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Fragments of a Medical Treatise on a Greek Papyrus Roll Dated to the Mid-3rd c. BC: P.IFAO grec inv. 520

Abstract: Preliminary presentation of a papyrus dated to the mid-III century BC, and kept at the French Institute for Oriental Archaeology in Cairo (P.IFAO grec inv. 520). A brief description of its material characteristics is followed by a study of its provenance and content, which is medical, and probably nosological. In appendix it is offered the first edition of the best preserved fragments (frr. 1A–B sup. + fr. 1C + fr. 3, col. II), with translation and critical notes.

Keywords: Greek medical papyrus, ancient Greek medicine, nosology, Hellenistic Egypt, *cartonnage*.

Preserved at the Institut Français d'Archéologie Orientale (IFAO) in Cairo, P.IFAO grec inv. 520 (MP³ 2357.101) probably contains one of the earliest Greek medical texts attested to date on papyrus (Figs. 58 and 59).¹ After examining its material characteristics — number of fragments, state of preservation, form, writing, and layout — which make it possible to propose a dating, the present paper describes its content and offers a first partial edition (frr. 1A–B sup. + fr. 1C + fr. 3), based on an autoptic examination of the papyrus during several missions in Cairo.²

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¹ In the text and the notes, the abbreviation MP³ (Mertens-Pack³) refers to MP³ entries in the *Catalogue des papyrus littéraires grecs et latins*, regularly updated and freely available on the website of the Centre de Documentation de Papyrologie Littéraire (CEDOPAL) of the University of Liège: <https://www.cedopal.uliege.be> > MP³ database (last visit June 2024). The abbreviations used in this contribution to designate the papyrological editions are those of the *Checklist of Greek, Latin, Demotic and Coptic Papyri, Ostraca and Tablets* (<http://papyri.info/docs/checklist>, last visit March 2024).

² The papyrus was examined autoptically by N. Carlig in March 2017, as part of an IFAO post-doctoral fellowship, and by A. Ricciardetto and N. Carlig in January 2018, and then by A. Ricciardetto in January 2020 and February 2022, as part of the “Action spécifique” (now “Programme”) 17439 “Papyrus grecs”. A first presentation of the papyrus, aimed at a wide audience, also appeared in Carlig/Ricciardetto 2020.

1 Description

P.IFAO grec inv. 520 comprises 27 fragments from a papyrus roll.³ According to their size, state of conservation, and content, they can be grouped into four categories. The first includes fr. 1–4, which are the most extensive and preserve sufficient portions of text to permit an attempt to identify their content. The second includes the smaller fr. 5–14, with the remains of a few lines of writing. The third group includes fr. 15–21 and 27, where only a few letters can be deciphered. Finally, the last group contains fr. 22–26, which are blank and most probably correspond to portions of the margins or intercolumns.

The roll was reused in a mummy *cartonnage*, as shown by the traces of white or pale yellow gypsum visible on fr. 3–7, 13, and 21–25, and the superposition of compressed papyrus layers (up to four), sometimes arranged in different directions, in fr. 1, 2, and possibly 3, 7, 9, 12–14, 16, 18, 19, 21, and 23. To date, ten medical papyri have been recovered from *cartonnages*, including *P.ÄkNo* 1 (MP³ 2357.16), published by I. Andorlini and R.W. Daniel in 2016.⁴ Of unknown provenance, and dated to the end of the 3rd or the first half of the 2nd c., it contains the remains of six columns of a treatise on diagnostics-therapeutics, probably from the Herophilean school of Alexandria, which shows affinities with the *Corpus Hippocraticum*.⁵

An examination of fr. 1 (12.9 × 12.7 cm), which consists of four joined pieces (fr. 1A, 1B, 1C, and fr. 3), is particularly revealing of the damage suffered by the roll when it was reused as *cartonnage*. It consists of two superimposed layers of papyrus that on the upper layer — what we would call the ‘*sovrapposto*’ (fr. 1A–B sup. + fr. 1C + fr. 3, edited here in the Appendix) — preserve the endings of the lines of one column and the first 23 lines of the next, while the lower layer, the ‘*sottoposto*’ (fr. 1A–B inf.), preserves the meagre remains of a column. In addition, turned 90° to the left (*transversa charta*), a fragment of the same roll (fr. 1A tr. ch.) was pasted

³ P.IFAO grec inv. 520 also includes a series of fragments of minute size that have not been catalogued, because they are unusable.

⁴ Andorlini/Daniel 2016. The papyrus was first presented by Andorlini 2014.

⁵ The nine other medical papyri that have been extracted from *cartonnages* are: *P.Schoyen* inv. MS 2634/3 + *P.Princ.* inv. AM 15960A (Hipp., *Epidemics* II, 6.7–22, MP³ 537.1, Fayum, 1st c. BC); *P.Bingen* 1 (another version of or commentary on Hipp., *De diaeta*, 2.49, MP³ 539.21, Tebtunis, end of the 3rd BC); *P.Grenf.* II 7b + *P.Ryl.* I 39 + *P.Heid.* inv. G 401 + *P.Hib.* II 190 (treatise on ophthalmology, MP³ 2343.1, Hibeh, 3rd c. BC); *P.Hib.* II 191 (prescriptions for women’s diseases, MP³ 2348, Hibeh, ca. 260/230 BC); *P.Hamb.* II 140 (medical treatise?, MP³ 2357, unknown prov., ca. 200 BC); *P.Köln* IX 358 (fragment on bones, MP³ 2357.15, unknown prov., late 1st c. BC); *P.ÄkNo* 2 (medical fragment, MP³ 2357.161, unknown prov., 1st half of the 2nd c. BC); *P.Köln* VIII 327 (treatise on fevers, MP³ 2380.01, unknown prov., early 2nd c. BC); *P.Hib.* II 192 (medical prescriptions, MP³ 2399, Hibeh, ca. 270/250 BC).

along the upper half of the left-hand edge of fr. 1A. It contains the remains of 10 lines of writing. The thinness of the papyrus and its extreme fragility make it impossible to detach the superimposed layers and pasted fragments. Like other fragments (fr. 10, 15, 18, and 20), fr. 1 + 3 show folds, and thus compression and disruption of the fibres in many places.

In the surviving fragments, only one hand is visible. The analysis of the writing allows us to date it to the middle of the 3rd c. BC. This is an upright majuscule with a slight contrast between narrow oval letters (*epsilon*, *theta*, *omicron*, and *sigma*) and rather angular broad letters (*eta*, *mu*, *pi*, and *omega*). The bilinearity is violated upwards and downwards by *kappa*, *phi*, and *psi*, and only downwards by *beta*, *iota*, *rho*, *tau*, and *upsilon*. There are discreet *apices* at the left end of the horizontal strokes of *tau* and *upsilon*, as well as, less systematically, at the upper end of the right vertical stroke of *eta*. The *alpha* ductus varies between a three-stroke ductus with a horizontal central line and a two-strokes ductus where the belly is angular and oriented downwards. The vertical strokes of *eta* are slightly curved. The oblique strokes of *kappa* are short, which contrasts with the height of the vertical stroke. The letter *mu* has an angular central element, and the *omicron* is smaller in module and slightly raised compared to the other letters. The right-hand vertical stroke of *pi* is curved. Finally, *omega* has a central element that is slightly more developed than the outer curves, reflecting the ongoing evolution from epigraphic *omega* (Ω) to common *omega* (ω). This writing is similar to that of several Greek literary papyri of the mid-3rd c. BC,⁶ especially *BKT V.2*, pp. 79–84 (Euripides, *Phaeton*; Hermopolis; MP³ 444)⁷ and *P.Grenf. II 8* (= *P.Lond.Lit.* 49) + *P.Bad.* VI 178 (Timotheus; El-Hibeh; MP³ 1538).⁸ The copyist used two signs to structure the text. The high dot (*ano* or *teleia stigme*), which probably appears in fr. 8, marks a strong pause between two units of meaning (such as paragraphs). This kind of dot is the only one attested in Ptolemaic medical papyri; it also appears only once, or twice, in the aforementioned *P.ÄkNo* 1.⁹ The *paragraphos* appears five times, in the second column of fr. 1A–B–C, and perhaps once on fr. 20. It helps to structure the text into different sections. We do not know whether it was associated with a *vacat* in the line preceding the insertion of the sign. Attested in almost all Ptolemaic medical texts (16 papyri), it takes the form of a short horizontal (sometimes slightly oblique) line, inserted in the interline, under the initial letters and projecting into the left-hand margin. In the Ptolemaic period, this sign, which sometimes ends in an *apex*

