, 31.

<sup>631</sup> « βαρύνει » in Aristotle *PA* II 7, 653a 14.

<sup>632</sup> We see this same idea at Aristotle *PA* II 7, 653a 10 – 16. Cfr. Wiesner (1978), p. 262.

<sup>633</sup> Aristotle *Insomn.* III 461a 4 – 9: « γίνεσθαι τὴν τοῦ θερμοῦ παλίσροιαν », (« the reflux/reverse of the heat »). Kirk - Raven (1957), p. 189 fr. 203: « (*scil.* Heraclitus said that) the path up and down is one and the same ». Cfr. also Hippocrates *Vict.* I 5 [VI p. 476, 12 – 13 Li.].

intakes figure notably in the process<sup>634</sup>. So far, thus, the heat in the body achieves its paroxysm in the heart<sup>635</sup>, whose rhythmic movement resembles the burble of a boiling pan. The hottest air in the body raises from that place up to the head, and in confronting the coldness and humidity therein it gets condensed and precipitates downwards.

As to this second part of the process, in col. XXIV, 6 – 9 the scribe of *Anon. Lond.* emphasises that Aristotle himself boasts (ἐαυτὸν ἐπαίνεϊ)<sup>636</sup> that, in contrast to the rest (*scil.* of preceding or contemporary physicians), he has attempted to give an explanation for sleeping and waking, whereas the others have solely enquired into the causes of sleep, in complete disregard for those of being awake<sup>637</sup>. As H. Diels well noted in his edition (followed by later translators)<sup>638</sup> such endorsement cannot be found in the text of *On Sleep and Waking*, nor the verb αἰτιολογεῖ. Somehow, in line with its widespread usage in the Hellenistic period (from Epicurus onwards, above all), in the *Londiniensis* papyrus αἰτιολογεῖ is used twice in two consecutive sentences; but, as has been pointed out<sup>639</sup>, αἰτιολογέω (and its kindred nominal forms) is unattested in Aristotle's extant writings. Wherefore, apart from other possible explanations, it could be an addition resulting

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<sup>634</sup> The elusion of the topic of digestion in the paraphrase is one of the main divergences between the account in the *Londiniensis* and the Aristotelian text. Aristotle regards sleep as an affection that comes of the evaporation which takes place in the body due to food. Cfr. *Somn. Vig.* III 456b 18 – 20; 457b 7 – 8. Sleep mostly occurs after having got food or heavy meals because the evaporation produced during digestion is greater, so the draw of heat and matter upwards to the head (and its subsequent shift downwards). Aristotle *Somn. Vig.* III 457b 7 – 10. The difference of temperature within the body during sleep and waking is a factor that the Aristotelians took into consideration (e.g. Pseudo - Aristotle *Pr.* II 16, 867b 32 – 33), a subject-matter that they could have drawn from Hippocrates *Epid.* VI 4, 12 [V p. 310, 6 – 7 Li.]. Cfr. Bertier (1989), pp. 262 [T. 10], 266. The long and deep hibernation into which some species fall in winter could be likewise explained by the same token. In taking no food, as cold passes to dominate their whole body, in such animals the process of cooling and heating is drastically interrupted; so that the state of wakefulness becomes then impossible.

<sup>635</sup> Aristotle *Resp.* XXI 480b 17 – 18.

<sup>636</sup> Both D. Manetti and A. Ricciardetto translate col. XXIV, 6 in the negative, so did W. H. S. Jones. Cfr. Jones (1947), p. 93: « yet »; Manetti in *CPF Aristoteles* 22T, p. 308: « Eppure Aristotele (non) si loda »; Ricciardetto (2014), p. 19; (2016), p. 32: « (Mais en verité) Aristote (ne) se félicite (pas) ». In their opinion, the scribe wrote that Aristotle did not boast himself for having enquired also on the causes of the wake. The choice could be due to the fact that they take (like Diels firstly did) « 2/3 ]τοί » in ll. 5 – 6 as καί τοί. Anyway, ever since Homer this particle has been employed to introduce or to mark a personal objection. Cfr. Liddell - Scott (1996), p. 860 s.v. καί τοί.

<sup>637</sup> Col. XXIV, 6 – 9. Though interdependent and reciprocally necessary, Aristotle lays much stress on affirming that sleep and waking cannot be given at once, for the first affection precludes the second and vice versa. We would like to point out in this effect that, although the supposed observations in cetaceans of his own day (e.g. Aristotle *Resp.* XII 476b 20 – 21), Aristotle's claim would be in conflict with the so-called Unihemispheric Slow-wave Sleep observed in many species, including mammals like dolphins. The difference in the explicative paradigms does not permit a straight rejection of Aristotle's view (it must be borne in mind that to Aristotle sleep is mainly to do with the heart, and to a lesser extent, with the brain); but, for our present interest, we should add that modern biology has proved that in some species both, sleep and waking, can take place simultaneously.

<sup>638</sup> Diels (1893a), p. 43: « Aristoteles iu servatis libri nihil eiusmodi dixit ». Cfr. also Beckh - Spät (1896), p. 35 n. 2; Jones (1947), pp. 92 – 93; *CPF Aristoteles* 22T, pp. 310 – 311.

<sup>639</sup> Cfr. supra ch. I § 5. 1. 3.

from the scribe's free will — an addition that would serve to increase the multiple arguments for the autographical nature of the *Anon. Lond.*<sup>640</sup> — or else the addition might indicate that the scribe was reading a (now lost) source actually containing such remark.

### 3. *The Paraphrase on De somno; a Convenient Item for Further Discursive Purposes*

To summarise the main points argued in this section, as the scribe decided to dwell on the *On Sleep and Waking* it is because he might have found in it a special focus on how air is administered in the body: first, because of being a very special kind of air (warm, since originating in the body and not inhaled), and secondly because the natural mechanism<sup>641</sup> governing such air was believed to bring about a twofold repercussion of the utmost value: sleep and waking. In addition, the physiology of digestion that the scribe could have read in Aristotle permitted him to bridge in satisfactory theoretical terms the passage between two of the main concerns addressed in the third section of the *Londiniensis*, and to nail down thereafter his firm belief in the existence and the import of the pores in our body<sup>642</sup>.

The scribe of the *Anonymus* was could not concerned with the cause of sleep in itself, but rather interested in the *On Sleep and Waking* for the sake of his own argumentative purposes. This becomes plain if it is taken into account that neither sleep nor being awake are pathological affections, but necessary ones; wherefore, the study of the topic by the scribe could perfectly bear some relation to answering a question like: « how is sleep produced? » in the aforementioned trial called *προβλήματα*<sup>643</sup>. The perusal of *On Sleep and Waking* evinces, moreover, that the displacement of warmth is only a partial answer to Aristotle's query on the causes of sleep. Later in the account given in the *On Sleep and Waking*, Aristotle presents — perhaps due to the influx of Sicilian medical tradition — the argument of the mixed condition of the blood (its thinness and purity) as the clue that seemingly solves the whole thing. In actual fact, it is because the blood stands in greater need of discrimination after the absorption of food that sleep occurs<sup>644</sup>.

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<sup>640</sup> Cfr. supra ch. I § 2.

<sup>641</sup> Aristotle *Somn. Vig.* II 455b 29 – 31.

<sup>642</sup> Col. XXXIX, 30 – 32. Cfr. supra ch. I § 2 n. 17.

<sup>643</sup> Cfr, supra ch. I § 5.

<sup>644</sup> Aristotle *Somn. Vig.* III 458a 21 – 25.

