

### 3. *Medical Treatise On Remedies*

PZereteli no. 318a+b  
Provenance unknown

Early third century AD  
Plate **IV–V**

Six fragments of carefully written text from a medical treatise.<sup>1</sup> Nothing on reverse. The writing belongs to the ‘formal mixed’ class described by Turner (*GMAW*<sup>2</sup> 1987, 22). The letters slope slightly to the right. Serifs on vertical strokes are widely used, particularly noticeably in iota, kappa and delta (often with large initial loop). Upsilon (Fr. 5.4) is given a down-turned serif at the end of the left prong. Omega tends to lose its central vertical. Xi (Fr. 2.3) is written with middle and lower stroke joined, but separate from the upper stroke, a form assignable to the second/third c. AD rather than earlier (Kenyon, 1899, 95). Further traits of the hand are: a small circular omikron, sometimes squeezed quite tightly between two letters; loop of an alpha sometimes very angular and sharp; wide eta and pi. Some letters – iota, rho, upsilon, phi – protrude somewhat below the line. Ligatures are rare, but sometimes the crossbar of epsilon (Fr. 2.4 ελ-) or of theta joins up with a following letter (Fr. 1.11 θη-, Fr. 6.4 θα-). A horizontal dash above omega in Fr. 3.6 at line end probably denotes ω(v). Comparable handwritings are those of PHarris 1 (Mus. Ruf. = *CPF* [72]; Part VI.2 no. 82) and POxy VII 1016 (Pl. *Phdr.* = *GMAW*<sup>2</sup>, no. 84), both assigned to the third c. AD, and a date in the early third century AD may be suggested.

The papyrus has become dark brown in places. Only Fr. 1 is still quite light and smooth. The space between columns in Fr. 4 is about 1.5 cm. There are no punctuation marks visible, unless a colon can be

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*Cons.:* Zereteli Archive no. 318a and b. Kekelidze Institute of Manuscripts, Tbilisi (Georgia).  
*Ed.:* unpublished.

<sup>1</sup> I am grateful to the editor of this volume, Isabella Andorlini (Parma) and James Cowey (Heidelberg) for help in publishing this piece. Access to these unpublished fragments in the Zereteli Archive in Tbilisi was made possible by the cooperation of the members of staff of the Kekelidze Institute of Manuscripts there and the interpretive diplomacy of Inga Gotsiridze, whom I thank.

discerned after -οτεc in Fr. 3.4. There is some kind of mark (circumflex?) above omega at line beginning in Fr. 5.8. The writer makes a considerable effort to keep his columns neat, with approximately sixteen or seventeen letters to the line. Sometimes the writer crowds letters at line end together in the interests of column justification (e.g. Fr. 2.3 and 5, cf. Turner *GMAW*<sup>2</sup> 1987, 17). There are no noticeable corrections in the text although once the writer's hand seems to have slipped, leading to a squiggle of ink below the line (Fr. 5.2).

Fr. 6 contains the end of a book. The writing comes to an end, and after a gap of perhaps two centimetres, a title with the numeral Δ between horizontal lines is clearly visible<sup>2</sup>. Andorlini's decipherment of lines 5–7 of this fragment permits us to identify the source as the fourth volume of a work *Περὶ βοηθημάτων*, *On Remedies*. The title appears to repeat this expression without giving the author's name. Line 3 of this fragment, if correctly supplemented, indicates that the subject of this volume or section of the work was 'plasters', 'compresses', or 'poultices' ([περὶ] καταπλασμάτων). Assuming that all fragments of the papyrus came originally from the same papyrus roll, which contained one book of the anonymous' work 'On Remedies', the fragment with the title must be the last fragment and the others must precede it. I cannot discern any reasons for placing the other five fragments in a sequence according to their content. Since some are more rubbed and browned than others, however, and since fragment 6 has suffered particularly in this sense, I have arranged the fragments in order of deterioration, with the well-preserved Fr. 1 at the beginning.

Several medical writers of the appropriate period (1<sup>st</sup>–2<sup>nd</sup> c. AD) are accredited with wholly or partially lost works bearing the title *Peri boêthêmatôn*. Let us see whether any or these are more or less likely candidates.

(i) Antyllos wrote a *Περὶ βοηθημάτων* in four books, of which long excerpts are preserved in Oribasius, *Collectiones medicae*. Antyllos probably lived in the second century AD (Grant, 1960, 155–57). The first volume of *Peri boêthêmatôn* was on 'external remedies': τῶν ἔξωθεν προσπιπτόντων βοηθημάτων, *Orib. Coll. med.* X 12 (*CMG VI* 1.2, p. 55.16–

<sup>2</sup> For the formatting of the end-title placed below the last column of the roll (i.e. the colophon) see Turner *GMAW*<sup>2</sup>, 1987, 13 with Pl.17–18; POxy LII 3649 (= *CPF*, Part. VI.2, pl. 205); and especially PMonac II 23.24–26 'Ἡλιοδώρου Ἰ χειρουργουμένων ὑπ(ό)μνημα) Δ.