6 Cavallo/Maehler 2008, 44 (10–15) and 48–49 (16–19).

7 Palaeographical description and plate in Cavallo/Maehler 2008, 46–47 (no. 17).

8 Palaeographical description and plate in Cavallo/Maehler 2008, 42–43 (no. 12).

9 Ricciardetto 2019, 130, and 2022, 15–16.

on the left, measures around 3 to 5 mm. Used alone or in combination with other devices, it structures the text. It marks a slight pause, such as the end of a sentence or section, and corresponds to our comma, sometimes to our period or semicolon. In medical papyri, it separates medical prescriptions or sections of treatises.¹⁰

The surviving fragments show no corrections or other interventions, apart from an interlinear addition in fr. 5 by the same hand. There is at least one phonetic error (which has not been corrected) in fr. 1A–B sup. + 1C + 3, l. 5.¹¹

Although a reliable bibliological study and reconstruction of the roll does not seem possible at this stage of the research, given the state of preservation of the fragments and the lack of textual parallels, some of its characteristics can nevertheless be noted. The letters are between 2 and 3 mm high and the interline is always 3 mm. The upper margin preserved in fr. 1 is 25 mm high. The intercolumn, visible in fr. 1 and 3, is 10 to 15 mm wide.

2 Provenance

With regard to the provenance of the fragments, a handwritten note on a yellowed paper slip kept in the box containing P.IFAO grec inv. 520 states: “Edfou (partage de fouilles)”. This town in Upper Egypt, called Apollonopolis Magna by the Greeks, is located 75 km south of Luxor; it is best known for the temple of Horus which was built there starting in 237 BC, and which is still almost intact, making it one of the best-preserved monuments in all of antiquity.¹² The site was the subject of French

¹⁰ Ricciardetto 2019, 126–127.

¹¹ See *infra*, p. 329.

¹² On Edfu, see the *Dizionario dei nomi geografici e topografici dell'Egitto greco-romano*, edited by A. Calderini, and continued by S. Daris, I², 151 (3); 157; 157–159 (1); 160 (4); 161 (1); 161–169 (1); 440; *Suppl.* 1, 48–49 (1 and 4) and 49–50 (1); *Suppl.* 2, 23 (1); *Suppl.* 3, 19 (1); *Suppl.* 4, 18 (1); *Suppl.* 5, 17 (1) and 23; see also Timm 1985; Verreth 2013, 91 (“Apollonopolis”); Bagnall/Rathbone 2017, 240–245. The conference “Tell-Edfou, soixante ans après”, which commemorated the Franco-Polish excavations conducted between 1937 and 1939, focused on the archaeological aspects of the site (*Proceedings* published in 1999: *Tell-Edfou, soixante ans après. Actes du colloque franco-polonais, Le Caire, 15 octobre 1996*, Le Caire = Fouilles franco-polonaises. Rapports, 4), while the conference held in Brussels on 3 September 2001, which resulted in the volume *Edfu, an Egyptian Provincial Capital in the Ptolemaic Period* (Brussels, 2003), focused more on the written documentation. As for the round table “Pratiques documentaires à Edfou au VIIe siècle”, which took place at the IFAO from 2 to 4 November 2019, it was mainly devoted to the end of the Byzantine period and the first decades after the Arab conquest.

scientific excavations from 1914 to 1933 (with interruptions),¹³ then French-Polish excavations from 1937 to 1939.¹⁴ After that, with the exception of a prospecting campaign by the University of Cambridge in 1976, excavations were not resumed until 2001, under the direction of Nadine Moeller and Grégory Marouard, as part of the “Tell Edfu Project” of the Oriental Institute of the University of Chicago.¹⁵

However, provenance information should be treated with the utmost caution. Indeed, our papyrus was extracted from a mummy’s *cartonnage*; however, not only do no other papyri found in Edfu, be they literary texts or documents, have this characteristic, but no burial from the long period between the New Kingdom (1550–1069 BC) and the Arab-Muslim conquest (AD 641/642) has yet been discovered at this site.

Moreover, although the Greek papyri discovered before the Franco-Polish excavations were transferred to the Institut Français d’Archéologie Orientale in Cairo, where they are kept today,¹⁶ none of the published reports of the French missions mention the discovery of one or more literary papyri at Edfu.¹⁷ Moreover, the

13 The following reports have been published on the French excavations: Henne 1924; Henne 1925; Guéraud 1929; Alliot 1933; Alliot 1935. It is well established, however, that the site of Edfu had long been known to the *sebakhin*, i.e. local peasants who took *sebakh* (fertilizer for the fields, made from decomposed bricks, straw, and rubbish of all kinds, including many papyri), where they were able to discover treasures that they sold on the antiquities market: Henne 1924, 1.

14 Bruyère *et alii* 1937 and 1938; Michałowski *et al.* 1950.

15 On these excavations, see <https://www.uchicagoarchaeology.com/tell-edfu> (last visit 21/12/2023).

16 In his report, Manteuffel 1937, 176, stated that these papyri had not yet been deciphered.

17 It is true that political circumstances did not allow the publication of the results of the excavations of the 1914 mission: Henne 1924, 1; see also Gascou 1999, 14. Nevertheless, if we are to believe H. Henne, the excavations did not lead to the discovery of any papyri: “Les fouilles de 1914, outre des antiquités (ostraka, vaisselle, lampes, objets de terre cuite, bois, métal, cuir), avaient mis au jour, dans la partie sud-ouest du *tell*, quelques maisons coptes ou byzantines. Au sud du temple, des sondages entrepris aux flancs de la colline mentionnée ci-dessous avaient dégagé une maison d’époque romaine (?) avec fragments de peinture murale (tels sont les renseignements qui m’ont été obligeamment fournis par MM. Lacau et Collomp).” The first purpose of the 1914 excavations, and those that followed, as Henne points out, was to search for Greek papyri. The French scholar concludes (Henne 1924, 31): “Pour la couche gréco-romaine, nous ne savons encore ce qu’elle nous réserve, ni surtout si elle nous réserve des papyrus. Il faut remarquer, en effet, — si nous songeons à nouveau au but premier de cette campagne —, que nulle part nous n’avons trouvé de papyrus bien conservés, à moins qu’une enveloppe protectrice (terre cuite, ou cuir) n’ait sauvé ce dernier de la morsure du *sebakh*. Il n’y a là rien d’étonnant. Et nulle part nous n’avons relevé l’existence de ces couches d’*ajsh*, si précieuses pour la préservation du papyrus.” As for the Franco-Polish excavations, they only uncovered a limited number of papyri. Indeed, by the end of three campaigns, only four Ptolemaic papyri had been unearthed, all of them documents (a contract, letters, and a draft petition), along with some fragments of Greek papyri, almost all of them charred. In addition to this documentation, there are a few tablets and, above all, an impressive number of Demotic, Greek, and even Latin and Aramaic ostraca. Depauw 1999, 38–39, gives a general assessment of the

Ptolemaic period at Edfu is documented only by a small number of papyrological testimonies, the earliest of which, in Greek, date back to the end of the 3rd c. BC. Finally, literary papyri from Edfu are rare in all periods. Apart from eleven ostraca, mainly school exercises, dating from the years between the Ptolemaic and the Byzantine periods,¹⁸ only three Greek literary papyri are known to have come from this site. Stored in Jena,¹⁹ they date from the Roman period and contain a fragment of Euripides' *Bacchae* (2nd c. AD) with an unpublished text of indeterminate prose on the other side,²⁰ a list of books (early 3rd c. AD),²¹ and fragments of a roll from the 3rd c. AD with Book V of Irenaeus of Lyon's *Against the Heresies* on the one side and, on the other, in addition to other columns of the Irenaeus work, a mythological text relating to the myth of Horus, which is not surprising given the very ancient worship of this god at Edfu.²²

3 Content

Identifying the content of P.IFAO grec inv. 520, which is unfortunately very incomplete, is no easy task. According to a handwritten note on a piece of paper placed in the box containing the papyrus, it may preserve the remains of a drama or a dialogue. This hypothesis could be supported by the presence of several *paragraphoi* in a short part of the text (frr. 1A–B sup. + fr. 1C + fr. 3, see the edition *infra*, pp. 328–331), since

documentary material found at Edfu and the neighboring site of Elkab, limiting himself to the discoveries made during the Franco-Polish excavations of 1937–1939.