*The Sun and the Sea;  
a Fruitful Image*

1. *A Striking Resemblance*

In the third section of the *Anon. Lond.* — provided that the writing is divided in three sections and not in two — the scribe of the papyrus deals, as we have seen, with a series of topics concerning different physiological processes. To do so he analyses the anatomical places supposedly involved in each one (the stomach in digestion, the lungs in respiration, the heart and the brain in sleep and waking etc.), and sometimes presents the views maintained by earlier authorities — each identifiable to a greater or less extent<sup>645</sup> — with regard to the process at issue, this being the case we are about to study in the present chapter.

In cols. XXIX, 50 – XXX, 40 the scribe takes into consideration the role played by the bladder in the formation of urine, and in the middle of the query he makes reference to a particular group, the Ancients<sup>646</sup>, whose opinion about the matter is featured with an image that, as will be shown, proves fruitful from many points of view. Cols. XXIX, 50 – XXX, 40 read as follows:

« ὑπ[ἐ]ρ τοῦ διὰ τῆς κύστεως|[ἀπο]κ[ρ]ινο[μέ]νου διάστασις γεγένηται|[π]αρά τοῖς ἀρχαίοις τ(ῶν) φιλοσόφων·|[οἱ] μ(έν) γ(ὰρ) εἴπ[ο]ν ἐν τῷ προφερομένῳ|ὑγρῷ ἐνυπάρχειν φ[ 7/8 ]|.δε και νόστιμον και [ ±9 τ]ὸ μ(έν)|νόστιμον ἀναλαμβάν[ε]σθαι|.|.μ[ά]τ(ων) και π(ρο)κ[ρί]ν[ε]σθαι το[ῖ]ς σώμασιν, τὸ δὲ φαῦλον φέρεσθαι ε[ἰ]ς κ[ύ]στιν και κατὰ τὰς ἀπουρήσεις ἀποκρ[ί]νεσθαι εἰς τὸ ἐκτό(ς).| Οἱ δὲ ἔφασαν πᾶν μ(έν) ὑγρὸν ο[. . .] η[ε]τ[. . .] ἐαυτῶν (εἶναι), ἤδη δὲ κατὰ τ[ῆ]ς προφορᾶς αὐτοῦ τὸ μ(έν) ἀναδίδ[ο]σθαι και π(ρο)κ[ρί]νεσθαι τοῖς σώμασιν, τὸ δὲ κ[α]τὰ φέρ[ε]σθαι εἰς τὸν κατὰ τὴν κύστιν [τόπου]ς και διὰ τῆς ἐν τούτοις ἐνυπαρχούσης δυνάμεως ἐνθ[ε]ν ἀποκρίνεται δριμύ τε κ[αὶ] ἀλμυρόν|. Ταύτη γ(ὰρ) τὸ οὔρον ἐλκοῦν [τε και δά]κνυ(ν)|ὅτι (ἐστὶ) δριμύ τε και ἀλμυρόν. [Ἄλλ' ἐκεῖ]| νο ρητέον ὅτι ἐπὶ τοῦ πρώτ[ου] ἐκκει|μένου γίνονται οἱ πλείου[ς] τ(ῶν) ἀρχαί[ων] και εἰς τοῦτο ὑποδείγματι χρῶν[ται τῆ] θ[α]λάσση και τῷ ἡλίῳ· οὗτο[ς] γ(ὰρ) τῷ ἄναμ|μα νοερὸν ἐκ θαλάσσης εἶναι ἀπὸ|τοῦ νόστιμου τοῦ κ[α]τὰ τὴν θ[α]λάσσαν|τρέφεται, ἀναλαμβάνων μ[ὲ]ν τὸ λεπτόν, τὸ δὲ|ἀργότερον και παχύτερον κ[αὶ] ἀλμυρόν (κατα)λεί|πων ἐν τῇ θαλάσση. Ἀποφ[έ]ρεται δὲ και ἀπὸ|τοῦ π(ρο)κ[ρί]νεμένου ὑγροῦ τὰ τρέφοντα ἡμᾶς·|ἀπὸ γ(ὰρ) τούτου τὸ μ(έν) νόστιμον [και λεπτόν]|ἀναδίδοται εἰς τὰ σώμα[τα] ἡμῶν, τὸ δὲ|φαιλότερον και ἀργότερον κ[ύ]βαλον διὰ|τὴν κύστιν εἰς τὸ ἐκτὸς ἀποκρίνεται|. Τούτων οὕτως ἐκκειμμένων) α[ |οὐκ ἔχομ(εν) παγίως εἰπεῖν περὶ τοῦ ὑγροῦ|τοῦ ἀποκρ[ί]νομένου κ[α]τὰ τὰ ἀπουρήματα, πό|τερον τὸ ἀλλότριον (ἐστὶ) τὸ ἀποκρ[ί]νομενον ἐπὶ|τῷ ἐν τῷ ὑγρῷ και [ |ἐνυπάρχειν ἀχρεῖον ὑγρὸν, [ἢ ἐν τῇ]|κύστει μεταβάλλει π(ρὸς) τοσα[ |κεῖνο δὲ λέγομ(εν), ὅτι ἀπὸ τοῦ

<sup>645</sup> In so far as sometimes their names are clearly stated (e.g. Erasistratus, Herophilus, Alexander Philaethes etc.) but sometimes these remain anonymous because only a generic denomination is given (e.g. the Empirics, the Ancients, the Stoics etc.).

<sup>646</sup> As opposite to οἱ νεώτεροι (i.e. the Stoics). Cfr. Diels (1893a), p. 114.

π[(ροσ)φερομ(έν)ου]|ύγροϋ ἀποκρίνεται κατὰ τὰ σ[ώματα]|ύγρὸν δριμύ τε καὶ ἀλμυρόν. Κ[αὶ ταῦτα μ(έν)]|—περὶ τῆς διοικήσεως τῆς κ(ατὰ) τὴν [κύστιν.] »<sup>647</sup>.

(« first is the section dealing with what is evacuated by way of the bladder, concerning which there has been a special controversy even among the old scientists. For some have said that in the fluid taken a dual nature exists of the following kind. Fluid they say contains both the beneficial and the bad, of which the beneficial is absorbed through the pores and is added to our bodies, while the bad is carried below and by urination is excreted outside. Others have said that all fluids is homogeneous, and only on its being taken is a part absorbed and added to our bodies, while that which is not absorbed is carried to the parts about the region of the bladder, whence, being changed by the power that is inherent in these parts, it becomes pungent and salt and is excreted. For clearly the urine is pungent and salt just because the bladder sucks it through these parts. With regard to that matter is must be said that it is to the first option here indicated that the majority of the ancients incline. As an analogous case bearing upon the point they make use of the sea and the sun. For the sun, by reason of being an intelligent ball of fire out of the sea, is nourished from the nutritious part in the sea, taking in the part that is fine, but leaving in the sea the more sluggish, the grosser an the salt portion. In a similar manner from the fluid that we take in there is taken away the parts that nourish us. For from this fluid the nutritive and fine part is absorbed into our bodies, while the inferior and more sluggish becomes refuse and is eliminated outside through the bladder. With this exposition of the matter, we are still at a loss and cannot say for certain about the fluid that is eliminated as urine, whether the eliminated part is the unsuitable part, which was originally present in the fluid and is thought to be present as a naturally useless fluid; or whether it is that which, when it gets into the bladder, changes for the worse. But this we do say, that from he fluid taken in there is excreted from our bodies a fluid that is pungent and salt. So much for the physiology of the bladder »)<sup>648</sup>.