17 Raed.), cf. Grant (1960, 163–169), who paraphrases the title as ‘topical agents and other external influences on the health of a patient’. A chapter of this first book was, according to Orib. *Coll. med.* IX 24 (CMG VI 1.2, p. 26.9 Raed.), on poultices (Περὶ καταπλασμάτων). The fourth book of Antyllos' *Peri boêthêmatôn*, on the other hand, was on ‘what the patient himself does to promote health’ (Grant, 1960, 172–174): τῶν ποιουμένων βοηθημάτων, e.g. Orib. *Coll. med.* VI 21 (CMG VI 1.1, p. 177.8–9 Raed.). Since plasters and poultices are applied externally to the body and are not part of the patient's own contribution to his recovery, the present fragments cannot be the end of Antyllos' fourth book. One might still consider the possibility that the fourth chapter of the first volume was ‘on plasters’ and that these fragments come from that section of the work. Oribasius calls the chapters of Antyllos' books κεφάλαια, however. It is questionable (a) whether κύγγραμμα in Fr. 6.6 could mean ‘chapter’ (b) whether the title placed at the end of this part of the work could be a chapter heading (c) whether the title Περὶ βοηθημάτων (Fr. 6.5–6) can be taken as equivalent to the title of Antyllos' first volume as quoted by Oribasius (τῶν ἔξωθεν προσπιπτόντων βοηθημάτων). I think these doubts, taken together, are sufficient to rule out Antyllos' work as the source of these fragments.

(ii) Soranus (around 100 AD) wrote a lost work Περὶ βοηθημάτων which he refers to himself in *Gyn.* III 28.7 ἐν τοῖς Περὶ βοηθημάτων ὑπομνήμασιν; the last word ὑπόμνημα does not, it seems to me, rule out the use of κύγγραμμα (Fr. 6.6) to refer to an individual book. There is a correspondence in language between an expression in *Gyn.* and Fr. 6.4–7 (see commentary). Moreover, some of the less common words in these fragments (e.g. Fr. 5.4 περιωδυνέω; Fr. 1.2 δυσάρετος; Fr. 6.6 κύγγραμμα) can be paralleled in the extant work of Soranus. Soranus is recognized as a fine stylist among the ancient Greek medical writers; the *Gynaecia* bears this out. It is difficult to say anything about the style of the Tbilisi fragments as continuous sense can rarely be made out; the language is, however, elevated and intellectual, suiting a higher style of prose. At present Soranus seems to me the most likely candidate as author of these fragments<sup>3</sup>. If so, they come from the fourth book of his otherwise lost work *On Remedies*.

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<sup>3</sup> For Soranus as the credited author of anonymous medical papyri see M. Green – A.E. Hanson, ‘Soranus of Ephesus: *Methodicorum princeps*’, ANRW II.37.2 (Berlin – New York 1994) 968–1075: esp. 970–981.

(iii) Athenaeus of Attaleia (1<sup>st</sup> c. BC or c. 50 AD) wrote a work *Περὶ βοηθημάτων* in at least thirty volumes, cf. Orib. *Coll. med.* IX 12 (CMG VI 1.2, p. 12.25–26 Raed.). Oribasius quotes from the twenty-ninth book, ‘On Air’ and the thirtieth, ‘On Places’ ἐκ τοῦ ᾧ λόγου τοῦ *Περὶ βοηθημάτων*). It is possible that the first book of this work was on ‘wheats’ (Orib. *Coll. med.* I 2 [CMG VI 1.1, p. 7.1 Raed.]). He is also said to have written on ‘bread’ (ibid. I 9, p. 11.20 Raed.) and ‘barley’ (ibid. 1.11, p. 12.9 Raed.) in the thirtieth book of some work, presumably not the same as the section ‘On Places’ just mentioned. It is conceivable that the fourth book of Athenaeus’ *On Remedies* was on plasters/poultices but the other sections of this work quoted by Oribasius have a different character: they are concerned mainly with diet and climate; nothing in the present fragments coincides with those areas.

(iv) Alexander of Tralles wrote a work *Therapeutica* in two volumes which contains sections headed *Περὶ βοηθημάτων* and *Περὶ καταπλασμάτων*, but his dates (c. 525–605 AD) rule him out of consideration here.

Fr. 1

(5.1 x 6.5 cm)

Pl. IV

No line ends are visible on this fragment so it is hard to know how many letters are missing from the right and left edges of the column. The initial gap of 1 or 2 letters conjectured here below appears the more probable. In this and the other fragments I have assumed seventeen letters per line, but this is likely to have varied in fact by one or more letters. The dots are therefore to be taken as a rough rather than exact indication of the likely number of missing letters.

