Summary: Numerous medical treatises of the ‘Hippocratic Collection’ feature distinct textual units which are internally composed more or less planfully but are arranged chaotically within their treatise. The paper attempts to analyse the form and contents of several of these treatises and to construct a possible scenario characterizing the professional environment in which they were compiled, the process and principles of compilation itself, and in particular the material act of writing.

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0. General: Chaotic and Systematic Text Structures

Numerous medical treatises of the ‘Hippocratic Collection’ feature clearly distinct textual units which are internally composed more or less planfully but are arranged chaotically within their treatise. The unsystematic overall structure of these treatises is correlated to their type of contents: they all deal with topics that cannot be arranged in a ‘natural’ sequence such as that of space and/or time. Whereas a process of locomotion (e.g. a flux of liquids within the body) or an anatomical description ‘from head to heel’ (a capite ad calcem) or a temporal chain of occurrences (e.g. the course of a disease) admit of linear narrative representation (‘first a, then b, then c...’), the contents of these treatises is much more difficult to arrange.

Speech and, likewise, written utterances in a bare text (i.e., in a text such as those transmitted in the ‘Hippocratic Collection’ without links to interlinear or marginal commentary, footnotes, or hypertext) are linear, while thinking and thought are not linear. No text can be a 1:1 projection of how and what we think or reproduce from our memory. Our mind works in clusters of associations, but when we are expressing ourselves in speech or in conventional text, we are forced to say something first and something last. In the special case of ‘natural’ sequences, local or temporal, verbal representation may proceed parallel to the sequence of the subject matter; in other cases the incompatibility between linear expression and non-linear thought may create problems of representation, although usually, when producing parole, we do not feel any conflict because we have been trained early in our lives to think first and then to speak, and have developed more or less automatic routines; but difficulties may arise for us even as mature scholars when we are lacking a conceptual framework or a system for the subject matter, or if an existing conceptual framework is inadequate (and this may well be so when something new is to be said). In the extreme, we have, in such a case, to express ourselves in short, unconnected sentences, in aphorisms or dictums, or we form, as well as we can, larger agglomerations of correlated aphoristic utterances. When there is no system for a non-sequential subject matter, its representation will necessarily be unsystematical. The ‘Hippocratic Collection’ contains whole books of apophthegms, sayings, dicta, maxims, aperçus, aphorisms: Aphorismi, Prorrheticus I, and Coae Praenotiones are of this type. Often the aphorisms are, if at all, arranged simply by similarities of subject matter.

Such a contents structure is not necessarily a consequence of intellectual disability: Ludwig Wittgenstein’s largely disconnected ‘Philosophische Untersuchungen’ and his ‘Vorwort’ to this work illustrate and comment on the general problem and its possible solutions (Wittgenstein [1990] 95-96). By the way: any modern newspaper with its medley of well written, but disconnected articles suffices to convince us that the phenomenon may also be due to requirements of the respective literary genus.

Most books of the ‘Hippocratic Collection’ are, however, not aphoristic but belong to various other types of treatise, e.g. diary-like daily records (Epidemiarum) or, another type, ‘handbooks’ (they may be interspersed with aphorisms, though). Similarly to collections of aphorisms, they

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1 Aph.’, Αφορισμοί, ed. Li. 4.458-609.
3 Coae., Κωικακοὶ προγνώσεις, ed. Li. 5.588-733.
often exhibit, even within non-aphoristic passages, structural features that can best be explained in terms of an incompatibility between the wealth of professional lore and experience that the authors are trying to describe and the constraints of necessarily linear verbal utterances.

The aim of this paper is twofold: first, to analyse the structure and the lines of thought of a number of Hippocratic treatises (it was, however, beyond the scope of this paper to apply the tools of narratology: these would have to be specifically adapted and developed to meet the peculiarities of medical and scientific texts [de Jong (2001) can serve as a general introduction into narratology for Hellenists]); secondly, to tentatively construct a scenario of the genesis of these books and, in doing so, to take account of some specific cultural conditions prevailing at their origin around 400 BC. Analysis and construction will proceed as distinct operations but not necessarily in separate chapters. The scenario is not meant to be a hypothesis susceptible of being verified or falsified, but rather a more or less plausible framework into which the philological and historical findings can be integrated.

When the treatises were shaped, the cultural situation was characterized by several important features foreign to moderners (see 3.–6. below): Although there were abundant medical doctrines, theoretical systems of such lore were still under construction or even lacking. The notions of intellectual property and plagiarism were not yet developed, so that every literary product belonged to the ‘public domain’ and could be reproduced freely: therefore, the authors or scribes, besides being capable of creating new texts on their own, had at their disposal a lot of text material to copy or to excerpt (in fact, the Hippocratic Collection still contains a large amount of ‘recycled’ parallel texts, see 3. below, and much more of this material is now lost). Physicians practised a craft comparable to other crafts (e.g. that of the singers of epic poems) and depended solely on the public’s esteem; the public was competent to assess the quality of services done; the services of one craftsman were, in principle, interchangeable with that of others, and so were the elements of the medical discourse, oral or written: texts tended to be compatible rather than contradictory to one another (see 5.1. below). As to the material act of writing (see 5.2 below), enough literary testimonia and archeological remains are available for constructing a plausible scenario accounting for the frequency of distinct text units which have the length of about 100 epic verses. In the following schemes of disposition of extant Hippocratic treatises, such units will be marked by expressions like \( [xxx \text{ words } \equiv 100 \text{ epic verses}] \). The traditional ‘Hippocratic question’, ‘Which treatises of the “Hippocratic Collection” are by Hippocrates, son of Heracleidas?’, will briefly be touched upon and – in the framework of the scenario to be constructed – be disqualified as misleading.