Before coming to grips with the details in the passage, we should like briefly to emphasise something that to our knowledge — as far the *Anonymus* is concerned — nobody has signalled, and that is the notable resemblance between the above passage in the *Anonymus* and the next one:

« ὁμοίως δὲ γελοῖον κἂν εἴ τις εἰπὼν ἰδρῶτα τῆς γῆς εἶναι τὴν θάλατταν οἶεταί τι σαφὲς εἰρηκέναι, καθάπερ Ἐμπεδοκλῆς· πρὸς ποιήσιν μὲν γὰρ οὕτως εἰπὼν ἴσως εἴρηκεν ἱκανῶς (ἢ γὰρ μεταφορὰ ποιητικόν), πρὸς δὲ τὸ γνῶναι τὴν φύσιν οὐχ ἱκανῶς· οὐδὲ γὰρ ἐνταῦθα δῆλον πῶς ἐκ γλυκέος τοῦ πόματος ἀλμυρὸς γίγνεται ὁ ἰδρῶς, πότερον ἀπελθόντος τινὸς μόνον οἶον τοῦ γλυκυτάτου, ἢ συμμειχθέντος τινός, καθάπερ ἐν τοῖς διὰ τῆς τέφρας ἠθουμένοις ὕδασιν. φαίνεται δὲ τὸ αἴτιον ταῦτό καὶ περὶ τὸ εἰς τὴν κύστιν περίπτωμα συλλεγόμενον· καὶ γὰρ ἐκεῖνο πικρὸν καὶ ἀλμυρὸν γίγνεται τοῦ πινομένου καὶ τοῦ ἐν τῇ τροφῇ ὑγροῦ γλυκέος ὄντος. εἰ δὲ ὥσπερ τὸ διὰ τῆς κονίας ἠθούμενον ὕδωρ γίγνεται πικρὸν, καὶ ταῦτα, τῷ μὲν οὖρῳ συγκαταφερομένης τοιαύτης τινὸς δυνάμεως οἷα καὶ φαίνεται ὑφισταμένη ἐν τοῖς ἀγγείοις ἀλμυρίς, τῷ δ' ἰδρῶτι συνεκκρινομένης ἐκ τῶν σαρκῶν, οἷον καταπλύνοντος τὸ τοιοῦτον ἐκ τοῦ σώματος τοῦ ἐξιόντος ὑγροῦ, δῆλον ὅτι κἂν

<sup>647</sup> The Greek text reproduces the edition of the *Anon. Lond.* by A. Ricciardetto in Ricciardetto (2016), pp. 42 – 43. Col. XXX, 15 – 24 was edited, translated into Italian, and commented on by D. Manetti in *CPF Stoici* 3T, pp. 796 – 797.

<sup>648</sup> Trans. Jones (1947), pp. 115 – 117.

τῆ θαλάττῃ τὸ ἐκ τῆς γῆς συγκαταμισγόμενον τῷ ὑγρῷ αἴτιον τῆς ἀλμυρότητος. ἐν μὲν οὖν τῷ σώματι γίγνεται τὸ τοιοῦτον ἢ τῆς τροφῆς ὑπόστασις διὰ τὴν ἀπεψίαν· »<sup>649</sup>.

« ( « It is equally absurd for anyone to think, like Empedocles, that he has made an intelligible statement when he says that the sea is the sweat of the earth. Such a statement is perhaps satisfactory in poetry, for metaphor is a poetic device, but it does not advance our knowledge of nature. For it is by no means clear how salt sweat is produced in the body from sweet drink — whether, for example, it is simply by the loss of its sweetest constituent or whether it is due to the admixture of something else, as in the case of waters strained through ashes. The cause appears to be the same as that which makes the residue that collects in the bladder bitter and salty though our drink and the liquid in our food is sweet. If then the cause in both cases is the same as that which makes water filtered through ashes bitter, and if some substance like the salty deposit we see in chamber-pots is carried through the body with the urine, and secreted in sweat from the flesh, being washed out of the body as it were by the water on its way out, then the admixture of some substance from the earth must be responsible for the saltiness of the water in the sea also. Now in the body the sediment of food caused by failure to digest is such a substance. »)<sup>650</sup>.

We do not claim that cols. XXIX, 50 – XXX, 40 in the *Anonymus* depend entirely on this passage from Aristotle's *Metereologica*, but it cannot be denied nevertheless that in contrasting and comparing their respective contents what comes out is a strong air of familiarity between one and the other: Empedocles plays the role of the Ancients in the papyrus, the salt in the sea can be equated to the saltiness of sweat; likewise, if the image of the sun and the sea on which the Ancients draw to give an account of the phenomenon is for the scribe unhelpful in explanatory terms<sup>651</sup>, Aristotle also considers the Empedoclean metaphor absurd since it contributes nothing to the progress of knowledge<sup>652</sup>. The sun, that is true, does not appear in Aristotle; its place is occupied instead by the earth.

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<sup>649</sup> Aristotle *Mete.* II 3, 357a 24 – b 9. This fragment is collected in DK Empedocles 31[21]B 55 [Diels (1951), p. 332]. The separation of the heavy from the light by virtue of the forces governing the cosmos could perfectly have been a tenet addressed by Empedocles. For instance, at *On the Face Which Appears in the Orb of the Moon* XII, 926e 1 – 11 [Pohlenz (1955), p. 46] Plutarch wrote: (« So look out and reflect, good sir, lest in rearranging and removing each thing to its 'natural' location you contrive a dissolution of the cosmos and bring upon things the 'Strife' of Empedocles — or rather lest you arouse against nature the ancient Titans and Giants and long to look upon that legendary and dreadful disorder and discord <when you have separated> all that is heavy and <all> that is light: *The sun's bright aspect is not there descried, No, nor the shaggy might of earth, nor sea* as Empedocles says. »). Trans. Cherniss - Helmbold (1957), p. 83.

<sup>650</sup> Trans. Lee (1952), p. 149. For a translation into Italian see Pepe (1982), pp. 88 – 89.

<sup>651</sup> The scribe of the *Londiniensis* neither assent nor share the opinion of those who bring up such poetical argument to the explanation.

<sup>652</sup> Apart from the cited passage above, Aristotle notes elsewhere that Empedocles expressed himself in verses. Aristotle *Mete.* II 1, 353b 12 – 14. At *Mete.* II 3, 357a 5 – 9 Aristotle states that those who, like Empedocles, maintain that the sea is what remains of humidity on the earth do not take account of the original cause for the salty of the sea.

## 2. The Simile of the Sun and the Sea in Aristotle's On Sleep and Waking

In *On Sense and Sensible Objects*<sup>653</sup> Aristotle provides a preliminary description of the digestive process in plain material terms, that is, deprived of every kind of metaphor. There, Aristotle talks about the expansion of heat and explains that this very heat modifies the food in such a manner that it extracts from it what is light and leaves behind what is harsh and bitter owing to its own weight. As regards digestion, thus, in the first instance the account given by Aristotle is no doubt built up on mere physical categories (heat, expansion, attraction, heaviness etc.); but when he goes on to set out the natural causation of sleep and waking<sup>654</sup> then — somehow belying what he has stated in the above-mentioned passage drawn from the *Metereologica* — Aristotle has recourse to a simile with an evident poetical turn (perhaps because he found it formulated in that way in some source concerning Heraclitus).

A closer look at the picture as it is presented by Aristotle reveals that the philosopher underpins his account of the digestive process by way of analogy. In brief: the bodily heat is able to get nutrients from raw food in the same manner as the heat of the sun acts upon matter in the sea. The key term featuring Aristotle's description is ἀναθυμίασις<sup>655</sup>, that is to say, 'exhalation'<sup>656</sup>. There

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<sup>653</sup> Aristotle *Sens.* IV 442a 5 – 8.