— — — — —  
 ..... ]υ καταπλ[α  
 .] [. ]τος δυσαρεζ[...  
 .] νεργον τηδεδ[...  
 .]ων ἡμερῶν πρ[.....  
 5 .]κύας προσφέρει[ν  
 κ]αταπλάττειν [.....  
 ἐ]πικαταπλαττ[...  
 .]ων γὰρ τῶν σω[μάτων ἢ  
 ἀ]ναπνοῇ δ[.....

10    ]θησιν η κ[  
       ... ]αζ διαιρ[  
       — — — — —

1. At end pi quite clear, then left tip of lamda (likely in context) or alpha. Possibly το]υ καταπλ[άτ]μ[α]τος (e.g. μετὰ το]υ), but e.g. οὐ καταπλ[άττειν *vel sim.* cannot be ruled out.

2. In first position after the break the lower part of an arc which might be the right hand of a mu (epsilon or sigma cannot be excluded), then a gap, then a letter of which the bottom tip of a long descender is visible: rho, iota, tau? The ending κ]μ[α]τος could fit the space well.

δυναρεζ[-. Presumably a form of δυναρεστέω, ‘suffer malaise’, δυναρέστημα, ‘malaise, distress’, δυναρέστησις, ‘distress, malaise’, or δυναρεστικός, ‘distressing’ (LSJ). The word of common parlance δικάρεστος, ‘hard to please’, may be less likely in a technical treatise, although the adverb δικάρεστος occurs (Soranus, *Gyn.* I 36.3).

3. The letter before nu was not omikron as there is a speck of ink visible from the right end of a horizontal: epsilon is less likely than upsilon as the middle bar of an epsilon in this hand is usually longer than the top arc, so its tip should be visible too. Perhaps ο]ϋν or ν]ϋν. Or as one word κ]ύνεργον (common in e.g. Galen) or ]ένεργόν (found in e.g. Antyllos ap. Orib. *Coll. med.* X 2.5, from book one of the *Peri boêthematôn*). In 2–3 δικάρεζ[το(ν) | ο]ϋν ἔργον could fit the lacuna (perhaps written τὸ in line end).

~~At line end τῆ δὲ δευτέρᾳ seems too long.~~

4. λ]ων or τρι]ών. If a numeral, τρι]ών seems inevitable but does not fit the conjectured gap, and τετάρ]ων is too long. But τιν]ων, ἐνί]ων, πολλί]ων are all possible, too. Perhaps δ[ιὰ τιν]ων ἡμερῶν in lines 3–4.

At line end πρ[ί]ν, πρ[ώ]τον, πρ[ό]τερον *vel sim.* A plaster application would have been a treatment prior to bloodletting (e.g. πρ[ί]ν τὰς | σικύας προσφέρει[ν (καὶ) | καταπλάττειν (αὐτό·). But with καὶ line 5 would count nineteen letters.

5. σικύας προσφέρει[ν, ‘apply the cupping instruments’, cf. Alexander Trallianus, *Therapeutica* (II, p.143 line 25 Puschm.): τότε δεῖ καὶ τὰς σικύας προσφέρειν καὶ πυρία, εἰ δὲ δεήσει, καὶ κατάπλασμα. Galen, *De sympt. causis* I 8 (VII 142.17 K) καὶ σικύας προσφέρων. The σικύα, bottle-gourd, also denoted a ‘cupping-instrument’ shaped like, or made from, a gourd (LSJ). In papyri cf. POxy LIX 4001.33. Lat. *cucurbita* or *cucurbitula* cf. Anthony Rich (*Wörterbuch der röm. Altertümer* s.v., German ‘Schröpfkopf’. Cf. PAnt III 125, fr. 1b.3 (Barns & Zilliacus 1967, p. 45), τῷ στομαχῷ σικυα]. Instead of προσφέρειν, ‘apply’, we also find τιθέναι, ‘set’, in e.g. Antyllos ap. Orib. *Coll. med.* VI 6.5 (from Περὶ τῶν ποιουμένων βοηθημάτων IV. § 6. Περὶ ἐγρηγόρσεως [CMG VI 1.1, p. 155; 158 Raed.]); προσβάλλειν in e.g. Hipp. *Aff.* 4 (VI 212.11 Littré).

6. κ]αταπλάττειν, ‘plaster or poultice’ or ‘apply as a plaster or poultice’ (LSJ). We find both the Attic spelling with -ττ- and Hellenistic -cc- in the medical papyri. καταπλάττειν in PAnt III 125, fr. 3b.8; fr. 16b.2 (Barns & Zilliacus 1967, p. 47; 49). Cf. περιπλάττω Andorlini (2001, no. 10 b.7).