18 *O.Edfou* III 326, lyrical hymn to Helios-Horus (or to one of the Ptolemies?), sung by a choir of schoolchildren? (2nd/1st c. BC; MP³ 1934); *O.Edfou* II 305, beginning of a student's theme, pronunciation exercise, or riddle? (Ptolemaic period; MP³ 2681); *O.Edfou* III 327, school exercise? (Ptolemaic period; MP³ 2684); *O.Edfou* II 308, apostrophe to the Erinyes (1st c.; MP³ 2683); *O.Edfou* II 307, syllabification exercise (1st c.; MP³ 2682.2); *O.Edfou* II 306, letter of Semiramis to Ninus (school composition?) (late 1st/early 2nd c.; MP³ 2647); *O.Edfou* I 228, school exercise? (syllabary?) (Byzantine period; MP³ 2679.3); *O.Edfou* I 227, (school?) writing exercise (7th c.?: MP³ 2679.2); *O.Edfou* IFAO 11, writing exercise (mid-7th c.; MP³ 2684.001); *O.Edfou* IFAO 17, Greek alphabet (mid-7th c.; MP³ 2684.002); *O.Edfou* I 229, school exercise? (date unknown, MP³ 2680).

19 On the provenance of these papyri, acquired in 1911 on behalf of the *Deutsches Papyrskartell*, see Uebel 1970, 492. The papyrological collection in Jena includes 213 papyri from Edfu, most of which are unpublished Byzantine pieces, although there are also a few Ptolemaic items (all of them documentary) and Roman ones. Other documents from this site were acquired on the antiquities market and are now kept in Halle, Copenhagen, or Strasbourg: Depauw 1999, 39.

20 P.Jena inv. 266 (for one side, MP³ 384.2; for the back, MP³ 2845.1).

21 P.Turner 39 (P.Jena inv. 267 = MP³ 2090.1).

22 P.Jena inv. 18 + 21 (MP³ 2482 and 9445). On this papyrus, see recently Carlig 2019, 367–368.

one of its functions is to indicate a change of speaker in dramatic texts and dialogues.²³ However, an examination of the vocabulary used suggests that we may be dealing with a medical text, probably the remains of a treatise on nosology.²⁴ This makes P.IFAO grec inv. 520 one of the earliest preserved Greek medical papyri known to date; not only that, but if it does indeed come from Edfu, it would be the first Greek medical papyrus found at this site. What also makes the papyrus exceptional, in addition to its dating, provenance, and content, is that it represents an addition to the relatively small number of Greek medical papyri from the Ptolemaic era: out of the 332 Greek medical papyri known and published to date,²⁵ only 31 papyri (i.e. less than 10%) can be assigned to this period, including 12 dated more specifically to the 3rd c. BC,²⁶ compared to more than 200 papyri (about two-thirds of the total number of papyri) for the Roman period and one hundred (about 30%) for the Byzantine one.

Frr. 1A–B sup. + fr. 1C + fr. 3 contain the remains of two columns. Nothing can be deduced from the first (except that it must have contained at least 22 lines), while the maximum preserved width of the second column, which is edited in appendix to this paper (see pp. 328–331), is 5.3 cm. Since the average width of the columns in the Ptolemaic rolls generally varies between 7 and 8 cm, it can be assumed that for the best-preserved lines, the two-thirds of the width of the second column probably remains.²⁷ Where it is possible to estimate it, the number of letters varies around

²³ Turner/Parsons 1987, 8.

²⁴ We also have another fragment of a treatise on nosology-therapeutics, on the subject of diseases of the spleen and kidneys, namely *P.Köln IX 356* (unknown prov.), but it is much later, since it dates back to the 2nd c. AD.

²⁵ The Mertens-Pack³ database actually records more than 350 Greek papyri for the subgenre “Medicine and Surgery”, of which about twenty are still unpublished.

²⁶ The Greek medical papyri of the 3rd c. BC known and published to date are the following: *P.Bingen 1* (another version of or commentary on Hippocrates, *De diaeta*, 2.49; Tebtunis; end of the 3rd c.; MP³ 539.21); *P.Grenf. II 7b + P.Ryl. I 39 + P.Heid. inv. G 401 + P.Hib. II 190* (treatise on ophthalmology; El-Hibeh; 1st half of the 3rd c.; MP³ 2343.1); *P.Hib. II 191* (prescriptions for women’s diseases; El-Hibeh; ca. 260/230; MP³ 2348); *P.Fay.Coles 3* (medical fragment?; Bakchias; late 3rd/early 2nd c.; MP³ 2356.2); *P.Hamb. II 140* (medical treatise?; unknown prov.; ca. 200; MP³ 2357); *P.ÄkNo 1* (medical treatise; unknown prov.; ca. 220/150; MP³ 2357.16); *P.Yale II 123* (medical treatise; unknown prov.; 3rd c.; MP³ 2369.01); *P.Athen.Univ. inv. 2780 + 2781* (medical prescriptions; Arsinoites; end of the 3rd c.; MP³ 2391.6); *P.Eleph. Wagner 4 = GMP II, 11* (medical prescription; Elephantine; end of the 3rd c.; MP³ 2394.04); *P.Hib. II 192* (medical prescriptions; El-Hibeh; ca. 270/250; MP³ 2399); *P.Mich. inv. 3243* (list of pharmaceuticals or recipe; unknown prov.; 1st half of the 3rd c.; MP³ 2407.3); *P.Ryl. III 531* (medical prescriptions; unknown prov.; 3rd/2nd c.; MP³ 2418). Six of them have already been mentioned above, n. 5.

²⁷ Del Corso 2022, 133: “La larghezza della colonna (includendo lo spazio intercolumnare) è compresa di solito tra i 7 e gli 8 cm, mai di più e raramente di meno”.

21/22 letters per line. Unfortunately, only a few letters of fr. 3 remain. The second column contained at least 23 lines of writing.

Leaving aside l. 1 of which only few letters remain, a **first section** (ll. 2–7) begins with a possible subordinate clause with ὅταν (perhaps followed by δέ) + subj. γένηται (vel ἐπι|γένηται) “when... happens”, then the focus turns to the “vessels in the breast region (θώραξ)”.²⁸ This sentence is followed by a word which is only partially preserved, probably the 3rd p. sg. of the pres. ind. of vb. συμφείρω, “destroy together or altogether”, and, in a passive sense, “perish together or along with; melt or die away into each other”, or, assuming an iotacism, συμφθίνω, “decay along with”. In neither case are we dealing with a medical term. The first verb is scarcely attested in the Classical period: anyway, it is used in active form in Eur., *Andr.* 947–948: ἡ μὲν τι κερδαίνουσα συμφείρει λέχος, | ἡ δ’ ἀμπλακοῦσα συννοεῖν αὐτῇ θέλει, “One woman *corrupts* a friend’s marriage with an eye to gain, while another who has slipped from virtue wants company in her vice”. It should be noted that vb. συννοεῖω is also attested in our fragment (see l. 10 of the text). The verb συμφείρω becomes more common in philosophical prose, since the 4th c. BC, and especially in the *Corpus Aristotelicum* (e.g. *Top.*, 150a34). In medicine, it is used in a passive sense (to designate the “union” of the skin of the lips with the muscles) in Gal., *De usu partium*, 10.15 (= K. 3.746.5; cf. 11.15 = K. 3.912.12). The second verb is even rarer, but perhaps more appropriate to the context: cf. Arist., *G. A.*, 745a16, συμφθίνει γὰρ τῷ σώματι καὶ τοῖς μέρεσιν, “they (sc. bones) perish at the same time as the body and its parts”; Theophr., *H. P.*, 1.7.2, συμφθίνουσι γὰρ καὶ αἱ ρίζαι τῷ ἅλλῳ σώματι, “The roots (sc. of the fig tree) perish along with the rest of the plant’s body”; also Aelian, *N. A.*, 12.13, καὶ οὖν καὶ τὸ ἥπαρ αὐτοῦ συναύξεται τῇ θεῷ ἢ συμφθίνει, καὶ πῇ εὐτραφέας ἐστὶ, πῇ δὲ λεπτότερον, “It is also noteworthy that his (sc. of the Egyptian fish φῦσα) liver increases or decreases with the star of the goddess (sc. the Moon), and that it is now fatter, now, on the contrary, thinner.” In the papyrus, considering the lines for which it is possible to estimate the average number of letters, we can propose an integration [c]υμφθ[ίνε]ι, whose subject should be the “vessels”.