<sup>654</sup> Aristotle *Somn. Vig.* III 457b 30 – 458a 6. I. Tacchini is of the opinion that the image could have been borrowed from Hippocrates *Aer.* VIII [II pp. 32, 19 – 34, 10 Li.]. Cfr. Tacchini (1996b), p. 94. The fact remains that the term ἀναθυμίασις is unattested in the Corpus Hippocraticum; we should add that it is deemed to be an Aristotelian term. Cfr. Debru (1996), p. 189; Jouanna (2012d), p. 132. What is undeniable is that the same image is taken in Aristotle *PA* II 7, 652b 33 – 653a 22. Cfr. Wiesner (1978), p. 260.

<sup>655</sup> Col. VI, 32. This notion (and kindred ones) is used in Aristotle *Somn. Vig.* III 456b 4, 19, 20, 34; 457a 26, 29; 457b 14, 458a 3, 7, 10. The term ἀναθυμίασις occurs only in books posterior to *Metereologica* I - III (it should be remembered that *Metereologica* IV could have preceded I - III). Pepe (1982), pp. 161, 168 n. 46. The stem of the substantive ἀναθυμίασις is -θυμ, which is in turn related to the Latin *fumus*. The concept ἀναθυμίασις is a good example of the way the ancient Greek formed abstract nouns by adding the suffix -σις. The Greek action nouns in -σις are of two kinds: nouns of object or instrument, and nouns of action. While those of the first type are concrete nouns, those of the second type are said to be abstract nouns which correspond to hidden but active forces. Apart from the names built on the addition of the suffix -μα, the addition of -σις is the main procedure used in Ionian Greek to give account of an abstract action or the result (materialization) of an abstract action. As regards the first possibility, ἀναθυμίασις could take the meaning of "action of going upwards of a substance by taking a smoky appearance (i.e. evaporation)", whereas if we consider the second possibility, ἀναθυμίασις — by way of a metonymic shift — would rather take the meaning of "object into which the action of going upwards by taking a smoky appearance is materialised (i.e. vapor)". In contrast to those in -μα (with a much more resultative value), the nouns in -σις are always closer to the sense of development of the verbal action, what confers a progressive and continuous nuance to the substantive. Cfr. López Eire (1996), pp. 385, 387 – 389; Jouanna (2012g), p. 226.

<sup>656</sup> At *Mete.* I 4, 341b 7 – 13 Aristotle expounds that there are two main kinds of exhalation, one vapour-like and another more air-like. What interests us here is that in the light of the details that Aristotle recounts at *Mete.* IV 9, 387a 22 – 387b 14, the translation of ἀναθυμίασις as 'evaporation' could be inaccurate. According to Aristotle only those bodies which contain humidity can emit exhalations, and when they are acted upon by heat or fire it happens that humidity is not evaporated separately from the body itself, rather it seems that Aristotle believes that a change of physical state takes place; so that Aristotle makes a distinction between evaporation and exhalation. Cfr. supra *Comment.* on col. XXXVII, 32 – 46 regarding the anecdote about Democritus during the Thesmophoria.

is a strong likelihood that Aristotle borrowed this notion from Heraclitus<sup>657</sup>, though the Stagirite assigned to the concept the physiological nuance we actually read in *On Sleep and Waking*. Aristotle might have found it useful at the time to expound on how he imagined sleep to come about. However it might be, it turns out that sleep and waking reproduce in small scale what occurs and can be observed in the atmosphere<sup>658</sup>.

### 3. *The Simile of the Sun and the Sea in the Anonymus Londiniensis*

As to the use of the same simile in the *Anonymus* papyrus, the scribe remarks that the image under consideration is not genuine at all, even though quite ancient<sup>659</sup>. This notwithstanding, what matters here is that, in contrast to Aristotle's in *On Sleep and Waking*, in the *Londiniensis* the metaphor based on the action of the heat of the sun<sup>660</sup> upon the sea is used not with a view to explaining sleep (and waking) but to portraying the way that waste matter is expelled after the digestive process<sup>661</sup>, once the body has obtained and taken in the nutrients from the food<sup>662</sup>.

The scribe of *Anon. Lond.* underlines in the first place the extant disagreement among ancient philosophers<sup>663</sup> regarding the qualities they attribute to liquids and the way they recounted

<sup>657</sup> DK Heraclitus 22[12]A 1[Diels (1951), p. 141, 29 – 30], 22[12]A 11[Diels (1951), p. 146, 25 – 26]; Diogenes Laertius *Vitae philosophorum* IX 9 – 10 [Marcovich (1999a), pp. 637, 22 – 638, 12]; Kirk - Raven (1957), p. 202 fr. 227. At *Sens.* V 443a 22 – 23 Aristotle recollects a purported Heraclitean saying in which the term ἀναθυμίασις is linked to the Ephesian philosopher. Hippocrates *Vict.* I 4, 5 are chapters undeniably imbued with Heraclitean thought [VI pp. 474, 8 – 478, 6 Li.]. In addition to this fact, it is undeniable that chaps. XV, XXIV, XLV of the Hippocratic treatise titled *On Nutriment* were also written under the influence of Heraclitus's philosophy. Cfr. Jones (1984a), pp. XXIV – XXVI. As a matter of fact, and ever since Galen, the treatise *On Nutriment* has been considered spurious. Cfr. Galen *De alim. facul.* I 1 [VI p. 473, 1 – 17 K.]; *In Hipp. Acut. comment.* I 17 [XV pp. 455, 12 – 456, 4 K.]. Grensemann (1975), pp. 7 – 8 ffr. 6a, 6b. However, it must be borne in mind that the term ἀναθυμίασις is only attested from Aristotle on. Jouanna (2012a), p. 132 n. 21.

<sup>658</sup> Cfr. also Aristotle *PA* II 7, 652b 35 – 653a 8. Hippocrates *Vict.* I 10 [VI p. 484, 17 – 19 Li.]: « κατὰ τρόπον αὐτὸ ἐωυτῷ τὰ ἐν τῷ σώματι τὸ πῦρ, ἀπομίμησιν τοῦ ὅλου, μικρὰ πρὸς μεγάλα καὶ μεγάλα πρὸς μικρά: », (« In a word, all things were arranged in the body, in a fashion conformable to itself, by fire, a copy of the whole, the small after the manner of the great and the great after the manner of the small »). Trans. Jones (1953), p. 247. Cfr. Jouanna (1993), pp. 40 – 41; (2012g), pp. 196, 204. The Hippocratic sentence reflects Plato's claim as regards the benefits of gymnastic at *Ti.* 88c 5 – d 1: « τὸ τοῦ παντὸς ἀπομιμούμενον ».

<sup>659</sup> For further implications of this point cfr. *infra* § 3. 1.

<sup>660</sup> Col. XXX, 19 – 20: « τῷ ἄναμ]μα νοερόν ». Diels (1893a), p. 83: « Stoice sol ». Cfr. DK Heraclitus 22[12] 12 [Diels (1951), p. 146, 27 – 28].

<sup>661</sup> Debru (1996), p. 189 n. 46; Van der Eijk (2005), p. 142.

<sup>662</sup> Somehow constituting a common topic, medical literature of the Imperial period often centered on the means by which it was believed that were excreted the residues of the ingested food once this had been duly transformed and profited in the body. Ricciardetto (2012), p. 59.