1. Some Hippocratic Treatises

1.1. Speeches

Before displaying more or less chaotically structured Hippocratic treatises in which the conflict between language and thought becomes obvious, two Hippocratic works should be shortly discussed which belong to yet another literary genus. Here the difficulty of arranging thoughts seems to have been less: they are speeches setting forth and defending an opinion. In both of them, \( De \ arte \)\(^4\) and

De flatibus, the orator repeatedly refers to himself in the First Person Singular (Jouanna [1988] 13sq.; 170); both texts betray considerable dexterity in arguing and are – which is important for our context – stylized in the most modern fashion of one of the most influential teachers of rhetoric in the fifth and fourth centuries BC, Gorgias (Jouanna [1988] 10sqq.; 172sq.). Oratory already had a long tradition: brilliant speeches are found in the earliest texts of Greek epic, and life in a polis was unthinkable without rhetorical routine; any citizen could get into situations in which it was necessary to speak publicly. During Gorgias’s lifetime, special schools began to train the ability to deliver speeches. To people unwilling or unable to attend them, professional ‘ghost-writers’ offered their services, formulating written speech texts to be memorized and delivered by clients.

Obviously the situations of talking to, and interacting with, a physically present audience, e.g. in public assemblies or councils or in court, provoked a dynamic cultural development: more and more formal skill and/or preparation was required in order to keep up with the increasing rhetorical competence of one’s adversaries. The format of medical ‘handbooks,’ on the other hand, did not have a comparable cultural background in Greece. There existed no schools for teaching their composition. The only training one could get around 400 BC, when the technique of writing was being broadly introduced into medicine and other arts and crafts, was to imitate available medical treatises. There must have been a lot of them now lost: Xenophon makes Socrates say that ‘there exist many treatises by physicians.’

De arte does not present a system of medicine. Its object is smaller, it is one single point, so to speak: the orator defends his medical profession against the charge that medicine is no art or craft at all and that it does, therefore, not exist as such. Everything in the speech is subordinated to this purpose. In the other oration, Flat., the speaker attempts to prove that the air is the most potent agent in the body and in the world. No system of medicine is displayed here either, only the outline of a doctrine. Both texts follow a linear course of thought (short description of contents in Jouanna [1988] 11-13; 168sq.). Differently from a schoolbook or handbook, which covers large areas of medical knowledge, they produce, as in a chain, argument after argument in favour of the theses they defend. Both speeches have a precise goal, a point which the speaker is keeping to, and a clear progression of thought. They are anything but chaotic.

1.2. Treatises of the ‘Handbook’ Type

Most works of the Hippocratic Collection are not speeches but of the ‘handbook’ type. Some of them have a structure similar to that of orations, although rather unobtrusively and not in the Gorgianic format (e.g. De morbo sacro, see below 1.2.7); more often, only the initial parts of the ‘handbook’ treatises are similarly structured: not as speeches but as attractive argumentative passages with an advancing course of thought, texts especially designed to arouse interest.

7 Memorabilia 4.2.10.
8 Another instance is De vetere medicina (VM, Περὶ ἀρχαίης ἱερατικῆς), ed. Jouanna (1990), 9-17; Festugière (1948) VIII-XIII; generally Jouanna (1984).
1.2.1. Prorrheticus 2

Prorrheticus 2\(^9\) is an example of this more common type. Its disposition is as follows (for the indications of text lengths in terms of words and epic verses [dactylic hexameters, \(\sigma\tau\lambda\chi\omega\tau\), see 0. above and 5.2. below; texts close to 100 lines but shorter than 600 or longer than 800 words have been marked by ‘(?)’):

**Part 1, General principles to be followed when prognosticating (1 textual unit, chs. 1-4):** The author (‘I’, ‘me’) expedites certain spectacular, allegedly unfalling prognoses known to him from hearsay [including direct and indirect contact with such prognosticators, see below ch. 4]; these prognoses pertain either (i) to the (future) outcome of certain manifest diseases or (ii) to the (future) onset of not yet manifest ailments or (iii) to the patient’s non-compliance with dietary prescriptions (in the past). He says the aim of his treatise is more realistic than such ‘soothsaying’ (ch. 1). He explains why the above-mentioned prognoses are sometimes correct; he exhorts to prudence (ch. 2); he is sceptical as to the feasibility of finding out minor dietary irregularities (ch. 3) and sets forth the principles for discovering major non-compliance. The motive for writing his treatise, he says, is the lack of reliability encountered when talking to allegedly unfalling prognosticators and reading their writings (ch. 4). **Frequent use of First Pers. Sing. [1735 words]**

**Part 2, Particular complaints (8 textual units, chs. 5-43):** Chs. 5-10, four particular diseases, viz. dropsy, phthisis, gout, sacred disease: General (ch. 5); dropsy (ch. 6); phthisis (ch. 7); gout (ch. 8); sacred disease (ch. 9-10). **Repeated use of First Pers. Sing. (p. 20.17; 19; 22.18; 24.5; 26.19 ed. Li.). [1036 words]**

Chs. 11-17, wounds and ulcers. **Occasional use of First Pers. Sing. (p.38.15; 16 ed. Li.). [1337 words \(\equiv\) twice 100 epic verses]**

Chs. 18-21, complaints of the eyes. **Occasional use of First Pers. Sing. (p.48.12 ed. Li.). [707 words \(\equiv\) 100 epic verses]**

Chs. 22-23, complaints of the bowels. **Occasional use of First Pers. Sing. (p.50.24; 52.17;18 ed. Li.). [470 words]**

Chs. 24-28, gynecological complaints. **Occasional use of First Pers. Sing. (p.58.5 ed. Li.). [701 words \(\equiv\) 100 epic verses]**