The reason for this decay should be “consumption” (5: διὰ τὴν [l. τήν] φθογην, “because of consumption”); these words are followed by another vb. form, ὑποτετ[], certainly from ὑποτάττω, probably in reference to vessels (or, less likely, to consumption), and, in l. 6, after a dozen letters of which almost nothing remains, by the

²⁸ In this part of the body there are many small vessels: *Diseases II*, 6.3 (Jouanna CUF, p. 137 = p. 178 Potter), πάσχει δὲ ταῦτα ὅταν αὐτῷ μέλαινα χολὴ ἐν τῇ κεφαλῇ κινηθεῖσα ῥυῇ καὶ μάλιστα καθ’ ὃ τὰ πλεῖστα ἐν τῷ τραχήλῳ ἐστὶ φλέβια καὶ τοῖσι στήθεσι, “He suffers these things when dark bile is set in motion in his head, and flows mainly to where most of the vessels in the neck and chest are” (transl. P. Potter).

expression “on the skin / on the (cutaneous) surface” (6–7: *περὶ τὴν ἐπιφ[ά] | νειαν*: cutaneous manifestations). It seems that in these lines are described the symptoms of a disease.

The reference to *φθόη* is remarkable. To date, this is the first and only papyrological attestation of this noun. Like *φθίσις*, which has the same root, of which they represent two different degrees, *φθόη* indicates consumption; the two terms are etymologically related to the verb *φθίνω*, “to be consumed, to perish, to come to an end”.²⁹ The word *φθίσις* and related terms have a more general meaning than their derivatives in modern scientific language; indeed, in ancient texts, *φθίσις* applies “to any kind of extinction, to any diminution of an object that will end in its disappearance”; it therefore also refers, for example, to the setting of the sun or to the atrophy of an organ.³⁰ But *φθίσις* and related terms also appear very early on in a restricted, nosological sense, being used to describe symptoms of what we would now call pulmonary tuberculosis.³¹

The earliest surviving attestations of *φθόη* date from the 5th c. BC, in *Diseases II*, 49 (pp. 185–186 Jouanna CUF = p. 248 Potter), one of the oldest nosological treatises of the *Corpus Hippocraticum*. It appears in a chapter entitled “another consumption” (*ἄλλη φθόη*), which follows another chapter relating to a different kind of consumption (c. 48 *ὅταν πλευμῆ*, “when there is a disease of the lung”):

Another consumption: there is coughing, the sputum is copious and moist, and sometimes the patient without difficulty coughs up pus that resembles hail stones which, on being rubbed between the fingers, are hard and evil-smelling. The voice is clear, the patient is free of pain, and there are no fevers, although sometimes fever heat; the patient is especially weak. You must make this patient drink hellebore and a decoction of lentils, and feed him as well as possible, while avoiding sharp vegetables, beef, pork, and mutton; have him do a few exercises, take walks, vomit after meals, and refrain from venery. This disease lasts for seven or nine years; if the patient is treated from the beginning, he recovers. (Transl. P. Potter.)

Chapters 48 and 49 deal with two different types of pulmonary disease.³² The first (c. 48) is clinically identical, with some differences in detail, to the first of the three *phthiseis* described in c. 10 of *Internal Affections* (7.186.26–192.5 L. = pp. 92–94 Potter).

²⁹ Chantraine, *DELG*, s.v. *φθίνω*.

³⁰ Grmek 1983, 270.

³¹ On *φθίσις*, see Pagel 1927; Baumann 1930; Meinecke 1927; Coury 1972 and Grmek 1983, 269–282.

³² Chapters 50–52 concern other types of pulmonary diseases (called *phthisis*). In his *Vocum Hippocratis Glossarium*, π 39 (p. 248.39 Perilli), Galen mentions a kind of pulmonary *phthisis* called *πλεῦμος* (which he defines as *φθόη ἢ τὸ πλευμῶδες πάθος*, “consumption or the lung disease”). This reference to the *Corpus Hippocraticum* has not yet been identified with certainty, but it may be to *Diseases II*, c. 52 (see p. 189 Jouanna, CUF and note *ad loc.*, pp. 259–260).

The “other consumption” is a disease of long duration, but which can be cured if the patient is treated from the outset. In spite of considerable divergences in the presentation of symptoms, it corresponds to the third phthisis listed in *Internal Affections* (7.192.19–198.24 L. = pp. 96–102 Potter).³³ As in the previous case, φθόη refers to the clinical description of a pulmonary disease with internal pyogenic ulcers.³⁴

The other attestation of φθόη in the *Corpus Hippocraticum* is found in *Diseases I*, 3, at the head of a list of diseases whose duration is inevitably long (μακρά) — this is in agreement with what is also said in *Diseases II* — while φθίσις, which is also attested in the same chapter, is found at the head of a list of diseases which, when they occur, inevitably lead to death.³⁵ Furthermore, it should be noted that φθόη is a *varia lectio* for φθορή in two contiguous aphorisms (7.79 and 80 = 4.604.8–10 L. and II, p. 475 Madgelaine, ined. PhD, Paris, 1994).³⁶

An examination of the unqualified attestations of φθίσις and φθινώδης in the *Corpus Hippocraticum* had led M.D. Grmek to highlight a double use of these terms: on the one hand, in the broad sense of “consumptive disease” and, on the other, in a narrower and more precise sense, to indicate an intrapulmonary or intrathoracic ulceration. In *Diseases II*, it is difficult to determine the exact meaning of φθόη, especially in relation to πλευμᾶ used in the previous chapter, or to φθίσις attested in

33 Hipp., *Internal Affections*, 12 (7.192.19–194.13 L. = pp. 96–98 Potter): “Another consumption (*phthisis*): from this one the person suffers the following (his spinal marrow becomes filled with blood; or also he may be consumed because the hollow vessels fill with dropsical phlegm and with bile; patients suffer the same symptoms no matter which of these two is the origin of their consumption): he immediately becomes dark and somewhat swollen, the parts of his face below the eyes are pale-yellow, and the vessels through his body are pale-yellow and stretched, or some are very red; especially conspicuous are the ones in the axillae. The patient expectorates pale-yellow sputum, and when an attack occurs he chokes and sometimes cannot cough even though he wants to. Sometimes, because of his choking and eagerness to cough, he all at once vomits bile, then scum, and often even food when he has eaten; after he has vomited, his condition seems to be better; but then after a short time he is again subject to the same distress as before. The patient’s voice is shriller than when he was well, and intermittent chills and fever accompanied by sweating occur. When the case is such, treat this patient with foods, gruels, drinks, medications, and all the other things that you gave to the preceding one. Generally the disease continues for nine years, and then, being wasted away, the patient dies. Few escape, for the disease is severe” (transl. P. Potter). See also Bourgey 1953, 149–156.

34 Jouanna 1983, 254: “*phthisis* as a result of ulceration of the lung?”.

35 Hipp., *Diseases I*, 3 (6.144.4–5 and 17 L. = pp. 8–10 Wittern and 92–94 Potter): Τῶν δὲ νοσημάτων τὰ τοιάδε ἔχει ἀνάγκας ὥστε ὑπ’ αὐτῶν ἀπόλλυσθαι, ὅταν γένωνται· φθίσις (...). Μακρὰ δὲ τάδε ἀνάγκη εἶναι· φθόην (lesson of φθόη rightly received by Wittern and Potter in their edd.; see also Littré in app.) κτλ.

36 *Index Hipp.*, p. 841, s.v. φθόη. In his commentary on these aphorisms (K. 18/A.193.8–11), Galen is aware of the double variant attested in the Hippocratic manuscripts.

following chapters; the context is no clearer in *Diseases I*.³⁷ As for the word φθόη, Grmek suggests that in the nosological lexicon of the *Corpus* it could have served to eliminate the technical drawback of this double meaning of φθίσις.

The other attestations of φθόη before Roman times are rare. In the 4th c. BC, it is used once by two orators: on the one hand, by Isocrates in *Aeginetics* (391/390 BC), § 11, concerning Thrasylochus “stricken with consumption” (φθόη χόμενον αὐτόν); on the other, by Demosthenes in *Letter 3*, 30, with reference to two mistresses who drove Pytheas “to consumption” (μέχρι φθόης), that is, to exhaustion.³⁸ Harpocration (late 2nd c. AD) catalogued it in his *Lexicon of the Ten Orators* (Φ 14), referring to the above-mentioned passages by Demosthenes and Isocrates, who, according to him, used it to designate what is now called *phthisis* (τὴν νῦν φθίειν λεγομένην φθόην ἔλεγον). Around the same time that the Alexandrian grammarian, Galen, in his *Commentary on the Aphorisms of Hippocrates*, 7.16 (K. 18/A.116), states that Hippocrates in this aphorism calls *phthisis* what “properly (ιδίως) the Greeks, and particularly the Athenians, call φθόη”.