7. ἐ]πικαταπλάττειν (or ἐ]πικαταπλαττ[ομέν]ων?). If the supplement is correct – it is hard to see what else the traces at the left edge of the papyrus could be except πi – we seem to have another instance of the rare word ἐπικαταπλάττειν, ‘put a bandage on as well’, which Hippocrates, *Fract.* 25 (σφυγμῶδες τε καὶ πυρῶδες τὸ ἔλκος ἂν εἴ. ἀναγκάζονται δὲ διὰ τὸ οἶδος ἐπικαταπλάσσειν II, p. 83.3–4 Kühlw.) (cf. Galen, *In Hippocratis librum de fracturis commentarii* III 8 [XVIII 2, p. 546.2 K], and *De placitis Hippocratis et Platonis* IX 6.31) recommends when there is swelling round a wound.

9. απνοη leg. Cowey. Either ἀ]ναπνοή (very common) or δι]απνοή (somewhat rarer). Might be from ἀπνοέω, but unlikely.

At end δια[ looks likely, but only the tops of the two last letters are visible.

10. E.g. αἴ]θησιν or –τί]θησιν, presumably as a compound verb. Perhaps διὰ [τὴν αἴ]θησιν in lines 9–10. When the body is covered by a plaster, the ‘process of inhalation’ (*anapnoe*) might be said to be perceptible by means of ‘sense-perception’ (*aisthesis*) or by means of ‘cutting’ in bloodletting (*diairesis*, line 11).

11. διαπρ [ , probably a form of διαπρέω, used repeatedly by Antyllos ap. Orib. *Coll. med.* VII 7.1 (from the second book on ‘Emptying Remedies’) of venesection, the cutting open of blood vessels to let blood. Or from διαίρεσις ‘section’, e.g. PCairo Crawford (Pack<sup>2</sup> 2377), col. II 3. E.g. κ[ατὰ τὰς τοιαύτας διαιρέ]σεις *vel sim.* to fill the gap.

2–11. An e.g. reconstruction of these lines might be: δυάρεσ[τον | ο]ῦν ἔργον τῆδε δι[α τιν]ων ἡμερῶν πρ[ὶν τὰς | σι]κύας προσφέρει[ν (καὶ) | καταπλάττειν [αὐτό· ἐ]πικαταπλαττ[ομέν]ων γὰρ τῶν σω[μάτων ἢ | ἀ]ναπνοῆ διὰ [τὴν αἴ]θησιν ἢ κ[ατὰ τὰς τοιαύτας διαιρέ]σεις (*scil.* γίνεται) κτλ.

Fr. 2

(4.7 x 7.3 cm)

Pl. 00

— — — — —  
 .....]μεντο[..  
 .....]η θείοις οι-  
 .....] ἢ καθαροῖς ἐξε-  
 ..... γ]ὰρ τρόπον ελ-  
 5 ..... παρ]ωτίδων ἢ βου-  
 βώνων ... π]ροκειμένω(v)  
 .....]οικονομου-  
 .....]επιτεθεν  
 .....]ε ἐπισημα-  
 10 .....]ς οὐδ’ ἐπὶ του

..... το]πικῆς δει[.  
 ..... φ]λεγγμον[..  
 .....]ειν[..  
 ————

1. ο[ : omikron nearly certain. μέντο[ι suggests itself, but μέν το[- quite possible too.

2. ] η. before eta a vertical with a lower serif followed by a speck of ink top right, which might indicate rho, an unlikely but not impossible combination (e.g. χρή plus infinitive, see ἐξε[- in line 3). Sigma cannot be ruled out (|ς ῆ). Then a very dubious theta with the horizontal nearly rubbed away, as in line 8 of this fragment. But I do not see an alternative to θείοις. θεῖον, ‘sulphur’, is frequently mentioned as a healing substance in the medical writers, but never, as far as I can see, in the plural. So the writer here is referring to ‘divine’ remedies, explanations or phenomena, of the kind, perhaps, that Hipp. *Morb. sacr.* passim, and *De aëre aquis et locis* 22.11 (θεῖα, p. 241.6 Jouanna, BL) refutes. In combination with καθαροῖς in the next line we might suspect some kind of kathartic treatment or ritual as a way of ridding the body of pollution.

οι[-]. A noun would fit well between the two adjectives here, but nothing convincing suggests itself (unless οἶ[-λοιο). More likely, one feels, a participle such as οἱ χρώμενοι. But what and where was the noun with which θείοις and καθαροῖς agree?

Unless we have to reckon with a κ|ρηθ- form inducted through the ionic medical language (from κερώνυμαι, e.g. the Hippocratic οἶνος κερημένος). Thus the incorrect dative ending θείοις (instead of θεῖσι) might reflect the so-called heteroclitie declension. The sense would be a treatment ‘with wine mixed with water, or with pure wine’.

3. καθαροῖς, ‘clean’ (or ‘pure’), but clean what? We hear of e.g. clean water, clean bread and clean dressings as items in the Greek doctor's treatments, but it is hard to see here what is meant. καθαρός can also be used of pure and undiluted wine (e.g. Galen, *In Hipp. de vict. ac. comm.* III 2 [XV 631.11 K], *Vict. att.* 92 Ἦκιστα δ’ ὄν ὑπίδοιτό τις οἶνον γλυκεῖς ὄσοι καθαροὶ καὶ διαυγεῖς εἰσι).