Chs. 29-38, complaints at the head. **First Pers. Sing. does not occur. [806 words \(\equiv\) 100 (?) epic verses]**

Chs. 39-42, complaints at the limbs and articulations. **First Pers. Sing. does not occur. [710 words \(\equiv\) 100 epic verses]**

Ch. 43 (= end of book), eczemas and rashes. **First Pers. Sing. does not occur. [91 words]**

This sketch of contents makes three features obvious. First: In Part 1 (i.e. until ch. 4) the treatise displays an advancing course of argumentation, one train of thought, whereas in Part 2 (from ch. 5 onwards) the textual structure consists of a series of 8 textual units, each unit dealing with one type of disease (affections of the whole organism in chs. 5-10; wounds and ulcers in chs. 11-17; affections of certain organs or parts of the body in chs. 18-43). From unit to unit in Part 2,

\(^9\) Prorrh.2, Προρρητικός β’, ed. Li. 9.6-75.
there is no advance of thought any more, neither in argumentation nor in the order of the topics raised, nor are there transitions from unit to unit. Instead of a progression of thought there is a bare succession of the 8 textual units which are arranged chaotically. Any coherence between the units is missing. Cancelling any unit would not affect the treatise as a whole. Internally though, any unit or part of it (a chapter) may very well present a train of thought.

Enumeration is a characteristic feature of the macrostructure and microstructure in Hippocrates: Texts more or less independent of, but often thematically related to, each other are added to one another as in a catalogue. Sometimes mental association serves as a glue. In an important article on ‘Analytical and catalogue structure in the Corpus Hippocraticum,’ Wesley D. Smith has characterized works of this kind in the following way:

The author ... offers each item as though it is the whole of what he has to say, but then adds another which he presents in the same manner. Every summary statement is offered as though it is the climax, but the catalogue then proceeds... [The text] never describes its own structure, it only proceeds to present its material in surges of argument. (Smith [1983] 277-284)

The textual units in Protrh.2 form such a catalogue. The second feature in the structure of Protrh.2 is a shift in subject matter from general in Part 1 to specific in Part 2. This is a consequence of the first feature: Part 1 of Protrh.2 presents a systematically coherent subject matter, Part 2 does not. Arranging thoughts on a path of argumentation is, in any context, impossible without a certain amount of generalization.

The third feature obvious from the sketch of contents has, again, to do with the first and the second one: the book Protrh.2, after a beginning which attracts attention, and dwelling on the opening theme for some time, tapers off thematically and is lost in details. This is typical of Hippocratic treatises, some of which start vividly like springs of water or even little torrents and then waste away in the sand. If an author's first person, 'I', occurs, it does so rather in the opening parts of a treatise than in its subsequent text additions. Let me use another metaphor: In such treatises, a strong idea of an individual (who was perhaps not anonymous originally but is so to us) sets in motion a cluster of ideas. Hippocratic treatises often lack an epilogue or a summary or coda. They often end just as if their termination were provoked by the lower margin of a piece of writing material.10 This is a consequence of the additive structure. (The texts added were perhaps anonymous already to the individual who said 'I'.)

Another treatise beginning with a particularly attractive theme and manifesting all these features is the following.

1.2.2. De locis in homine

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10 This runs counter to habitual expectations with which we read modern scientific prose, but: ‘The illusion of “truthful” completeness which [modern] written academic discourse seeks to establish is no less a fiction than the worlds more honestly created as such by the novelist.’ (Chandler [1995] 124)
De locis in homine\textsuperscript{11} starts rather emphatically in most general terms. It embraces several catalogues of anatomical features and humoral fluxes and ends with various appendices. The structure:

**Part 1, Anatomy (3 textual units, chs. 1-7):** Chs. 1-2: ‘I believe that in the body there is no beginning, but that everything in it is a commencement as well as a termination: for when you draw a circle, you do not find a beginning.’ The constituents of the body are interdependent and interactive; disease is passed on from one part of the body to the other, from the belly to the head, from the head to the flesh and again to the belly; when the belly is constipated, it floods the body and in particular the head with the moisture of the food; here the brain is affected and impairs again the belly and other parts. Damage and good done to the least particle of the body are passed on to, and affect, the whole, because all parts are cognate (ch. 1). ‘The nature of the body is the starting point of medical discourse.’ The head is ‘perforated’ toward the exterior (< lacuna?: mouth?>, ears, nose, eyes, ch. 2). Occasional use of First Pers. Sing. (p.276.2 ed. Li.). [597 words \( \equiv \) 100 (?) epic verses]

Chs. 3-5: Course of the vessels (phlebes), description in downward direction; diseases originating from them and from the nerves and sinews (neura); the neura and fibres (ines) generally. First Pers. Sing. does not occur. [646 words \( \equiv \) 100 epic verses]

Chs. 6-7: Description of the bones and joints a capite ad calcem. First Pers. Sing. does not occur. [756 words \( \equiv \) 100 epic verses]

**Part 2, Pathological fluxes (3 textual units, chs. 8-16):** Chs. 8-10, pathological fluxes generally: Normal way of food and drink (ch. 8); formation and mechanism of pathological fluxes (ch. 9); summary about the seven fluxes from the head (ch. 10). First Pers. Sing. does not occur. [701 words \( \equiv \) 100 epic verses]

Chs. 11-13: fluxes of the head and their treatment: into the nose (ch. 11); into the ears (ch. 12); into the eyes (ch. 13). First Pers. Sing. does not occur. [751 words \( \equiv \) 100 epic verses]

Chs. 14-16: fluxes into the chest (ch. 14) and the spine (ch. 15); dangers of bile in the chest (ch. 16); nothing about treatment. First Pers. Sing. does not occur. [780 words \( \equiv \) 100 epic verses]