<sup>663</sup> Col. XXIX, 51 – 52: « διάστασις γεγένηται[π]αρὰ τοῖς ἀρχαίοις τ(ῶν) φιλοσόφων », (« there has been a special controversy even among the ancient scientists — *scil.* concerning what is evacuated through the bladder — »). Trans. Jones (1947), p. 115.

that the intake and distribution of liquids in the body takes place<sup>664</sup>. From the report in the *Londiniensis*<sup>665</sup> it follows that while some authors posited that every liquid consisted of a valuable and a useless part<sup>666</sup>, others stated that every liquid was entirely profitable, it being only the excess that is finally expelled<sup>667</sup>. To this description the latter further added that urine got its corrosive and salty properties on the way through the places it passed. The scribe stresses that most of the ancient philosophers are for the first explanation and remarks as well that to support their position on this concern the philosophers, physicians, or physicists in the former group often used to set forth the simile of the reciprocal influx between the sun and the sea.

We should like to draw attention to another fact about the issue the scribe addresses. While in the *Londiniensis* it is definitely admitted that the air we breath out is warm by virtue of the heat in the places it passes through<sup>668</sup>, the scribe does not make any definite statement when the time comes to extrapolate the argument to the particular case of liquids and urine. The author of *Anon. Lond.* is somewhat reluctant to accept the existence of a certain power (δύναμις)<sup>669</sup> in the body accounting for the mutation in the qualities of the liquids we ingest; he does not affirm either in this effect that

<sup>664</sup> Cfr. supra *Comment.* on col. XXIII, 14.

<sup>665</sup> Cols. XXIX, 50 – XXX, 39.

<sup>666</sup> Cols. XXIX, 53 – XXX, 6: « [οἱ] μ(έν) γ(άρ) εἶπ[ο]ν ἐν τῷ προσφερομένῳ ὑγρῷ ἐνυπάρχειν φ[ 7/8 ]·δε και νόστιμον και [ ±9 τ]ῷ μ(έν) νόστιμον ἀναλαμβάν[ανεσθαι].[.]·μάτ(ων) και π(ροσ)τίθεσθαι το[ῖς] σώμασιν, τὸ δὲ φαῦλον φέρεσθαι ε[ἰς] κ[ύ]στιν και κατὰ τὰ ἀπορήσεις ἀποκρ[ί]νεσθ[αι] εἰς τὸ ἐκτό(ε).», (« For some have said that in the fluid taken a dual nature exists of the following kind. Fluid they say contains both the beneficial and the bad, of which the beneficial is absorbed through the pores and is added to our bodies, while the bad is carried below and by urination is excreted outside »). Trans. Jones (1947), p. 115.

<sup>667</sup> Col. XXX, 7 – 13: « Οἱ δὲ ἔφασαν πᾶν μ(έν) ὑγρὸν ο[.]... ηςτ[.]·ἐαυτῷ (εἶναι), ἤδη δὲ κατὰ [τ]ὰς προσφορὰς αὐτοῦ τὸ μ(έν) ἀναδίδ[ο]σθαι και π(ροσ)τ[ί]θεσθαι τοῖς σώμασιν, τὸ δὲ κ[α]τὰ φέρεσθαι εἰς τοὺς κατὰ τὴν κύστιν [τόπους και διὰ] τῆς ἐν τούτοις ἐνυπαρχο[ύ]σης δυνάμ[εως] ἐνθ[ε]ν ἀποκρίνεται δριμύ τε κ[α]ι ἄλμυρόν[.]·, (« Others have said that all fluid is homogeneous, and only on its being taken is apart absorbed and added to our bodies, while that which is not absorbed is carried to the parts about the region of the bladder, whence, being changed by the power that is inherent in these parts, it becomes pungent and salt and is excreted »). Trans. Jones (1947), p. 115.

<sup>668</sup> Col. XXIII, 36 – 38. Cfr. supra ch. VI § 2. 1.

<sup>669</sup> Manetti (2003), p. 337. As regards this “epistemological device”, which consists in explaining a phenomenon by virtue of the purported property (ιδιότης) intervening in a particular anatomical place, it is also used by the scribe of the *Londiniensis*. Thus, for instance, as to the formation of the excrements and the sperm, the scribe admits that it is the specific faculty residing in the colon and in the seminal ducts what operates in the food (τροφή) that has not been absorbed, this respectively being transformed into stool or into seed according to the place where the nourishment may be. *Anonymus Londiniensis* col. XXV, 40 – 43: « ὅ δὲ π(ροσ) τ[ί]θεσθαι ἐν τῷ κ[ό]λῳ ἰδιότητος ἀποκοπροῦτα[ι]. », (« *scil.* a small part of the nutriment) passes out as excrement owing to the peculiar characteristic of the colon »); or in l. 43: « π[ρ]ὸς τῆς ἰδιότητος τῆς ἐν τοῖς σ[π]ερματικ(οῖς) πόροις », (« *scil.* the sperm) is brought about by the peculiar characteristic in the spermatoc passages »). Trans. Jones (1947), p. 99.

the transformation is actually *in rebus* due to the very nature of the liquids<sup>670</sup> — as it seems that ‘most of the ancient (*scil.* philosophers)’<sup>671</sup> believed. Either way, the scribe refrains from taking sides, rather contenting himself with giving a “phenomenological” description of the situation, so that in the papyrus the question remains obscure and is left in a fog. If we were expecting a physical cause accounting for the change in the qualities of the liquids we take, what we shall find instead is just the can that the scribe has kicked down the road: from the liquid we take another liquid with different properties is expelled, being almost impossible to state, in the scribe’s opinion, whether it is because of the liquid as such or due to some faculty allegedly in the bladder<sup>672</sup>.

If we were asked for an answer other than the foggy unknown factor with which the scribe leaves us at this point, we could give two almost completely different ones, the first older than the writing in the *Anonymus* and the second later. The first explanation is to be found in the fragment from *Meteorologica* quoted in the beginning of this chapter; the second is expounded in subsection 4 below.

From the description in the *Metereologica* it is clear that Aristotle’s contention is that every liquid is entirely valuable, its excessive quantity being what will eventually be expelled. Accordingly tears, sweat, urine, or whatever other salty residual liquid the body might produce is said to get such characteristic by virtue of the property inherent to the part of the body in which the excretion is collected or released, as the case may be. Aristotle’s position in this regard might have easily given place to the opinion held by those who in the *Anonymus* papyrus are classed as the philosophers constituting a second group of opinion.

### 3. 1 *Who Are ‘the Ancients’?*

Now, from the *Londiniensis* we have learned that the change experienced in liquids we take in was accounted for in two major ways. We would like to make a further point in light of the supposed link between Aristotle and the partisans of the second kind of explanation, those who

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<sup>670</sup> In col. XXIX, 34 ff. the scribe of the *Londiniensis* contends that not the whole food we ingest actually becomes assimilated, but that a kind of selection between what is suitable and what is rejectable in the food operates along the digestive process, the rejectable part being transformed into excrements. It is likely that the scribe introduces at this point an abridged version of the description of the formation of urine according to Asclepiades — a theory that Galen strongly refuted and bitterly criticised in *De fac. nat.* I 13 [II pp. 30, 6 – 44, 11 K.]. Cfr. Manetti (2003), p. 343 n. 18.

<sup>671</sup> Col. XXX, 17: « οἱ πλείου[ε τ(ῶν) ἀρχαί]ων ».

<sup>672</sup> Col. XXX, 31 – 40.

believed that all fluid is homogeneous and is transformed by the inherent power in the parts of the body where the liquid is collected before being excreted.