At line end ἐξε- (Cowey) or possibly ἐζε-. Perhaps one word, e.g. ἐξέλ[κειν] (‘draw off/out’), or ἐξε|[τι] but possibly we have the preposition ἐξ followed by a noun. If ἐζε, probably a form of ζέω, which is used in connection with boiling substances for use in poultice (e.g. ἐζε|[μ]ένους).

4–5. Poss. ὄν γ|ἄρ τρόπον with a new begin.

ελ-|. Because of the rules for dividing words between lines (Turner, *GMAW*<sup>2</sup> 1987, 17), either a lamda or another consonant must have followed in the next line. That rules out possibilities such as ἐλ|[εῖν] or ἐλ|[άττω]. Perhaps ἐλ|[κ-] or ἐλ|[ -] as in e.g. ἔλ|[κος], ἐλ|[κόω] or ἐλ|[θεῖν]. Both ulcers and swellings (i.e. παρωτίδες) were currently treated by plasters (e.g. Galen, *Comp. sec. loc.* V 2 [XIII 778.14 K] and passim). Poss. ἔλ|[κη] ἐπὶ παρ|ωτίδων. The word ἐλ|[κτικά] (linked perhaps to ἐπιτεθέν|[τα], line 8) is supported by Galen, *Comp. sec. loc.* III 2 (XII 665.1ff . K) ἐπὶ δὲ τῶν παρωτίδων ... φαρμάκοις ἐλκτικοῖς χρώμενοι.

5-6. A probable supplement is παρ]ωτίδων ἢ βου[βώνων ‘tumour of the parotid gland or swollen glands’, cf. Galen, *Simpl.* X 1 (XII 266.6 K) ἐπί τε παρωτίδων καὶ βουβώνων; *ibid.* XII 273.4 and 273.12 κατὰ παρωτίδων τε καὶ ὑποχονδρίων καὶ βουβώνων. The parotid glands were normally located ‘beside the ears’ (παρὰ τοῖς ὠσίν), although PVindob G 29368 (= *MPER* NS XIII 20: see MP<sup>3</sup> 2362 for bibliography), fr. B recto lines 5ff. (see Oellacher 1939, no. LVII, pp. 83–84), from a medical treatise dealing with ailments of the parotid glands, locates them ‘behind the ears’ (ὀπισθεν τῶν ὠτων). An alternative name for these glands, δίοκκουροι (cf. Ps.-Gal., *Def. med.* 372 [XIX 440.6 K]), is used in line 8. Thessalus, *De virtutibus herbarum* (e cod. Monac. 542), 1.8.7, line 11, says the herb artemisia (wormwood) is effective against these ailments, among others, when applied as a compress (καταπλάσσειν). βουβώνες, on the other hand, are the glands of the groin specifically or ‘glands’ generally, hence ‘swollen glands’ when in a pathological state. In view of the (faint) possibility that the present fragments come from the fourth chapter of Antyllos’ first book *On Remedies* (see introduction), it is perhaps worth noting that, according to Orib. *Coll. med.* VI 6.5 (CMG VI 1.1, p. 158.26 Raed.), he recommends in this section of his work σικύαι τιθέμεναι κατὰ βουβώνων to keep a patient awake.

6. A horizontal line above final omega is clearly visible despite coinciding with a crack in the papyrus. This is probably shorthand for π]ροκειμένω(v), cf. Turner *GMAW*<sup>2</sup> 1987, 15.

7. Trace of first letter suits omikron, not alpha (e.g. γυναικονόμος). Probably a form of οἰκονομέω, ‘manage’, ‘employ’ (e.g. Antyllos ap. Orib. *Coll. med.* VI 10.6.1 [CMG VI 1.1, p. 160.27 Raed.]) or a compound, e.g. διοικονομέω, προδιοικονομέω, ἀποικονομέω (Orib. *Coll. med.* X 37.17.5 [CMG VI 1.2, p. 76.34 Raed.]). With οἰκονομέω a *dynamis*, ‘faculty’, might be involved (e.g. lines 7–8 δυνάμεως] οἰκονομού[της κτλ.).

8. ἐπιτεθέν-ι. No doubt a form of the aorist passive participle ἐπιτεθείς, but not necessarily neut. sg. In view of the other participles in gen. pl., probably ἐπιτεθένι[των. The word division between nu and tau is permissible. For ἐπιτίθημι, ‘apply’, of plasters or poultices, see Andorlini (*GMP* I, no. 12, pp. 134–6).

9. ἐπισημα-ι. A form of ἐπισημαίνω, ‘appear as a symptom (in a case)’, or of ἐπισημασία, see PTurner 14.25 (MP<sup>3</sup> 2340.1). Common in the medical writers.