**Appendix 1 (1 textual unit, chs. 17-23):** Particular diseases; with several explicit references to fluxes (chs. 18; 20-23), but otherwise without etiology; treatment. First Pers. Sing. does not occur. [619 words \( \equiv \) 100 epic verses]

**Appendix 2 (1 textual unit, chs. 24-30):** Particular diseases, mostly with very detailed etiology, but never in the sense of the doctrine of fluxes of Part 2 (explicitly not so in ch. 26, ἀνευ ρόου); treatment. First Pers. Sing. does not occur. [896 words]

**Appendix 3 (1 textual unit, chs. 31-40):** General observation on the therapy of diseases originating from fluxes and from other causes. Miscellanea about treatment. First Pers. Sing. does not occur. [808 words \( \equiv \) 100 (?) epic verses]

**Appendix 4 (1 textual unit, chs. 41-46):** General and methodological remarks about medicine and the physician’s profession. Occasional use of First Pers. Sing. (p.342.4; 13; 18; 19 ed. Li.). [1368 words \( \equiv \) twice 100 epic verses]

**Appendix 5 (1 textual unit, ch. 47 [= end of book]):** Etiology and treatment of women’s diseases. First Pers. Sing. does not occur. [598 words \( \equiv \) 100 (?) epic verses]

All three features of Prorrh.2 (see 1.2.1. above) reappear. Loc.Hom. starts with highly general reflections and then passes over to more special topics. A train of thought is observable from ch. 1 until ch. 16, i.e. through the whole extent of Parts 1 and 2. There is, however, a difference in this progression as compared to Prorrh.2; the progression of thought is not homogeneous in kind. Argumentation occurs only in ch. 1. From then on, the text has the form of a progradiant catalogue of texts, which implies that it is a systematic catalogue. Although the connections between the texts are not always made explicit, the rationale of their sequence is clear enough from the programmatic motto of ch. 2: ‘The nature of the body is the starting point of medical discourse.’ Progession of thought is achieved by the arrangement of the subject matter: starting from the popular presupposition often expressed in the Hippocratic Collection that diseases have their origin predominantly in the head, the text displays its material in the likewise popular order ‘from head to heel’. The lowest regions mentioned are chest and spine. A caesura occurs with ch. 17, the beginning of five ‘Appendices’ (as I have dubbed these textual units markedly set off from the others and from one another by style as well as by contents). The arrangement of the clearly distinguishable ‘Appendices’ appears to be planless, chaotic, and so does the arrangement of many of the chapters of which they consist (with the notable exception of the texts contained in ‘Appendices’ 4 and 5). These texts form an unsystematic catalogue.

1.2.3. De affectionibus

De affectionibus12 starts, like Prorrh.2 and Loc.Hom. (see 1.2.1. and 1.2.2. above), with an argumentative text attracting attention (ch. 1). There follow two parts. Part 1 (chs. 2-35) is a catalogue of disconnected textual units which deal predominantly with nosology and are, therefore, implicitly more general than the rest of the treatise. The texts discuss treatment and etiology in such a way that for every disease the relevant information is presented separately, although this implies many repetitions: no general or synthetic description of these two subject matters is attempted (with few exceptions, e.g. in chs. 23-26, where some back-references occur). This catalogue is partly systematic: the arrangement of the first two units, chs. 2-5 (head) and 6-12 (belly), is reminiscent of the scheme ‘from head to heel’. Otherwise the disposition of the material within Part 1 is chaotic. Part 2 (chs. 36-61) deals with a more special aspect, viz. therapy, and is unsystematic, too.

Preamble (1 textual unit, ch. 1): The layman must have sufficient understanding of what the physician says, administers, and prescribes; all diseases arise from phlegm and bile, when these fluids are excessively dried or moistened, heated or chilled. Occasional use of First Pers. Sing. (p.208.22 ed. Li.). [210 words]

Part 1, Nosology of various diseases including etiology and treatment (9 textual units, chs. 2-35):

Chs. 2-5: Diseases of, or at, the head: Headache (ch. 2); general remark about the necessity to treat diseases early in their development (ch. 3); ear-ache, inflammation of the throat, gums, uvula, at the teeth (ch. 4); polypus in the nose; concluding summary: ‘These are the diseases at the head except for the eye-diseases, which will be described separately’ (ch. 5). First Pers. Sing. does not occur. [520 words]

Chs. 6-12: Diseases of the body cavity (koilie) occurring predominantly in winter
(announcement of the following topics, ch. 6): Pleuritis (chs. 7-8); pneumonia (ch. 9); phrenitis (ch. 10); kausos (ch. 11); other winter diseases (ch. 12). First Pers. Sing. does not occur. [817 words ≅ 100 epic verses (??)]

Ch. 13: General remark on the specific dangers of acute diseases and on the physician’s liability. First Pers. Sing. does not occur. [81 words]

Chs. 14-17: Nameless summer diseases (chs. 14-17 init.); general remark about the necessity to treat diseases early in their development (ch. 17 in fine). First Pers. Sing. does not occur. [544 words]

Chs. 18-22: Various other diseases: Tertian, quartan fever (ch. 18); white phlegm (ch. 19); large spleen (ch. 20); ileus (ch. 21); dropsy (ch. 22). First Pers. Sing. does not occur. [1069 words]

Chs. 23-27: Diseases of the bowels: Dysentery (ch. 23); lientery (ch. 24); diarrhoea (ch. 25); tenesmus (ch. 26); cholera or diarrhoea (ch. 27). First Pers. Sing. does not occur. [660 words ≅ 100 epic verses]