The analysis of the state of affairs is at this juncture a bit complicated, but we shall strive to present it as clearly as possible. First, we depart from the single certain premise in the papyrus: in the first section of the *Londiniensis* the scribe equates a group that he terms ‘the Young Ones / the Moderns’ with the Stoics<sup>673</sup>. In the first section of the *Anon. Lond.* the scribe disregards the Stoics. There seem to be several reasons for the contempt he shows for the Stoics<sup>674</sup>, but in the first section the main one appears to be that he does not seem really concerned with the Stoic classification of the affections, rather he gives the impression that such a question is an insignificant detail to be dispatched brusquely<sup>675</sup>, leaving the matter for the Stoics themselves<sup>676</sup>.

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<sup>673</sup> I.e. in col. II, 22: « [ο]ἱ δὲ νεώτεροι, τ[οῦ]τ’ (ἔστιν) οἱ Στωϊκοί, » Cfr. also col. II 30, 39. Diels (1893a), p. 115. However, as T. Dorandi has well noted, this not suffices to make clear whether it is a reference to the Stoics in a block, to the contemporary Stoics of the scribe, or, indeed, to the contemporary Stoics of the source(s) that the scribe used. Dorandi (2016), p. 205. Of course, such appellation always depends on the temporal line. Thus, for instance, in *The Obsolescence of Oracles* XLVII 436d – e by the expression « οἱ δὲ νεώτεροι » Plutarch clearly makes allusion to the first pre-Socratic physicians (φυσικοί), for, on the immediate context, they are considered the young generation that comes after the first theologians and poets who did not enquire on the natural causes. But, when Aristotle addresses the theoretical principle of the qualitative transformation of a substance, either through assuming the properties of the substances that it touches, or through being acted upon by the places through or in which it passes or remains (as we see it expounded, for instance, in *Anon. Lond.* col. XXIV, 39 – 48), Aristotle assigns such kind of argument to « the old natural philosophers (physiologists) ». Cfr. e.g. Aristotle *Sens.* IV 441b 1 – 8; *Resp.* XXI 480b 5 – 6 respectively. I am thankful to Dr. Michiel Meeusen (King’s College, London) for having made me reflect on this point.

<sup>674</sup> In the third section, for example, the scribe’s disdain for the Stoics could have roots in the fact that the belief in the sole presence of *pneuma* in the arteries — which is false in the eyes of the author of *Anon. Lond.* — is grounded in Stoic philosophy. Manetti (1999), p. 133.

<sup>675</sup> In this sense, it is significant the contrast in the use of the first person of the plural by the scribe just after having expounded the view of the Stoics in col. II, 30 – 31: « ἀλλὰ τα[ῦ]τα τ[οῖ]ς μ(έν) μελήσει, ἡμῖν δὲ [λ]εκτέον », (« but the point must be left to the younger school. We, however, must »). Trans. Jones (1947), p. 27. Jouanna’s remark about the use of the grammatical person serves him to shore up his firm conviction that the scribe was a doctor. Thereby, after having summarily expounded the way the Stoics classified the affections, the scribe writes apropos of this that he leaves the concern to the Stoics, and he goes on to ratify that he is only concerned with those affections relevant to medicine. Jouanna (2016), p. 5. Cfr. also supra ch. I § 2 n. 34. In light of this, however, we should add that the scribe of the *Londiniensis* apparently ignores the interest taken in the soul by the author of the Hippocratic treatise *Regimen*. Apropos of the theory of perception and intelligence in *Regimen* cfr. Jouanna (2012g), pp. 195 – 227.

<sup>676</sup> Col. II, 22 – 30: « [ο]ἱ δὲ νεώτεροι, τ[οῦ]τ’ (ἔστιν) οἱ Στωϊκοί, κατὰ φύσιν πάθος οὐδὲν κ[ατα]λείπουσιν ψυχῆς. [Π]άν[τ]ω γ(άρ) φ(αίν) ἐμφ[αίν]εσθαι τὸ παρὰ φύσιν ἐκ τῆς πάθος φ[ων]ῆς ἢ καὶ τὸ π[α]θος ἀ[π]᾿ ἑδ[ο]σαν· τ[ὸ] π[α]θος (ἔστιν) ὁρμὴ πλ[ε]ογάζουσα, τῆς ὁρμῆς αὐτοῖς ἐξακου[ο]μένης οὐχὶ ἀντι τῆς ὑπερτάσεω[ς], ἀλλὰ ἀντι τοῦ ἀπειθέε (εἶναι) τῶι αἰ[σ]θη[σ]θ[ῆ]ναι [λ]όγωι· ἀλλὰ τα[ῦ]τα τ[οῖ]ς μ(έν) μελήσει, », (« But the younger school, that is to say the Stoics, allow as according to nature no affection of the soul. For into the term, they say, is introduced contrariety to nature from the word “an affection”, in virtue of their definition of affection, namely “impulse in excess”, impulse being understood by them not in the sense of over-straining, but in the sense of a refusal to listen to the reason that convicts it. But the point must be left to the younger school. »). Trans. Jones (1947), p. 27.

On the other hand, the Stoics are placed in opposition to another group, ‘the Ancients’<sup>677</sup>, who, by contrast, deserve all the scribe’s respect given that he openly states that he is following their methodology<sup>678</sup>. As a matter of fact, the antipathy between the Ancients and the Moderns is a kind of *locus communis* in the philosophical discussions from the 1<sup>st</sup> century BC to the 2<sup>nd</sup> century CE<sup>679</sup>. In the *Anon. Lond.* the expression ‘the Ancients’ refers to an indeterminate group of authorities who are generally opposed to ‘the Young ones / the Moderns (ones)’ (i.e. the Stoics); but, who in fact are ‘the Ancients’ in the first section?

It is believed that it is a term used to designate the Peripatetics<sup>680</sup>, yet whereas the scribe identifies unequivocally the ‘Young ones/Moderns’ with the Stoics, the equation of ‘the Ancients’ with Aristotle or the Peripatetics is in a narrow sense hypothetical because in the first section<sup>681</sup> the scribe never reveals to whom he is referring by the appellation « [τ(ῶν)] ἀρχαίων ». In this way, for example, in the *Anonymus Parisinus* — the codex that has transmitted a medical work almost coeval to the *Anonymus papyrus*<sup>682</sup> — by the expressions « οἱ ἀρχαῖοι », « οἱ παλαιοὶ », or « κατὰ τοῦ τέccapa » is meant ‘according to the opinion of Erasistratus, Diocles, Praxagoras, and Hippocrates’<sup>683</sup>. In Galen the expressions « πολλοῖς ἄλλοις τῶν παλαιῶν »<sup>684</sup> or « οἱ παλαιοὶ »<sup>685</sup> are used to make reference in a quite indistinct way to ‘Hippocrates, Plato, Aristotle, Praxagoras, and Diocles’, or to ‘Hippocrates, Plato, Aristotle, Diocles, Praxagoras, and Philotimus’. Another significant expression used also by Galen but this time applied to ‘Empedocles, Parmenides,

<sup>677</sup> Col. I, 2: « τ(ῶν) ἀρχαίων »; cols. I, 25; II, 18 – 19, [36]. The first occurrence of such denomination in ancient Greek medical literature is in *Acut.* I [II p. 226, 10 Li.], where Hippocrates reproaches the author(s) of the book entitled *Cnidian Sentences* for not having paid enough attention nor been concerned with regimen: « οὐδὲ περὶ διαίτης οἱ ἀρχαῖοι ξυνέγραψαν οὐδὲν ἄξιον λόγου ». Jouanna (1993), p. 3. Cfr. also Jones (1947), p. 27 n. 18.