11. Probably το]πικῆς ‘local’, ‘topical’ (i.e. δυνάμεως?).  
At line end a vertical: mu, nu, iota, pi possible. δεῖ[ται?

12. A form of φλεγμονή, inflammation or inflamed tumour, very common in the medical writers. Possibly genitive φ]λεγμον[ῆς with το]πικῆς in previous line but see note on 11.

13. εἶν or ἦν.

Fr. 3

(6.1 x 7.5 cm)

Pl. IV

..... cō]μῶ[



... .. γλω]τταν [ἢ τρα-  
 χεῖα[v] ἢ δασειαν [ἐχη-  
 κότες. οὐ γὰρ διαγ[...  
 5 μένων τῶν περ[.....  
 ца πυρετῶν ἀλλ[.....  
 μένων ἀναπει [.....  
 τὰ φυσικῶς ἐν [.....  
 τι καὶ τῆ μ [..... πα-  
 10 ρακειμεν[.....  
 πᾶσαν θε[.....  
 ... ον [.....  
 .. α τ[.....  
 -----

1. The loop of the alpha has a sharp acute angle, typical of this writer.

2. γλω]τταν most likely statistically, but many other possibilities. As in *καταπλάττω* we note the Attic spelling.

3. In first position two low traces – chi? – then the lower part of epsilon or sigma, then lower part of vertical of iota, gamma, iota or even tau, then a clear alpha. Before the following eta one needs another adjective balancing *δασειαν* (with γλω]τταν in the previous line). *τρα-]*χεῖα[v], ‘rough’, or *πα-]*χεῖα[v], ‘thick, swollen’, would fit the traces well, but the space between alpha and eta is large enough for two letters, or for a large, well-spaced nu. ἦ would be easiest to construe, but barely fills the gap; perhaps μή, but one wonders what the construction could be. Both *τραχύς* and *παχύς* are found describing the tongue as a symptom of fever or illness.

*δασειαν*, hairy (of people and animals), but here probably with γλω]τταν in the previous line = ‘rough’, cf. Kühn & Fleischer (*Index Hippocraticus*, 1989, s.v. IV) = *asper*, said of (*γλωῦσα, γαστέρες καρδίης*). One notes the discussion of ‘rough voices’ in Galen, *In Hippocratis prorrheticum I commentaria III* (XVI 509 K). In Erotianus Gramm., (*Erotiani vocum Hippocraticarum collectio cum fragmentis*, E. Nachmanson, ed., Göteborg 1918, p. 99.11ff.), Fragment 2.1, we find ‘rough tongues’ (*δασειαι γλωῦσαι*) defined as those ‘so afflicted by dryness that they cannot articulate the words’.

4. ]κοτες. Certainly the end of a participle, and the end of a sentence. *πεφυ-]*κότες, *ἐχη-]*κότες, *ῥδη-]*κότες?

In the final position the left half of pi or gamma. With pi I have considered *διαπ[νεο-]*μένων, ‘dissipate by evaporation’, or *διαπ[αυο-]*μένων, ‘abate’, with gamma *διαγ[ενο-]*μένων, or *διαγ[ινο-]*μένων ‘continue’ (probably the best possibility).

5–6. τῶν περ[ὶ τὰ μέ-]λα πυρετῶν? Cf. Orib. *Ecl. med.* 57.2 (CMG VI 2.2., p. 221.13 Raed.), φλεγμονῶν περὶ τὰ μέσα ὑπαρχουσῶν. Aet. *Iatr.* III 159 (CMG VIII 1, p. 00 Oliv.) ἔν τε καυκάδεσι πυρετοῖς καὶ πυρώσεσιν ὑπερβαλλούσαις περὶ τὰ μέσα.

6. ἀλλ[ὰ or ἀλλ[αττο-]μένων?

7. ἀναπει [ . If a verb, the choices are limited: ἀναπεῖθω, ‘persuade’, ‘convince’ (quite common in Galen); ἀναπεῖρω, ‘pierce upwards’, used by Antyllos ap. Orib. *Coll. med.* VII 10.1 (CMG VI 1.1, p. 211.24–25 Raed.), in contradistinction to καταπεῖρω, ‘pierce downwards’. He says that one ‘pierces upwards’ (sc. the artery) when the blood vessels are clearly visible, ‘downwards’ when they are not clear.

8. At the end tau (e.g. ἐν τ[ῶ νόμα-] or ἐντ[-]), or perhaps upsilon, followed by an indistinct trace. One might consider ἐνυπ[άρχοντι, cf. Nemesius Theol., *De natura hominis* 43 (p. 127.16–17 Morani), quoting Aristotle, *Eth. Nic.* 1144b.1, τούτην γὰρ θείαν οὐδαν (sc. φύσιν) καὶ τοῖς γενητοῖς πᾶσιν ἐνυπάρχουσαν ἐκάτω φυσικῶς κτλ. ἐνυπάρχω, ‘exist’, ‘occur’, is quite a common term in medical writers, e.g. Orib. *Coll. med.* XXIV 19.1; *ibid.* XV 1.10.65. However, that gives a line with eighteen letters, which may be too long.