Chs. 28-32: Various other diseases: Strangury (ch. 28); sciatica (ch. 29); arthritis (ch. 30); gout (ch. 31); jaundice (ch. 32). First Pers. Sing. does not occur. [535 words]

Ch. 33: General concluding remarks for the layman on diseases of the belly: necessity to treat diseases soon; the risks of dietary or palliative treatment are low, those of purging bile or phlegm are high; ‘These are the diseases of the belly except for internal suppurations, consumption, and women’s diseases, which will be described separately’. First Pers. Sing. does not occur. [91 words]

Chs. 34-35: Diseases under and on the skin: Phyma (ch. 34); lepre, prurigo (knesmos), psore, lichen (leichen), alphos, alopec (ch. 35). First Pers. Sing. does not occur. [101 words]

Part 2, Treatment by drugs and by regimen (2 textual units, chs. 36-61):

Chs. 36-47, Generalities: Drugs for evacuating bile and phlegm and for obtaining other effects (ch. 36); how to question the patient and how to assess the causes of his disease and its possible treatment (ch. 37); how to treat wounds (ch. 38); foods and drinks appropriate for the sick (ch. 39-41); anointment instead of bath (ch. 42); regimen (mostly foods) for moistening, drying, strengthening (ch. 43); general remarks about foods (ch. 44); empirical vs. systematic discovery of materia medica (ch. 45); general remarks about foods and drinks (ch. 46); properties, generally, of foods and drinks (ch. 47). First Pers. Sing. does not occur. [1461 words ≅ twice 100 epic verses]

Chs. 48-61 (= end of book), Special: Properties of particular foods, drinks, and administrations: Wine (ch. 48); meat (ch. 49); list of strong foods and drinks that are potentially dangerous to the sick (ch. 50); foods that dry the body (ch. 51); nutritional values and digestibility of particular foods and drinks (ch. 52); effects of various baths (ch. 53); digestive effects of various vegetables (ch. 54); effects of various foods, by classes and in particular (ch. 55); laxative effect of vegetables (ch. 56); effects of melon (ch. 57); of honey (ch. 58); digestive mechanisms which cause foods to empty or constipate the bowels (ch. 59); foods and wines have different effects due to sort and provenance (ch. 60); several aphorisms about foods and drinks (ch. 61). First Pers. Sing. does not occur. [1375 words ≅ twice 100 epic verses]

1.2.4. De natura muliebri
The onset of *De natura muliebri*¹³ is again similar to that of *Prorrh.2, Loc.Hom.*, and *Aff.* (see 1.2.1., 1.2.2., 1.2.3. above): ch. I is promising and – as it might seem at first sight – programmatic, a highly general argumentative preamble in the first person, emphatic and well designed. The programme is never fulfilled. It is an adaptation of a text transmitted also in *De morbis mulierum 2*, ch. 111 (ed. Li. 8.238-241), where, however, the first person and ‘the divine’ do not occur. Both these features may have been added to the preamble by the compiler of *Nat.Mul.* in order to give more weight and sonority to it. The divine never occurs again in the whole book,¹⁴ nor does the first person or the technical doctrine about constitutional types of women. The sequence of the textual units that constitute the treatise is without system; the book is a largely unsorted, chaotic database, rather worthless in its written format (particularly on an unwieldy papyrus scroll) unless you learned its contents by heart: and this was perhaps what it was made for.

**Preamble (1 textual unit):** Ch. 1. *Occasional use of First Pers. Sing.* (p.312.2; 14 ed. Li.).

*Text:*

Perì dè tìs γυναικείης φύσιος καὶ νοσημάτων τάδε λέγον· μάλιστα μέν τό θείον εν τοῖσιν ἀνθρώποισιν αἶτιον εἶναι· ἕπειτα αἱ φύσεις τῶν γυναικῶν καὶ χροιαί· αἱ μὲν γὰρ ὑπέρελευκοὶ ἱγρότεραι τέκνα καὶ ρωδότεραι, αἱ δὲ μέλαινοι ξηρότεραι τέκνα καὶ στριφύντεραι, αἱ δὲ οἰνωπαί μέσου τι ἀμφότερων ἱχουσιν, ὡδὲ περὶ τῶν ἥλικιων συμβαίνει· αἱ μὲν νέαι ἱγρότεραι καὶ πολύαιμοι ὡς ἐπὶ τὸ πουλύ, αἱ δὲ πρεσβύτερες ξηρότεραι καὶ ὀλίγαιμοι. αἱ δὲ μέσαι μέσον τι ἀμφότερον ἱχουσιν. δεὶ δὲ τὸν ὀρθὸν ταύτα χειρίζοντα πρῶτον μὲν ἐκ τῶν θείων ἀρχεσθαι, ἕπειτα διαγινώσκειν τάς τε φύσις τῶν γυναικῶν καὶ τάς ἡλικίας καὶ τάς ὀρας καὶ τοὺς τόπους, οὐ ἂν ἢ· οἱ μὲν γὰρ ὑψυχροί ρώδετες, οἱ δὲ θερμοὶ ξηροὶ καὶ στάσιμοι εἰσίν. ἀρξομαι δὲ διδάσκων ἀπὸ τοῦ ἱγροῦ κατὰ φύσιν.

Voici ce que je dis touchant la nature de la femme et ses maladies: le divin est chez les humains la principale cause; puis viennent les constitutions des femmes et leurs couleurs.