Still in the 4th c. BC, Plato, *Leg.* 11.2 (916a5), lists consumption (φθόη), along with stone, stranguria, the sacred disease, and “any other complaint, mental or physical, which most men would fail to notice, although it be prolonged and hard to cure” among the cases in which the law authorizes the return of a slave, unless the purchaser is a doctor or a trainer, or the seller has warned the purchaser of the illness. This testimony is interesting because it offers a clue to the identification of the disease, which is invisible to the eyes of a layman and difficult to cure (cf., in the papyrus, 11: δυσθεράπευτα). To these testimonies may be added epigraphic ones, including a curse tablet from Patissia (Athens), dating back to the 4th/3rd c. BC (*IG* III, App. 98).³⁹

Mention should also be made of the testimony of Plato the Comic, fr. 184.4 (quoted by Galen, when explaining the meaning of ἔμπυοι in *Aphorisms*, 7.44), where a patient of Euryphon of Cnidus (mid-5th c. BC) is represented recovering from pleurisy with numerous bedsores on his body,⁴⁰ and Ctesias of Cnidus, fr. 451, p. 199 Lenfant CUF = Aelian., *N. A.*, 4.36: καὶ φθόη καταλαμβάνει τὸν λαβόντα, καὶ

³⁷ Jouanna 1983, 253–254.

³⁸ This passage is also preserved by *P.Lond.Lit.* 130 (MP³ 337), from the 2nd/1st c. BC. It offers the reading φυλῆς, which is not preferable to the φθόης we find in the medieval manuscripts.

³⁹ See also *I.Thrake Aeg.* E3, 6 (fragmentary law concerning the buying and selling of slaves and draft animals; Thrace, before 350 BC), where the word is completely integrated; and *IG* XII,3 187 (Astypalaea), ὑπὲρ [φ]θό[η]ς | Ἀσκιλαπιῶ. In Roman times (2nd/3rd c. AD), *SEG* XLVII 1503 (dedication to Asclepius), 2–3, ἐν λυγρᾷ φθόῃ | χεῖμῶνι.

⁴⁰ Gal., *In Hipp. Aph. comment.*, 7.44 (K. 18/A.149.8–150.1). On this testimony on Euryphon, adduced from É. Littré onwards to prove that *Diseases II*, *Internal Affections*, and *Diseases III*, are indeed of Cnidian origin, see the comments in Jouanna 1983, 36–39.

ένιαυτοῦ ἀναλίσκεται τηκεδόνι, “a consumption overtakes him, and within a year he is carried off by wasting away” (sc. he who has taken a dose of the black poison from the purple snake). Finally, there are two attestations in the Aristotelian corpus, one of them in the *Problems*, I, 10 (860b7), concerning the occurrence of headache, bronchitis, cough, and consumption (καὶ τελευτῶσιν εἰς φθίσεις).⁴¹ In our papyrus, φθόη seems to indicate a symptom of the disease that is being described, but it could also be the disease itself.

In Roman times, φθόη is used to denote a specific form of φθίσις (the consumption of the body following a lung ulcer),⁴² while φθίσις, in a more general sense, is applied to any consumption of the body, according to the author of the *Def. med.* attributed to Galen:

287. Τί ἐστι φθίσις; Φθίσις ἐστὶν ἑλκῶσις πνεύμονος ἢ θώρακος ἢ φάρυγγος ὥστε βῆχα παρακολουθεῖν καὶ πυρετοὺς βληχροὺς καὶ συντήκεσθαι τὸ σῶμα.

288. Ὅτι διαφέρει φθίσις καὶ φθόη· φθίσις μὲν γὰρ ἐστὶν ἡ λεγομένη κοινῶς πᾶσα σῶματος μείωσις τε καὶ σύντηξις, φθόη δὲ ἡ ἰδίως ἐφ’ ἑλκεὶ σύντηξις τε καὶ μείωσις τοῦ σῶματος. Εἰρηται δὲ φθίσις ἀπὸ τοῦ φθίνειν, ὅπερ ἐστὶ μειοῦσθαι.

287. What is *phthisis*? *Phthisis* is the ulceration of the lung, or chest, or throat, bringing cough and mild fever, with wasting away of the body.

288. That *phthisis* differs from *phthoe*, for *phthisis* is said in general to denote any emaciation and consumption of the body, while *phthoe* is properly said to denote the consumption and emaciation of the body as a result of an ulcer. *Phthisis* (consumption) takes its name from *phthinein* (waste away), which means lessen.⁴³

41 Arist., *Problems*, 1.10 (860b7), ἐὰν δὲ διὰ πλῆθος μὴ πήξη, ῥεῖ εἰς τὸν ἐχόμενον τόπον, ὅθεν αἱ βήχες καὶ οἱ βράγχοι καὶ αἱ φθόαι γίνονται, “but if owing to the quantity it does not solidify, it flows into the neighboring place (i.e. the throat and the lungs), from which come coughs, sore throats, and consumption” (αἱ φθόαι, cf. P. Louis, CUF, “*phénomènes de consommation*”). For a discussion of this problem in relation to *On Airs, Waters, and Places* 10 and *Aphorisms* 3.13, see Jouanna 1996 (= 2024, 762–772). The other attestation in the *Corpus Aristotelicum* is found in *On Marvellous Things Heard*, 152 (846a4 = p. 55.20 Westermann), about water sacred to Zeus, the god of oaths, at Tyana: “To men who keep their oaths this water is sweet and kindly, but to perjurers judgement is close at their heels. For the water leaps at their eyes, their hands and their feet, and they are seized with dropsy and consumption (φθόαι); and it is impossible for them to get away before it happens, but they are rooted to the spot lamenting by the water, and confessing their perjuries” (transl. W.S. Hett).

42 Gal., *De san. tuenda*, 6.9 (K. 6.421). The noun φθόη is appreciated by Aretaeus (1st c. AD), who uses it frequently and even devotes a small monograph to it (3.8, intitled Περὶ φθίσιος, *CMG* 2, pp. 47–49 Hude; cf. also 3.9.1, p. 49.11).

43 Ps.-Gal., *Def. med.*, 287–288 (K. 19.419.18–420.4, no. 261 = p. 108.14–20 *CMG* 5.13.2 Kollesch); Gal., *De san. tuenda*, 6.9 (K. 6.421.13–14).

As M.D. Grmek acknowledges, “it is difficult to grasp the clinical significance of this distinction. Attested in a late text, it is not necessarily valid for the classical period”.

The **next section** (ll. 8–10) is shorter and even more fragmentary. One reads (l. 8) the words τὰς μὲν ἀρχὰς “at the beginning, first”; an observation on the first manifestations is completely in line with the expository practice of the nosological treatises. Then, at l. 10, “those who are sick of the same disease” or “together” (οἱ συννοσοῦντες; the visible traces seem to confirm that it is precisely this verb that must be deciphered). Frequent in Euripides, where it is used in a figurative sense (see *supra Andr.* 948, and also *Iph. Aul.*, 407; fr. 160.1 and fr. 909.11), the verb συννοσέω “to be sick” or “ill together”, is quite rare in medicine: in the *Corpus Hippocraticum*, apart from a (metaphoric) occurrence in *Letter 13* (9.334.2–3 L.), it is only attested in *Aphorisms*, 2.15 (4.474.4–5 L. = II, p. 389 Magdelaine), and in *Epidemics II*, 4.4 (5.126.9 L.), where it refers to the body that is affected (or a condition of the body complicated by the presence of another disease). The verb also appears in Arist., *G. A.*, 5.4 (784a30) and, in the Roman period, Anon. Lond., 17.8 (p. 22 Ricciardetto, CUF = p. 35 Manetti, Teubner), αὐτὸς συννο[σεῖ], “he himself also falls ill”, and Soranus, *Diseases of Women*, 1.11 (1.32 Burguière/Gourevitch/Malinas CUF). In Galen, the word is only found in the *Commentary on the Aphorisms* (2.15 = K. 17/B.471.14 and 472.3; 5.57 = K. 17/B.855.2; the same situation is observed later for Stephan of Athens, 2.14 = CMG 11.1.3.1, pp. 164–166 Westerink). In our papyrus, the verb could mean that a part of the body other than the lung or the breast region is diseased.