An e.g. reconstruction of lines 2–8: τὴν γλῶτταν [ἢ τρα-]χεῖα[ν] ἢ δασειαν [έσχη-]κότες. οὐ γὰρ διαγ[ινο-]μένων τῶν περ[ὶ τὰ μέ-]λα πυρετῶν ἀλλ[ὰ παυο-]μένων ἀναπειρ[ώμεθα] τὰ φυσικῶς ἐν τ[ῶ νόμα-]τι καὶ τῆ μ . . . [ . . . πα-]ρακειμεν[α.

9. After eta either mu or nu (e.g. τῆν). Mu, I think, is more likely as the diagonal line from top left starts to rise again, as if in the arc of mu, rather than the straight diagonal of nu. If that is the case τῆ before mu must be dative singular of the article τῆι, possibly supporting a construction of τι at the beginning of the line as a dative ending, thus strengthening the case slightly for ἐνυπ[άρχοντι, ‘underlying’ (see previous note). After mu top arc of what might be omikron or possibly epsilon.

10. First letter probably rho (e.g. πα-]ρακειμεν[ Cowey) or possibly tau (e.g. κα-]τακειμεν[ : κατακεῖσθαι ‘wenn einer an...erkrankt ist’ Dagmar Schweinfurth).

11. At end epsilon rather than sigma, before it left arc of perhaps theta: θε[ραπείαν?

12. In order: alpha, perhaps lamda, clear right half of eta, tau.

Fr. 4

(4.5 x 7.7 cm)

Pl. V

Col. I

5

— — — — —  
 ]δίαθε  
 μ]ενου  
 ]δίατε  
 ]κκαία  
 ] . . . . .εν

ταλ]αιπ̣ω̣ρι-  
 ἐπ]ιχέη ου  
 ]αι ὕλη  
 ]ης̣ ω̣μα  
 10 ]νηλω[  
 ]τα[

Col. II

-----

-----

φ[  
 τα[  
 χ[  
 5 σε[  
 ..[  
 ω[  
 τ[

-----

## Col. I

1. ]δι̣α̣θε̣. Horizontal of theta rubbed off. Probably a form of διάθεσις, '[bodily] condition'.

2. First letter sigma or (probably) epsilon with horizontal rubbed off.

3. ]δι̣α̣τε̣, perhaps from διατίθημι, e.g. διατεθέν, but by no means certainly.

4. First letter probably not gamma, as traces of a lower arc are visible. If ]κα̣ια̣, not necessarily a form of κκαίος, 'awkward, foolish', but possibly to be divided ]c καὶ α[. And, if the first letter is gamma, other possibilities suggest themselves, e.g. ἀνα]γκάια.

5. Right hasta of first letter visible: **nu, mu**, pi? Second letter probably eta (]η̣σεν)?

6. Leg. Andorlini. Probably a form of ταλαιπωρία, 'bodily suffering, duress'.

7. Hasta of first letter visible: probably iota, perhaps eta, and to the left of that a speck of ink at mid-height, making rho / iota more likely than pi / iota. Perhaps a form of -χεω e.g. ἐπ]ιχέη, 'pour on', or περ]ιχέη. One might also try ε]χ̣ε ἢ οὐ or τρ]ηχε̣η.

8. ὕλη, 'matter', reasonably clear. If the previous letters represent a dative sg. feminine ending (e.g. καθαρῶ or εὐτροφερῶ) then perhaps ὕλη; otherwise ]ται (e.g. γίνε]ται) and ὕλη in the singular is possible.

9. A form of cōμα.

10. Possibly ἀ]νήλω[-, a form of ἀναλίσκω, 'consume', or 'to be consumed, perish' (Pass.).

Col. II

4. cε[ or ει[.

Fr. 5

(5.5 x 8.6 cm)

Pl. 00

-----  
 .....]..μεν[  
 ....] περιπτ[  
 τιδι ἄνω cεc[ - - - πε-  
 ριωδουνουν[  
 5 των cυνεμ[  
 δ' αυτη κα[  
 κειμενα[  
 ωc[... ]ταυτ[  
 κου[  
 10 ερ[  
 τα[  
 φ[  
 τα[  
 -----

1. Mu and nu by no means certain.

2. The reading is difficult, and either περιπτ[- or ιρισιc[ would suit the traces. There is a squiggle of ink under the first letter, as if the scribe's hand slipped. With περιπτ[- there are many possibilities (e.g. ἀ]περιπτ[-, περιπτ[έον). With the latter one might read με]ταχειρίσιc[, 'use', 'mode of preparing' (μ. ἐπιπλάσματος Lykos ap. Orib. *Coll. med.* IX 34.1 [CMG VI 1.2, p. 32.13 Raed.]), but the lower traces of four letters before first iota cannot be said clearly to fit this supplement.