Les unes sont trop blanches, plus humides et plus sujettes aux flux; les autres sont noires, plus sèches et plus serrées; les autres sont châtain et tiennent un certain milieu entre les précédentes. Il en est de même de l’influence des âges: les jeunes sont généralement plus humides et ont le sang abondant; les âgées sont plus sèches et ont peu de sang; les intermédiaires tiennent le milieu. Celui qui manœuvre habillement doit commencer d’abord par les choses divines, puis reconnaître les constitutions des femmes, les âges, les saisons et les lieux. Des lieux, les


¹⁴ In a similar way, the author of a proverbially popular German arithmetic book, Adam Ri(e)s (1492-1559), asserts in his preface that his art is ‘nicht von Menschen, sonder [sic] von Gott oben herab gegeben’, without subsequently ever mentioning God again in his book. Ri(e)s (1574) fol. 2 recto.
1.2.5. *De liquidorum usu*

*De liquidorum usu*\(^{15}\) is different in that it lacks an introduction or preamble. It features a cumulative or catalogue structure and a thematic shift from general to special. The catalogue is, however, largely systematically arranged\(^{16}\) and betrays successful attempts at a synthetic, generalizing description which summarizes facts.

**Part 1, Normal water; general effects (1 textual unit, chs. 1-2):** General effects of externally applied drinking-water; the right measure between hot and cold (ch. 1); general therapeutic effects of warm and cold external applications on various parts of the body (ch. 2). *First Pers. Sing. does not occur.* [821 words \(\equiv 100\) (?) epic verses]

**Part 2, Particular liquids other than drinking-water; special effects (1 textual unit, chs. 3-7 [= end of book]):** External use of other liquids (sea and salt water, ch. 3; vinegar, ch. 4; wine, ch. 5); special therapeutic effects of warm and cold external applications on particular diseases (ch. 6-7). *First Pers. Sing. does not occur.* [661 words \(\equiv 100\) epic verses]

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\(^{16}\) This was already the case in *Aff.* (see 1.2.3. above), where chs. 2-5 and 6-12 follow the system ‘from head to heel’. 
1.2.6. De morbis 1

Similar is the structure of De morbis 1. This work, which consists of lucid textual units forming a catalogue, has again no introduction or preamble, but starts with an enumeration of important and very general medical themes and problems. Examining the microstructure of the text is instructive: one finds that mental associations and in particular polar concepts and expressions are prominent motors of thought keeping the process of thinking and of recollecting in motion. Here is a text sample from the beginning (Potter’s text and translation; the features are bracketed by numbers):

Ch.1: “Oς ὁν περὶ ἵππιος ἐθέλη
λευτᾶν τε ὅρθως καὶ ἐρωτώμενος ἀποκρίνεσθαι1 καὶ ἀντιλέγειν ὅρθως, ἐνθυμεῖσθαι χρὴ τάδε. πρῶτον μὲν, ἀφ’ ὧν αἱ νοοῦσι γίνονται τοῖς ἀνθρώποις πᾶσαι1 ἐπειτα δὲ, ὡς 2Ἀνάγκας2 ἔχει τῶν νοσημάτων ὡστε ὅταν γένηται εἰναι 3Η μακρὰ ἢ βραχέα ἢ θανάσιμα ἢ μὴ θανάσιμα ἢ ἐμπρὸν τι τοῦ σώματος γενέσθαι ἢ μὴ ἐμπρῶν3· καὶ ὡς, ἐπὴν γένηται, 2Ἐνδοιαστὰς2· εἰ 4κακά ἃπ’ αὐτῶν ἀποβαίνει ἡ ἀγαθὰ· καὶ ἂν ὁποῖων νοσημάτων ἐς ὅποια μεταπιπτεῖ· καὶ ὡς ἐπιτυχῇ ποιεοῦσιν οἱ ἱπτοὶ θεραπεύοντες τοὺς ἀσθενεόντας καὶ ὡς 5ἀγαθά· κακὰ5· οἱ νοσεόντες ἐν τῇ· νοούσι πάσχουσιν· καὶ ὡς ἰδικάτην ἴδῃ λέγεται· ἢ ποιεῖται7 ὧποτο ἱπτοὶ πρὸς τὸν νοσεόντα, ἢ ὑπὸ τοῦ νοσεόντος πρὸς τὸν ἱπτοῦν8· καὶ ὡς δακρυβῶς9· ποιεῖται ἐν τῇ τέχνῃ καὶ λέγεται9· καὶ ὃ· τοῦ ἰθάνατος ἐν αὐτῇ· καὶ ὃ· μὴ ὅρθως· καὶ τὸ αὐτῆς ἴδῃ ἄρχῃ· ἢ τελευτη· ἢ μέσον· ἢ ἄλλο· τί11· ἀποδεδειγμένοι τῶν τοιούτων· ὃ· τι καὶ ὅρθως· ἐστιν· ἐν

Ch.1: Anyone who wishes to ask correctly about healing, and, on being asked, to reply1 and rebut correctly, must consider the following: first, whence all diseases in men arise. Then, which diseases, when they occur, are 2necessarily2 3long or short, mortal or not mortal, or permanently disabling to some part of the body or not3, and which other diseases, when they occur, are 2uncertain2 as to whether their outcome will be 4bad or good4. From which diseases there are changes into which others. What physicians treating patients achieve by luck. What 5good or bad things5 patients suffer in diseases. What is 7said or done7 6on conjecture6 8by the physician to the patient, or by the patient to the physician8. What is 9said and done9 6with precision6 in medicine, which things are 10correct in it, and which not correct10. What 11starting point of medicine, or end, or middle, or any other

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One finds, moreover, that the microstructure is *additive*: ‘... must consider the following: first ...; then ...’ etc. (ἐνθυμεῖσθαι χρή τάδε: πρῶτον μὲν ... ἐπειτα δὲ ... καὶ ... καὶ ... κτέ.)