<sup>678</sup> Col. II, 18 – 19: « Αὕτη [μ](έν) ἡ τε[χ]νολογία [τ(ῶν)] ἀρχαίων (ἐστίν),|οἷς καὶ ἡμεῖς ἐπόμεθα: », (« This terminology is that of the Ancients, whose followers we too are »). Trans. Jones (1947), p. 27. The preference the scribe professes for the views of the Ancients is also corroborated a short while later in col. XXVIII, 37 – 43.

<sup>679</sup> *CPF Stoici* 3T, p. 790. This opposition often occurs in Galen. Jouanna (2012h), p. 261.

<sup>680</sup> Diels (1893a), p. 98: « Dicunt esse Peripatetici »; Ricciardetto (2016), p. CVII. T. Dorandi adds that « [τ(ῶν)] ἀρχαίων » could well be also a reference to the Academics. Dorandi (2016), pp. 200 – 201.

<sup>681</sup> *CPF Stoici* 3T, p. 797; Ricciardetto (2014), p. XXX. T. Dorandi sharpens his hypothesis and proposes that, rather than a way to call either the Academic or the Peripatetic philosophers, this could be a reference to Plato’s immediate disciples. Dorandi (2016), p. 202 n. 16. Cfr. supra ch. V § 2. 1.

<sup>682</sup> Cfr. supra ch. I § 7. 1 n. 149.

<sup>683</sup> Cfr. *Anonymi medici* VI 1 (1), IX 1 (1), XI 1 (1), XII 1 (1), XIII 1 (1), XIV 1 (1), XV 1 (1), XVII 1 (1), XX 1 (1), XXIII 1 (1), XLI 1 (1), XLIII 1 (1), XLVII<I> 1 (1), IL 1 (1), L 1 (1), LI 1 (1) [Garofalo (1997), pp. 38, 18; 64, 17; 80, 28; 84, 14; 88, 24; 94, 8; 102, 4; 110, 5; 120, 13 – 14; 132, 22; 210, 9; 218, 8; 242, 21; 246, 7; 250, 4; 258, 4 respectively]. Cfr. also Van der Eijk (1999b), pp. 312 – 324; Nutton (2004), p. 124.

<sup>684</sup> Galen *De fac. nat.* II, 9 [II p. 140, 15 – 16 K.].

<sup>685</sup> Galen *De fac. nat.* III, 10 [II p. 178, 12 K.].

Melissus, Alcmaeon, and Heraclitus’ is « τῶν παλαιῶν φιλοσόφων »<sup>686</sup>. In this passage the works of these five Ancient philosophers are confronted to Epicurus, the founder of another post-Socratic school. Anyhow, the only firm statement that can currently be given is that in the first section two philosophical trends are mentioned and opposed: ‘the Young ones/the Moderns’ (indubitably equated to the Stoics) and ‘the Ancients’, which is — and regrettably this can only be a guess —, a collective noun for the Peripatetics.

The point in question now is whether ‘the Ancients’ in the first section of the *Anonymus* are the same as or constitute a group other than « τοῖς ἀρχαίοις τ(ῶν) φιλοσόφων » (i.e. the ancient philosophers)<sup>687</sup> in the third section. It is generally deemed that they are not, that there is no coincidence in this sense since constituting an almost identical denomination for two different groups<sup>688</sup>. The paradoxical and striking point in this respect is that according to the *Anon. Lond.* the use of the simile based on the effect of the sun on the sea is an argument typically adduced by the majority of ancient philosophers, more concretely, those who affirmed that ingested fluid has a dual nature<sup>689</sup>, but as a matter of fact such simile is attested in several passages from the Stoics<sup>690</sup>, this being contradictory to the way the Stoics are termed in the papyrus (i.e. οἱ νεώτεροι, as opposite to ‘the Ancients’). In view of this, the expression ‘the ancient philosophers’ can barely be taken or understood as referring neither to the Peripatetics nor to the Stoics. Moreover, we have seen in the fragment from Aristotle’s *Metereologica* above that Empedocles was ridiculed because, in presenting things in a metaphorical way, he could not make any effective contribution to the explanation of the phenomena. It has been demonstrated furthermore that the image in question is deeply rooted in Heraclitus’s philosophy<sup>691</sup>. Thereby, unless we admit that the scribe made a

<sup>686</sup> Galen *In Hipp. Nat. Hom. comment.* Praef. 5 [XV p. 5, 11 – 12 K.] = [CMG V 9, 1 p. 5, 10 – 12 Mewaldt]. Cfr. Jouanna (2012i), pp. 325, 327 – 328. In the *De plac. Hipp. et Plat.* I 5 (258) [V pp. 751, 9 – 752, 1 K.] by the expression ‘τῶν παλαιῶν’ Galen quotes Diocles, Hippocrates and Empedocles as the model of doctors who treat men for the love of men and not for the love of money or reputation. Jouanna (2012h), pp. 281 – 282. Along the same lines, in *In Hipp. Nat. Hom. comment.* II 6 [CMG V 9, 1 p. 70, 5 Mewaldt], by the expression ‘τῶν ἀρχαίων’ Galen refers to a long list of doctors who preceded him, i.e. Diocles, Praxagoras, Erasistratus, Pleistonius, Philotimus, Mnesitheus, Dieuches, Chrysippus, Aristogenes, Medeus, and Euryphon, in order to rebuke the argument of those who believe that there are eight vessels leading from the head down into the lower parts of the body. Cfr. Jouanna (2012i), p. 322.

<sup>687</sup> Col. XXIX, 52, perhaps also in col. XXX, 17.

<sup>688</sup> Ricciardetto (2016), p. CVII.

<sup>689</sup> Col. XXX, 16 – 19: « [Ἀλλ’ ἐκεῖ]νο ῥητέον ὅτι ἐπὶ τοῦ πρώτου ἐκκεῖ]μένου γίνονται οἱ πλείου[ς τ(ῶν) ἀρχαί]ων καὶ εἰς τοῦτο ὑποδείγματι χρῶν[ται τῇ θα]λάσῃ καὶ τῷ ἡλίῳ ». Col. XXX, 15 – 24 corresponds to *CPF* Stoici 3T, pp. 796 – 797. Cfr. *supra Comment.* on col. XXX.

<sup>690</sup> For the fragments recollecting the simile of the sea and the sun assigned to the Stoics see *SVF* I fr. 141 [von Arnim (1964a), p. 39]; *SVF* I fr. 501 [von Arnim (1964a), p. 112]; *SVF* II fr. 579 [von Arnim (1964b), p. 179]; *SVF* II fr. 593 [von Arnim (1964b), p. 183]; *SVF* II fr. 652 [von Arnim (1964b), p. 196]; *SVF* II fr. 690 [von Arnim (1964b), p. 201].

<sup>691</sup> Cfr. *supra*. § 2.

mistake or simply disclosed categories in an inaccurate way, the analysis of the facts apparently heads towards the next provisional conclusions:

1) The reaffirmation that the collective termed « τοῖς ἀρχαίοις τ(ῶν) φιλοσόφων » in col. XXIX, 52 (and perhaps also in col. XXX, 17) might not necessarily coincide with the so-called « [τ(ῶν)] ἀρχαίων » in col. II, 18.

2) Given that, apropos of the nature of urine, the scribe of the *Anonymus* does not align with the Ancients nor with the others but suspends judgement and avoids siding with either; the scribe's indetermination in this subject accounts anew for his “doctrinal independence”.