3. -τιδι, perhaps the end of a word denoting illness like ἀρθρί-]τιδι or παρω-]τιδι (cf. Fr. 2.5).

Last letter sigma or perhaps epsilon.

4. Fin. after nu left end of horizontal, probably tau. Probably πε-]ριωδονουντ[, (someone or something) in great pain. περιωδυνέω = περιωδυνάω (LSJ); used of a person or a part of the body, e.g. τὸ ἦπαρ (*Index Hippocraticus*, 1989, s.v.). Here we might have the neuter participle. Cf. Archigenes apud Aëtium, *Iatr.* XII 37.44 (ed. G.A. Kostomiris, Paris 1892), περιωδυνούντα; Soranus, *Gyn.* IV 39.1 φλεγμαίνειν καὶ περιωδυνεῖν; Oribasius, *Coll. med.* X 10.4 [CMG VI 1.2, p. 55.8 Raed.] (from Herodotus).

5. των συνεμ[. If a compound verb then συνεμφαίνομαι, συνεμφύομαι, συνεμπίπτω suggest themselves: e.g. συνεμ[φαινομένων, συνεμ[φόντων/- φυζῶν, συνεμ[πίπτων *vel sim.*

3–5. Perhaps something like: πε-]ριωδυνούντ[ων τινῶν | τῶν συνεμ[φουομένων.

6. Last letter lamda or perhaps alpha.

6–7. προ-]κείμενα or παρα-]κείμενα.

8. Above initial omega a curved line (circumflex accent? Or rough breathing plus accent? e.g. ὤσ[τε).

9. In third position only left tip of upsilon. An alternative reading is ] μῦ[.

11. After rho hasta: gamma, mu, nu, pi.

12. After phi left arc of omikron, probably.

Fr. 6

(5.5 x 8.4 cm)

Pl. 00

-----  
 .....]κων [̄  
 .....] [̄] ταῦτα  
 περὶ] καταπλασμάτων  
 εἰπό]ντες ἐνθάδε τὸ  
 τέτα]ρτον περὶ βοηθη-  
 μάτ]ων σύγγραμμα τ[̄  
 ....]υμεν.

] Περὶ βοη[θη-  
 μά]των [̄  
 Δ̄  
 -

1. First letter: right half of kappa or perhaps chi.

2. υ: traces compatible with αυ.

3. [περὶ] Andorlini. *καταπλασμάτων*. Mu and second tau leg. Cowey. *κατάπλασμα*, ‘poultice’, ‘bandage’, ‘compress’, a very common remedy in ancient medicine. Bandages or plasters soaked or powdered in various substances were applied to an injured, swollen or painful part of the body; see Goltz 1974, 207–220. For an idea of the range of possible substances applicable by bandage see Antyllos ap. Orib. *Coll. med.* IX 24.1ff. (CMG VI 1.2, p. 26.9 Raed.) Antyllos’ chapter ‘On compresses’ is taken, according to Oribasius, from the first book of Antyllos’ *On Remedies* (see introduction). In opening sentences Antyllos says that some poultices warm and some cool, some are made with water, some without, some are boiled, some not. In *ibid.* IX 22.1 Antyllos distinguishes *kataplasmata* from embrocations (salves), saying that the latter are weaker, but preferable sometimes, e.g. in the early stages of an illness or for certain parts of the body, such as the head. Orib. *ibid.* IX 25.1ff., quotes more recipes for *kataplasmata* from the medical writings of Lykos of Neapolis (around 100 BC). In medical papyri cf. PLitLond 170.13 and 18 (*καταπλάσμασι* χρωῖνται (see MP<sup>3</sup> 2404 for further bibliography); -πλ]ασσων το κατα[πλασμα PAnt 126a.15–16).

4. -]ντες rather than -]ντος as there is a trace of the horizontal of epsilon. γράψα]ντες, λέγο]ντες Andorlini.

ἐνθάδε. Horizontal of theta continues right across to alpha.

5–9. Leg. et suppl. Andorlini.

5–6. περὶ βοηθ[η-μάτ]ων. A book title *On Remedies*. For possible authors of this work see introduction.

6. *κύγγραμμα*, ‘treatise’, ‘work’, used e.g. of Hippokrates’ writings by Soranus, *Vit. Hippocr.* 12 and 13 (CMG, p. 00 and 00 Ilberg).

6–7. τ[ε-λλειο]ῦμεν Andorlini, cf. Sor. *Gyn.* II 57.3 (CMG IV, p. 00 Ilb.) τὸν περὶ παιδοτροφίας λόγον ἐνθάδε τελειοῦμεν.

After a gap of about 2 cm, in large letters, a title spread over two lines followed by, between horizontal lines, the letter Δ, referring to the fourth book of a work.

8–10. Leg. suppl. Andorlini.