The macrostructure is additive, too. The textual units follow upon one another without transitions, forming a ‘semi-systematic’ catalogue: as in Part 1 of *Aff.* (see 1.2.3. above), the rationale of their sequence is not expressly stated but can be guessed. The book begins by sketching a professional situation in which medical themes are being discussed. After the chs. 1-4, which deal with the generalities of the highest level, the subject matter is narrowed down to more special topics: right moments of medical intervention (chs. 5-6), spontaneous occurrences in the course of diseases, good and bad luck (chs. 7-8), etc. (see below); that all this somehow belongs together thematically is evident and can be intuitively felt, but the connecting lines are not drawn, and it would in fact not be easy to draw them without employing philosophical tools (such as definitions) or comprehensive theoretical models of physiology and pathology. At the time when the treatise feature of this kind has been demonstrated; what truly 12 does or does not exist in medicine: 13 the small and the large, the many and the few; 14 what is all in it and what is one. 15 What it is possible to perceive, to say, to see, and to do, and what it is not possible to perceive, to say, to see, or to do. 16 What is dexterity in medicine, and what is awkwardness. 17 What the opportune moment is, and what inopportunity. 18 To which of the other arts medicine has similarities, and to which it has none. What in the body is cold or hot, strong or weak, dense or rarified, or moist or dry; which of the 20 many become few, either for worse or for better. What is noble or base, slow or fast, correct or incorrect. Which evil, on following another evil, brings something good, and which evil follows inevitably upon some other evil.
was written, such implements of thinking were not yet sufficiently developed to be applicable as routine procedures. Part 2 is loosely tacked on and deals with particular diseases. In detail:

**Part 1, General viewpoints to be borne in mind by the physician (3 textual units, chs. 1-10):** Chs. 1-4: Description of a situation where medical topics are discussed in questions and answers. Generalities of the highest level (ch. 1); general etiology of all diseases: bile and phlegm as internal, stress, wounds, warm and cold as external causes (ch. 2; cf. ch. 11); necessity in the development of diseases (chs. 3-4). *First Pers. Sing. does not occur.* [765 words ≈ 100 epic verses]

Chs. 5-6: Right and wrong moments and times (καταρρήξεις) in therapy (ch. 5); right and wrong performance in medicine (ch. 6). *First Pers. Sing. does not occur.* [606 words ≈ 100 epic verses]

Chs. 7-10: Spontaneous good and bad occurrences during illnesses (ch. 7); good and bad luck in therapy (ch. 8); there is no fixed method in beginning and terminating a treatment (ch. 9); dexterity in treatment (ch. 10). *First Pers. Sing. does not occur.* [698 words ≈ 100 epic verses]

**Part 2, Special (6 textual units, chs. 11-34):** Chs. 11-16: Suppurations (general preliminary remark, ch. 11; cf. ch. 2) in the lung and upper belly (variations in the development of these diseases dependent on individual factors, ch. 16). *Occasional use of First Pers. Sing. (p.162.15 ed. Li.).* [1398 words ≈ twice 100 epic verses]

Chs. 17-21: Various internal diseases: Suppurations in the lower belly (ch. 17); erysipelas in the lung (ch. 18); growth in the lung (ch. 19); growth in the side (ch. 20); internal suppuration after injury (ch. 21). *Occasional use of First Pers. Sing. (p.170.17 ed. Li. [cod. M: om. Θ]).* [1644 words ≈ twice 100 (?) epic verses]

Ch. 22: Variations in the development of these diseases dependent on age, sex, and other factors. *First Pers. Sing. does not occur.* [629 words ≈ 100 epic verses]

Chs. 23-25: Etiology of fever (ch. 23), shivering fits (ch. 24), sweat (ch. 25). *First Pers. Sing. does not occur.* [466 words]

Chs. 26-28: Four diseases of the chest: Pleurisy (ch. 26); pneumonia (ch. 27); pleurisy and pneumonia without expectoration (ch. 28). *First Pers. Sing. does not occur.* [743 words ≈ 100 epic verses]

Chs. 29-34 (= end of book): Varia: Other diseases (kausos, ch. 29; phrenitis, ch. 30; expectoration in pleurisy and pneumonia, ch. 31; death in pleurisy and pneumonia, ch. 32; death in kausos, ch. 33; death in phrenitis, with a final general remark on the formation of cold during the death process, ch. 34). *First Pers. Sing. does not occur.* [782 words ≈ 100 epic verses]

Part 1, the condensed catalogue of most general viewpoints, is unparalleled and makes the impression of being the creation of an innovative individual. Its structure is in itself rather perspicuous (although the position of ch. 2 is awkward). Part 2, despite containing obviously innovative material too (e.g. ch. 22), is more conventional in its contents, and the sequence of its textual units is less plausible if not chaotic. It begins with the general etiological remarks of ch. 11 (≈ ch. 2), then detailedly deals with particular suppressions in the lung and upper belly (chs. 12-15) and adds a passage on individual variations (ch. 16), which could very well serve as an epilogue. The treatise does, however, not end here but goes on with a description of other particular diseases (chs. 17-21) and with a passage on individual variations (ch. 22). This latter passage could, again, serve as a conclusion, but various chapters are tackled on.

It is easy to see why Morb.1 has brilliant chapters but a simple, additive, and partly chaotic structure: speaking or writing in unconnected textual units sets you free from the obligation to
construct and elaborate a system (of medicine, including physiology and pathology, and of reasoning). At the same time it helps you to avoid the constraints and contradictions of any existing systems. In a series of disease descriptions like chs. 11-21 (or, e.g., Aff. ch. 2-35, see 1.2.3, above), it is more convenient and safer to add etiological (in Aff. also therapeutical) remarks separately to each single chapter than to compose one synthetic account applicable to all: this latter procedure would require numerous restrictions and additional assumptions to meet each particular case. The author of Morb. I attempted something of the kind in the ‘prefatory’ ch. 11, and for us it is instructive to observe how he managed to avoid describing any details.