The first decipherable word in a **third preserved section** (ll. 11–12) is δυσθεράπευτα, “difficult to cure or to heal” — we have seen that φθόη is classified by the author of *Diseases I* among those diseases whose duration is inevitably long, while in *Internal Affections* it is considered χαλεπή, “severe”. Attestations of the adjective δυσθεράπευτος before Philo of Alexandria (end of the 1st c. BC/first half of the 1st c. AD), who uses it in a figurative sense, are extremely rare. Except for one example in Sophocles (*Ajax*, 608–610: δυσθεράπευτος Αἴας | (...), ὦμοι μοι, | θεία μανία ξύναυλος, “Ajax, difficult to tend, alas, living with a godsent madness”), it is only used, with reference to a lesion (τὸ ἔλκος) that will rupture and be difficult to treat, in *Physician* (10 = 9.216.9 L. and p. 308 Potter), a treatise of the *Corpus Hippocraticum* of later date (Hellenistic or early Roman period).⁴⁴ In the next line (12), the presence of φικτα at the beginning of the line suggests ἀ|φικτα[ι, pf. ind. of ἀφικνέομαι, “arrive at, come to, reach”, but also a form of ἐφικτός, “easy to reach,

⁴⁴ The adjective is also found in Galen, *De locis affectis* (4.8 = K. 8.264.1; 6.3 = K. 8.391.16) and, above all, in his pharmacological treatises (e.g. *De comp. med. sec. loc.* 1.2 = K. 12.393.8; etc.). It reappears among Byzantine physicians. Like δυσίατος, which is more frequent, the adjective δυσθεράπευτος is used to gloss δυσκαθής in lexicons (see Ps.-Zonaras, *Lex.*, Δ, p. 583.8).

accessible”, or a compound, such as δυσέφικτος, “hard to come at”, or ἀνέφικτος, “out of reach, unattainable”.⁴⁵ As is also suggested by the presence of a second word relating to healing (12: θεραπεῖ), this whole section seems to be devoted to therapeutics.

The **following section** consists of three lines (ll. 13–15). The only complete noun that can still be deciphered is ἀναψιϛ. In the extant literature, unlike vb. ἀνάπτω, the noun (ῆ) ἀναψιϛ, “lighting up, kindling”, does not appear before the 1st c. BC, except for an attestation in Epicurus (see *infra* n. 46), and it is not common before the Byzantine period. Both the verb and the noun are used as metaphors related to the act of catching fire; they are attested in connection with flammable material, a lamp, or a light that turns on, and, often, in a celestial context.⁴⁶ In a medical sense, it refers to fever (which is a fire). A section on causes of the *De febribus* attributed to Alexander of Aphrodisias attests both the verb and the noun, in reference to the burning of the *pneuma* which produces ephemeral fever, and to the burning of the humours.⁴⁷ Of particular interest is Aëtius, 5.67 (περὶ τῶν ἐπὶ βουβῶσι πυρετῶν), where it is said that phlebotomy serves to prevent the matter (corrupted as a result of inflammation and destined to suppurate) from producing the fire that is fever.⁴⁸ In the two passages of his *De morborum causis* (again in a section on causes, as in Alexander), Galen attributes to the *kopos* the ability to kindle fever.⁴⁹ In the papyrus, the context must concern the fever that accompanies the *phthoe*. The rest of the column (ll. 16–23) is so fragmentary that not a single complete word can be identified with certainty.

The disease described in these sections does not seem to be incompatible with a type of *phthisis* or, more generally, with a respiratory illness such as empyema. In the descriptions of the types of *phthiseis* in *Internal Affections*, the corrupted phlegm fills the veins, causing fluxion on the lungs with pain (more or less intense, depending on the type of *phthisis*) in the chest.⁵⁰ Consumption (φθίνει) comes from the vessels. Pruritus and pain are also characteristic symptoms of these affections.⁵¹

45 A. Roselli also suggests φυκτα for ᾗ|φυκτα, “irremediable” (with an iotacism υ > ι), which would be fine for the sense; compare Hipp., *Prorrh.* II, 6 (9.22.22 L.; about dropsy) and 12 (9.32.18 L.; wounds); *De diaeta acut.* (App.), 10.3 (p. 73.12 Joly = c. 6, 2.416.5 L.; about a kind of sore throat); 30.2 (p. 82.21 Joly = c. 10, 2.456.1 L.; fever); 52.1 (p. 91.13 Joly = c. 20, 2.498.1 L.; dropsy).

46 For this last context, Epic., *Letter to Pythocles*, 92; see also Dion. Hal., *Ant. Rom.*, 2.66 and 10.2.3.

47 Ps.-Alex. Aphr., *De febribus*, c. 27, 9 (1.101 Ideler); see also Steph., *In Hipp. Prognosticum comm.*, 3.12 (CMG 11.1.2, p. 268.27 Duffy).

48 Aëtius, V, 67 (CMG 8.2, p. 39.21 Olivieri).

49 Gal., *De morb. causis*, c. 2 (7.7.8 and 8.2–3 K.).

50 On fluxion on the lungs, see also Hipp., *On the Places in Man*, 10.

51 Hipp., *Diseases II*, 50.1 (p. 186 Jouanna).

Pruritus can be a bad sign.⁵² According to the *Coan Prenotions*, c. 435 (p. 319 Ferracci, ined. PhD, Paris, 2009), exanthems that look like scratches announce the withering away of the body. A mild fever also characterizes phthisis, especially that of the first type. These diseases are difficult to cure and always last a long time.⁵³

The nosological treatises of the *Hippocratic Corpus* offer a point of comparison not only in terms of medical content. The presence in our papyrus of *short sections* of text delimited by *paragraphoi* and the fact that at least one section possibly begins with a subordinate clause, combined with the few decipherable words, allow us to glimpse *a scheme for the description of the disease* divided into sections, including at least (1) a semiotic section, (2) a prognostic section, and perhaps even (3) a therapeutic one.

This structure is reminiscent of the organization of the text in the six surviving columns of the above-mentioned *P.ÄkNo* 1, slightly later than our IFAO papyrus. Indeed, the text of the Cologne papyrus is arranged according to a tripartite scheme: (1) symptomatology, (2) diagnosis or prognosis, and (3) therapy.⁵⁴ According to the editors, I. Andorlini and R.W. Daniel, this structure is comparable to that of the nosological treatises of the *Corpus Hippocraticum*. The first two parts are presented in the form of a single conditional sentence. Introduced by ἐάν δὲ or ὅταν δέ,⁵⁵ the protases are devoted to the symptom(s), often only one or two, and the apodoses to the diagnosis or prognosis. The standard form of the apodosis is σημαίνει + indication of the disease(s). As A. Roselli has rightly pointed out,

the number of symptoms, the prognosis reduced to the essentials and the therapy that privileges a few operations suggest a comparison with the short chapters of compilations such as *Aphorisms*, *Prorrhetic I* and *Prognosis of Cos*, while the typical chapters of Hippocratic nosological treatises are much more extensive. Therefore, (...) we could consider the new text to be a compilation of a nosological nature that fits perfectly with the other compilations attested in the *Corpus Hippocraticum*. The treatise tends towards a therapeutic perspective.⁵⁶

52 Hipp., *Coan Prenotions*, 432 (p. 319 Ferracci). The passages devoted to phthisis in this treatise (c. 426–436) mainly seem to refer to the first of the three *phthiseis* recorded by the author of *Internal Affections* (see *supra*, p. 319–320 and n. 33).

53 Hipp., *Prorrh. II*, 5 (9.20 L.).

54 Andorlini, Daniel 2016, 13–15.

55 In our papyrus, the trace following the first attestation of ὅταν is compatible with *delta*; we read ὅταν δ' for the second occurrence.