3) The expression « τοῖς ἀρχαίοις τ(ῶν) φιλοσόφων » could be then a way to make reference to those who in contemporary terminology are called ‘pre-Socratic philosophers’, i.e. physicians in the original sense of the term, that is, those ancient authorities in whose theories medical practice, physics, and speculation were still indissolubly intermingled<sup>692</sup>. More concretely, to sharpen our hypothesis a little, since the metaphor based on the sun and the sea is attributed indistinctly to both, the expression could refer either to Heraclitus or to Empedocles.

#### 4. *The Issue's Further Fortune; Galen on the Formation of Urine*

As has been pointed out, another possible answer to the origin and the formation of urine was provided by Galen a couple of generations after the writing in the *Londiniensis*. The physician of Pergamon treated in detail this subject in his work *On the Natural Faculties*. According to Galen, the separation of the blood from the urine takes place in the kidneys, and this is not by means of any filtering in the kidneys but by a proper faculty in the organism. Apart from Erasistratus and Asclepiades, Galen particularly criticises the opinion advanced by Lycos of Macedonia to whom urine was the superfluity of nutriment in the kidneys. Galen is manifestly reluctant to admit such a position<sup>693</sup>, and he argues that most of the liquid we ingest — prescinding from what is excreted with the dejections, the sweat, and the invisible transpiration (perspiration) — is expelled in the form of urine<sup>694</sup>. Leaving out of consideration the fact that Galen introduces the primordial role of

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<sup>692</sup> Cfr. supra ch. II § 2.

<sup>693</sup> Galen *De fac. nat.* I 17 [II pp. 70, 4 – 71, 16 K.].

<sup>694</sup> Grmek (1997), p. 111.

the kidneys in the process, in considering his remarks and objections it looks as if Galen's view concerning this particular question is closer to Aristotle and to the theory that in the *Anonymus* is ascribed to 'the Ancients'.

In the same Galenic treatise<sup>695</sup> we find the thorough narration of a vivisection in order to demonstrate the role played by the bladder and the ureters in the origin and formation of urine. The text is as follows:

« διελεῖν χρῆ τὸ πρὸ τῶν οὐρητῆρων περιτόναιον, εἶτα βρόχοις αὐτοὺς ἐκλαβεῖν κάπειτ' ἐπιδήσαντας εἶσαι τὸ ζῶον· οὐ γὰρ ἂν οὐρήσειεν ἔτι. μετὰ δὲ ταῦτα λύειν μὲν τοὺς ἔξωθεν δεσμούς, δεικνύουσι δὲ κενὴν μὲν τὴν κύστιν, μεστοὺς δ' ἰκανῶς καὶ διατεταμένους τοὺς οὐρητῆρας καὶ κινδυνεύοντας ῥαγῆναι κάπειτα τοὺς βρόχους αὐτῶν ἀφελόντας ἐναργῶς ὁρᾶν ἤδη πληρουμένην οὕρου τὴν κύστιν. ἐπὶ δὲ τούτῳ ἢ φανέντι, πρὶν οὐρῆσαι τὸ ζῶον, βρόχον αὐτοῦ περιβαλεῖν χρῆ τῷ αἰδοίῳ κάπειτα θλίβειν πανταχόθεν τὴν κύστιν. οὐδὲ γὰρ ἂν οὐδὲν ἔτι διὰ τῶν οὐρητῆρων ἐπανεέλθοι [ποτὲ] πρὸς τοὺς νεφρούς. κὰν τούτῳ δῆλον γίγνεται τὸ μὴ μόνον ἐπὶ τεθνεῶτος ἀλλὰ καὶ περιόντος ἔτι τοῦ ζῶου κωλύεσθαι μεταλαμβάνειν αὔθις ἐκ τῆς κύστεως τοὺς οὐρητῆρας τὸ οὔρον. ἐπὶ τούτοις ὀφθεῖσιν ἐπιτρέπειν ἤδη τὸ ζῶον οὐρεῖν λύοντας αὐτοῦ τὸν ἐπὶ τῷ αἰδοίῳ βρόχον, εἴτ' αὔθις ἐπιβαλεῖν μὲν θατέρῳ τῶν οὐρητῆρων, εἶσαι δὲ τὸν ἕτερον εἰς τὴν κύστιν συρρεῖν καὶ τινα διαλιπόντας χρόνον ἐπιδεικνύειν ἤδη, πῶς ὁ μὲν ἕτερος αὐτῶν ὁ δεδεμένος μεστός καὶ διατεταμένος κατὰ τὰ πρὸς τῶν νεφρῶν μέρη φαίνεται, ὁ δ' ἕτερος ὁ λελυμένος αὐτὸς μὲν χαλαρός ἐστι, πεπλήρωκε δ' οὔρου τὴν κύστιν. εἴτ' αὔθις διατεμεῖν πρῶτον μὲν τὸν πλήρη καὶ δεῖξαι, πῶς ἐξακοντίζεται τὸ οὔρον ἐξ αὐτοῦ, καθάπερ ἐν ταῖς φλεβοτομίαις τὸ αἷμα, ».

( « One has to divide the peritoneum in front of the ureters, then secure these with ligatures, and next, having bandaged up the animal, let him go (for he will not continue to urinate). After this one loosens the external bandages and shows the bladder empty and the ureters quite full and distended — in fact almost on the point of rupturing; on removing the ligature from them, one then plainly sees the bladder becoming filled with urine. When this has been made quite clear, then, before the animal urinates, one has to tie a ligature round his penis and then to squeeze the bladder all over; still nothing goes back through the ureters to the kidneys. Here, then, it becomes obvious that not only in a dead animal, but in which is still living, the ureters are prevented from receiving back the urine from the bladder. These observations having been made, now one loosens the ligature from the animal's penis and allows him to urinate, then again ligatures one of the ureters and leaves the other to discharge into the bladder. Allowing, then, some time to elapse, one now demonstrates that the ureter which was ligatured is obviously full and distended on the side next to the kidneys, while the other one — that from which the ligature had been taken — is itself flaccid, but has filled the bladder with urine. Then, again, one must divide the full ureter, and demonstrate how the urine spurts out of it, like blood in the operation of venesection (...) » )<sup>696</sup>.

<sup>695</sup> Galen *De fac. nat.* I 13 [II pp. 36, 11 – 37, 17 K.]. Grmek (1997), p. 167.

<sup>696</sup> Trans. Brock (1952), pp. 59 – 61.

## 5. Conclusions

To sum up, we saw in the first place that structural analysis revealed surprising coincidences between a passage in Aristotle's *Metereologica* and the simile based on the sun and the sea in *Anonymus* cols. XXIX, 50 – XXX, 40. Albeit we cannot be certain of a straightforward textual dependance between the Aristotelian text and the papyrus, the account in the *Anonymus* could well have been written under the influence of the *Metereologica*.

The study also revealed that the same metaphor was used to explain two different but connected physiological processes, both involving digestion: while Aristotle used the metaphor of the sun and the sea to bolster his theory of the natural causation of sleep and waking<sup>697</sup>, it was utilised by the scribe of the *Londiniensis* to expound the opinion held by the majority of the “ancient philosophers” about the way they envisaged the nature of urine. Afterwards, we have shown how the matter was later handled by Galen.

Lastly, after having compared and contrasted some feasible referents to the expression ‘the Ancients’ in the first and third sections of *Anon. Lond.* alongside its corresponding occurrences in *Metereologica* and the *On Sleep and Waking*, we showed that the denomination « τοῖς ἀρχαίοις τ(ῶν) φιλοσόφων » in the third section could be a way to designate a group other than the Peripatetics; the pre-Socratic philosophers in general, and Empedocles and his heirs in particular.

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<sup>697</sup> Aristotle *Somn. Vig.* III 458a 21 – 25.

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