56 Roselli 2021, 646.

Another comparable presentation scheme of the disease is that of the “Cnidian” treatises.⁵⁷ Each scheme forms an autonomous unit. With variations (depending on the treatise and occurring within each treatise) and exceptions,⁵⁸ it includes: (1) the identification of the illness, either with a title giving the name of the disease, or with a generally brief subordinate clause introduced by ἦν, but sometimes also by ὅταν or ἐπὶ ἦν, indicating the nature of the disease and possibly its location and cause (we should recall that, in the *Corpus Hippocraticum*, φθόη is only attested in *Diseases I* and *II*); (2) semiology: within this part, subordinate clauses are very rare, *except for* conditional or temporal clauses introduced by ἦν, ἐπὶ ἦν, ὅταν (and, as an exception, by ἐπειδάν or ὅποτεν);⁵⁹ (3) therapeutics;⁶⁰ and, as a rule, (4) prognosis, i.e. an assessment of the prognosis and evolution of the disease — these last two sections may sometimes occur in reverse order. However, there are also discrepancies in the few lines that can be deciphered, particularly in the vocabulary,⁶¹ and unfortunately we do not find even one of the criteria that might help us to determine a possible Cnidian origin (enumeration of the varieties of a disease, frequent prescription of purgatives, milk, serum, infusions into the lungs, the use of cauterization).⁶²

The poor state of preservation of the roll and the small amount of decipherable text do not allow us to go much beyond the similarities noted above. We do not even know if there were any descriptions of other diseases, arranged one after the other according to an analytical perspective.⁶³ It remains difficult to ascertain whether our passage should be regarded as a “parallel redaction” of the material handed

57 This scheme has been studied in particular by Jouanna 1974, 83–87; 1975 (= 2024, 54–64) and 1983, 15–24 (see 15 n. 2 for the previous bibliography).

58 Jouanna 1983, 15: “Despite inevitable variations or exceptions, it is not out of place to speak in this case of a schema of exposure obeying to norms, so great is the constancy throughout the treatise”.

59 When the disease is presented in the title, the discussion on semiology follows in asyndeton; when the disease is presented in a subordinate clause, the discussion on semiology is the main clause. This part consists of a list of symptoms, listed in short, independent sentences placed on the same level and regularly linked by καί. The verbs of these clauses are almost exclusively in the present tense of the indicative (3rd pers. sg. or sometimes pl.). When the subject of the verb is the patient, the term designating him is always implied; it is generally the same when the patient is the complement of the verb.

60 This part is usually introduced either by the formula ὅταν οὕτως ἔχη or by the demonstrative οὗτος (in asyndeton), designating the patient. The body of the discussion consists of prescriptions; in one out of three cases, there is also a concluding formula beginning with ταῦτα (see l. 17 of P.IFAO).

61 To limit myself to just one example, the word ἀγγεῖα “vessels” never appears in the treatises attributed to the Cnidian school (but φλέβια is used).

62 On these criteria, see Bourgey 155f; Jouanna 1974, 132; 1983, 33f. For the milk, see Deichgräber 1971, 50 n. 10.

63 It is likely that the few remains of l. 1 of fr. 1A sup. belong to the description of another disease.

down by the treatises that have entered the *Corpus*,⁶⁴ or rather as an independent text, although, as we have seen, the way in which the disease is presented seems compatible with that of several treatises that have entered the *Corpus*. This papyrus could perhaps be included in the group of texts ‘similar’ to the Hippocratic ones, which A. Roselli has recently dealt with in an ‘*addendum*’ to his fine paper “*Un corpo che prende forma*”, published in 2000.⁶⁵

With regard to the other layers that make up fr. 1, we will limit ourselves to mentioning in particular the presence of the noun κύπτωμα (fr. 1A tr. ch., l. 9). Fr. 2 contains the remnants of the central part of a column that is distinct from the one we have just examined, but relates to it in terms of content. The loss of the beginning does not allow us to determine whether this column was divided into sections. Among the decipherable words, reference is made to anastomosis (l. 1), certainly in relation to vessels, which are mentioned again (ll. 2 and 7), to the presence of a “foreign, alien” element (l. 3), to a comparison concerning fumigants (l. 4),⁶⁶ to age (l. 5: different diseases according to age?), to an interval or distance, probably in relation to vases (l. 6), and to “lower parts” (l. 8). A ‘*sottoposto*’ fragment to fr. 2 also attests to the word “suffering” (ἄλγημα).

Fr. 4 contains the last letters of one column and the beginning of the next one. Only three lines have survived from the first column and six from the second (including a tiny trace of the first and last), where the words ἐνεργόν, “active, industrious, vigorous” (l. 3) and πλῆθος, “quantity, abundance” (l. 4) can be read. From the point of view of preservation, this fragment is very similar to fr. 5 (where the focus is clearly on veins) and 6 (where only a few traces of letters are still visible), but these fragments do not seem to fit together. Fr. 8 bears the letters *upsilon* and *delta*, probably for a word related to water (*hudôr*) preceded by a high dot.

4 Final Remarks

This presentation has given an idea of how difficult it is to identify the work and the author of P.IFAO grec inv. 520. This difficulty is due not only to the fragmentary and sometimes hopeless state of the papyrus, but also to the almost total loss of

⁶⁴ For a parallel redaction of the treatise on *Internal Affections*, see the testimony of *P.Köln IX 356* (see *supra* n. 24), studied by Jouanna 2004, reprinted in Jouanna 2009, 663–678 and Jouanna 2024, 1309–1318.

⁶⁵ Roselli 2000 and 2019.

⁶⁶ *Diseases II 2.47B* (p. 181 Jouanna CUF). It may have to do with diseases of the chest, for which fumigants and fumigations are recommended.

contemporary and later medical literature between the time of Hippocrates and the Roman period. Indeed, only fragments of this literature remain, i.e. quotations in later works from the Roman or Byzantine periods. The Greek papyri are therefore all the more valuable, not only for papyrologists and philologists in general, but also for historians of medicine, because they allow us to fill in the gaps in our knowledge of the medical art of the Classical and Hellenistic periods (even as far as the Hippocratic tradition is concerned, the few Hellenistic papyri that have survived give us a sense of the wide range of traditions that have been lost). The papyri allow us to glimpse the richness and variety of what must have existed, been written, and even disseminated in Egypt during the millennium in which the flame of Hellenism burned. The study and publication of the thousands of Greek papyri still unpublished, some of which could be medical, such as the one presented here, but also of those already published, thus offer the best hope of discoveries for the future.

5 Appendix: Edition of P.IFAO grec inv. 520, fr. 1A–B sup. + fr. 1C + fr. 3 (col. II)

- χοντ. [fr. 1A sup. (ll. 1–7)
ὅταν. [± 5]. ψη[]
 γένηται, ταύτ[α γ]ὰρ περὶ [τὸν]
 θώρακα ἀγγεῖα [c]υμφθε[ίνει]
 5 διὰ τὴν φθόγην ὑποτετ[αγμένα?] fr. 1B sup. (ll. 6–13)
 υ. . [± 6] περὶ τὴν ἐπιφ[ά-]
νειαν [. . .] αδετα. [fr. 1C (ll. 12–17)
τὰς μὲν ἀρχὰς. . . [
 ἔχει, ὅταν δ' ἐπιτε[
 10 ους οἱ συνγορῶντες
δυσθεράπευτα , ε[
φικτα[. .] θεραπε[
κατη [μ²] ο. . . [.] αιρα[
 τὴν ἀναψιν ε[
 15 α[1/2]χεα συμ. [fr. 3 (ll. 15–23)
φανεντα[
ταυτ. [. ?] . . [
 αν. [fr. 3 (ll. 15–23)
 [.] . . [

20 γων ζ. . [
 . τῆς κεφ[αλής
 ε. . ρωθη[
]τηςψ[
 - - - -

4. [c]υμφθε[ίνει] : 1. κυμφθίνει | | 5. τῆμ φθόην : 1. τὴν φθόην.

Translation of ll. 2–11

(...) when (...) occurs, as the same vessels in the chest area decay because of the consumption, beneath (?) (...) on the skin ... the beginnings (...) (the sick person?) has (...) while on the other hand (...) those who are ill also (...). Are difficult to cure (...) ... (...).

1. χοντ. [: the ink trace that connects the *nu* to the *tau* was added after the *nu* was written; only a trace of the upper end of the letter following *tau* remains, which is probably an *alpha* rather than *omicron*, *epsilon*, or *eta*; the *tau* has a particularly long horizontal stroke, especially in its second half, which is not typical of this copyist. The most obvious hypothesis is that we are dealing with a form of ἔχω (or a compound verb), but we cannot exclude other verbs (ἄρχομαι, ὑπάρχω, τυγχάνω, etc.).

2. ὅταν. [± 5]. ψη[]: only a very small, unidentifiable trace remains of the letter following ὅταν; the same is true of the one preceding the ψ. The letter following the ψ is composed of a vertical stroke, which can only correspond to the first vertical stroke of an *eta*; the stroke does not descend sufficiently to be read as an *iota*.

3. ταῦτ[α may be preferable to ταῦτ[α, because there is need for an article (A. Roselli); only a trace remains of the lower part of the vertical stroke of the *upsilon*, while a trace of the following letter is visible. Only the lower part of the *iota* of περί is preserved.

4. The initial *alpha* of ἀγγεῖα is very abraded, and only the left end of the final one remains. The mark after the *theta* of κυμφθ- corresponds to the semicircle of an *epsilon*; an *alpha* does not seem possible.

5. τῆμ φθόην: only the horizontal stroke of the *tau* of τημ is preserved. There is an assimilation of the ν before the labial (φ), on which see Mayser 1970, 204; Gignac 1976, 167 (with examples from the Byzantine period). The θ of φθόην is currently covered by a piece of adhesive tape which descends transversely and covers a space of two letters (not preserved) at the height of l. 6, before περί.

ὑποτετ[: the presence of the left part of the horizontal stroke and the right part of the vertical one make it possible to identify the last letter as *tau*, for a form of the pf. part. of the very common verb ὑποτάττω, “place or arrange under, assign”,

hence “subject, put after”. What does this participle refer to? Probably the vessels (we would therefore expect acc. nt. ὑποτετ[αγμένα]), or, maybe, consumption (fem. part. ὑποτετ[αγμένην], but the noun and the participle that follow are probably not coordinated). In the *Corpus Hipp.*, the verb is only attested in surgical treatises to designate the lower bone, i.e. the ulna (e.g. *Off. med.*, 16, p. 12, 10 Jouanna/Anastassiou/Ricciardetto CUF).

6. The beginning of the line is poorly preserved. Only the first letter is completely decipherable (*upsilon*), followed by the traces of two letters, the second of which could be *tau*. The fibres are particularly disturbed; traces of letters can be distinguished: do they belong to the lacuna of 6 letters that occupies this part of the line, or to another layer under the main one?

The second part of the line is better preserved. For the expression περὶ τὴν ἐπιφάνειαν, “on the skin”, the last word, only partially preserved, occupies the end of line 6 and the beginning of the next one. The first *alpha* is in lacuna, while only a tiny trace remains of the second *alpha* and of the previous *iota*.

7. The beginning of line 7 is poorly preserved. The ending of ἐπιφ[ά] | νειαν can be guessed rather than read; but the decipherment seems certain. It is followed by a two-letter lacuna. What remains of the rest of the line is very fragmentary: we can see the traces of four letters, then a letter of which the upper part remains, forming a triangle (probably *alpha*), followed by δετα and finally by the trace of a last letter. What remains does not allow for satisfactory reading.

The presence of a *paragraphos* in the following interline suggests that a section ended with this line (see also the interline between ll. 1–2, 10–11, 12–13, and 15–16), perhaps at the end of the line. We do not know whether the sign was accompanied by a blank space.

8. In the margin to the left of the line that marks a new section, we see ink traces that could correspond to signs (slashes: ///). On this punctuation mark in the Greek medical papyri, see Ricciardetto 2019, 135 (on its association with the *paragraphos*, *ibid.*, 130); as a critical sign, Ricciardetto 2022, 11–14.

The new section, which is brief, since it occupies only three lines (ll. 8–10), begins with τὰς μὲν ἀρχάς, “the beginnings”. The final *sigma* of ἀρχάς has almost completely disappeared, as have the two following letters, which cannot be identified; the rest of the line is lost.

9. The fragmentary state of the section does not allow us to identify the subject of the verb ἔχει at the beginning of the line, which must have been in the second half of l. 8. The verb is followed by the clause ὅταν δ’, and then ἐπιτε[, presumably a form of ἐπιτίθημι (perhaps ἐπιτε[θῆ, signifying aggression?). The elision of δὲ is present but not marked.

10. Although easily deciphered, the beginning of the line is problematic. Perhaps we should divide οὐκοι into | -οὐκ οἱ, i.e. the end of a word that begins on the previous line. In this case, οἱ would be the nom. pl. art. of part. συγγοϋντ[εc. Only a few traces of the first two ν remain, but the decipherment of the word seems assured.

11. As attested by a *paragraphos* in the interline between ll. 10–11, a new section begins here. After δυσθεράπευτα, the traces of two letters can still be distinguished. The first, of which the left and upper parts are preserved, appears triangular (*delta*?), while the second is probably an *epsilon* (for δέ?).

12. Despite the break in the papyrus and the fragmentary state of several letters, the reading φικτα at the beginning of the line is certain. For the possible integrations, see *supra*, pp. 323–324 and n. 45.

13. Deciphering the beginning of the line is quite difficult. At first glance, it seems possible to read κατηια, but the *iota*, which usually violates bilinearity, is too short and too close to the *alpha*; one could think of a *mu* (or even *eta*) corrected by an overload in the *omicron* (or *alpha*). What follows this letter is very uncertain, and only traces of letters can be deciphered. At the end of the line, however, the sequence αῖρ is assured.

15. Only part of the first oblique stroke of the initial *alpha* remains; a tiny trace of the same letter is preserved by fr. 1C. After a gap of one or two letters, we read the sequence χα, whose *epsilon* is very abraded; such an ending naturally leads one to think of an adjective in -χυσ. Could it be a symptom? (Cf. the following word κυμ- followed by a trace of the upper part of a letter: κύμπωμα, which is also attested in fragm. 1A tr. ch., l. 9, could be a possible integration).

16. The joining of frs. 1B+C has made it possible to recover the participle φανέντα or a compound form (e.g. ἐπιφανέντα vel προφανέντα).

17. The letters ταυτ are preserved in fr. 1C, while the minute remains of the following three (or four) are found in fr. 1B, of which it is the last preserved line.

19. After a gap of one letter, traces of three letters; one of the first two could be an *alpha*.

20. The reading of the first letter is very uncertain.

21. After an unidentifiable letter, we read τηκε [(for τῆς κεφ[αλήc?).

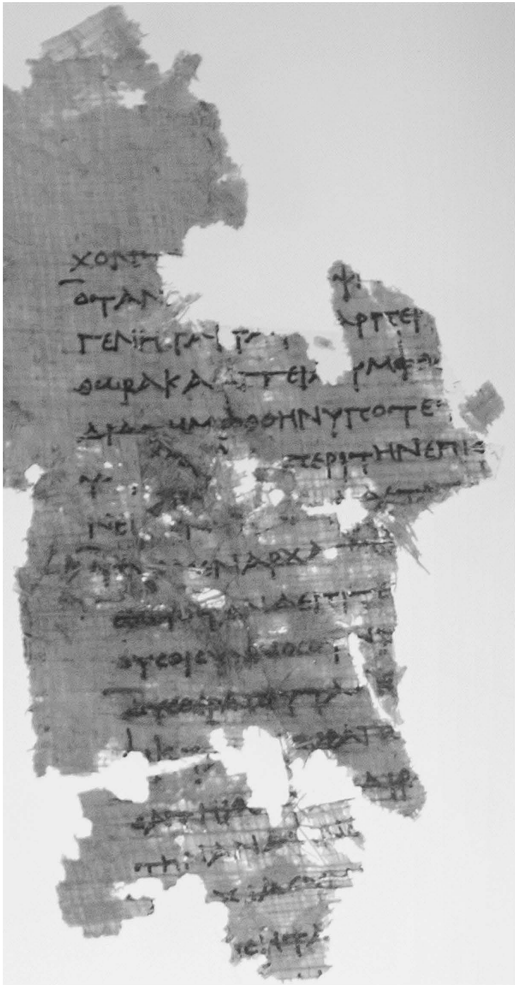


Fig. 58: P.IFAO grec inv. 520, fr. 1 A-C. © Ifao.

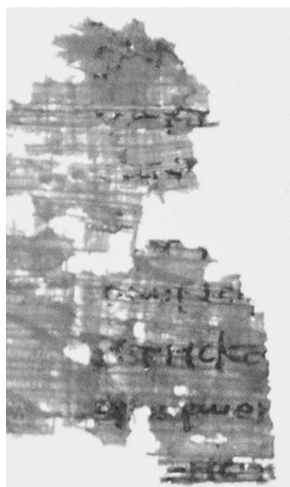


Fig. 59: P.IFAO grec inv. 520, fr. 3. © Ifao.

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