1.2.7. De morbo sacro

The treatise De morbo sacro19 is of a completely different structure and resembles the speech type: Catalogues are missing altogether. Similarly to the orations De arte and Flat. (see 1.1. above), it deals with a relatively narrow topic and does not display a system of medicine, only the outline of a doctrine. Its style is, however, not Gorgianic. The content is presented in a perspicuous, clearly advancing order. The disposition (chapters and subsections numbered according to Grensemann):

Part 1, Polemic (1 textual unit, chs. 1.1-2.3 = p.352.2-364.15 ed. Li.): The so-called ‘Sacred Disease’ is no more sacred than all others, but has a natural cause; it is curable. Frequent use of First Pers. Sing. [1201 words ≅ twice 100 epic verses]

Part 2, Etiology generally (1 textual unit, chs. 2.4-5.9 = p.364.15-370.11 ed. Li.): The disposition to it is hereditary; insufficient or excessive post-natal purge of phlegm from the brain are the causes; description of the anatomy of the brain and of the main vessels: the vessels transport the air and need to be unobstructed. Occasional use of First Pers. Sing. (p.366.7 ed. Li.) [646 words ≅ 100 epic verses]

Part 3, Etiology of specific symptoms caused by phlegm descending from the brain (1 textual unit, chs. 6.1-7.15 = p.370.12-374.20 ed. Li.): Increased heartbeat, asthma, diarrhoea, and the typical symptoms of the ‘Sacred Disease’ such as unconsciousness, convulsions, suffocation, sometimes death; prognosis dependent on etiology. Occasional use of First Pers. Sing. (p.372.10 ed. Li.) [559 words ≅ 100 epic verses (?)]

Part 4, The ‘Sacred Disease’ at various ages and under various environmental influences (1 textual unit, chs. 8.1-13.13 = p.374.21-386.14 ed. Li.): Its specific symptoms in early childhood, in higher, and in old age; effects of winter and summer; changes between cold and heat, northwind and southwind triggering off the attacks. First Pers. Sing. does not occur. [1267 words ≅ twice 100 epic verses]

Appendix 1 (1 textual unit, chs. 14.1-16.6 = p.386.15-392.4 ed. Li.): The brain is responsible for all emotional and intellectual functions in health and disease; etiology of certain mental disorders; differential diagnosis between phlegmatic and bilious brain diseases; importance of the air for the mental functions. Occasional use of First Pers. Sing. (p.390.10; 392.4 ed. Li.) [586 words ≅ 100 epic verses (?)]

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Appendix 2 (1 textual unit, chs. 17.1-17.9 = p.392.5-394.8 ed. Li.): Polemic against the traditional views that the diaphragm or the heart have emotional and intellectual functions. 

Occasional use of First Pers. Sing. (p.392.6; 394.6 ed. Li.) [263 words]

Epilogue (1 textual unit, ch. 18.1-6 = p.394.9-396.9 ed. Li. [= end of book]): Summary; the disease is curable; therapeutical maxims for its treatment. First Pers. Sing. does not occur. [198 words]

1.2.8. De natura hominis

The treatise De natura hominis\textsuperscript{20} comprises the speech type of text as well as the ‘handbook’ type. It consists of three major parts, as even superficial browsing makes sufficiently clear. Galen, who wrote a commentary on this treatise, and most of the modern commentators are unanimous on this point. Part 1 (chs. 1-8) sounds like a speech. As in De Arte and Flat. (see 1.1. above), its object is limited: The author defends a theory of four humours, argues against other competing theories, and produces proofs in favour of his. Ch. 8 presents a brief outlook on prognosis and therapy in the light of the new theory.\textsuperscript{21} Parts 2 and 3 are thematically cognate. The catalogue element is not missing altogether, but scarcely prominent. The scheme of disposition is as follows:

Part 1 (3 textual units, chs. 1-8): Chs. 1-3: Description of a situation in which lectures on medicine are delivered and medical subjects are discussed. Man consists not only of one substance. Frequent use of First Pers. Sing. [770 words = 100 epic verses]

Chs. 4-6: Man consists of the four humours blood, phlegm, yellow bile, black bile; these differ from each other in quality. Repeated use of First Pers. Sing. (p. 40.15; 16; 18; 44.2 [bis]; 3 ed. Li.). [714 words = 100 epic verses]

Chs. 7-8: The four humours in the four seasons (ch. 7: The four humours are related to the four seasons [winter cold / wet, maximum of phlegm; spring warm / wet, maximum of blood; summer warm / dry, maximum of yellow bile; autumn cold / dry, maximum of black bile]; clinical proof of this doctrine; ch. 8: prognosis of diseases in relation to the seasons; treatment by opposites). First Pers. Sing. does not occur. [640 words = 100 epic verses]

Part 2 (3 textual units, chs. 9-15): Chs. 9-10: General remarks about therapy and etiology (ch. 9: Treatment by opposites: repletion vs. evacuation, exercise vs. rest; differential diagnosis of diseases caused by air / by food; ch. 10: Etiology from the movement or non-movement of the disease within the body; prognosis therefrom). Occasional use of First Pers. Sing. (p. 52.11; 54.9; 15 ed. Li.). [540 words = 100 (?) epic verses]

Chs. 11-12: The system of the four pairs of the thickest blood vessels; bloodletting; pathological melting of the body by way of the blood vessels. First Pers. Sing. does not occur. [764 words = 100 epic verses]


\textsuperscript{21} Jouanna (1975) 225: ‘C’est un manifeste qui a probablement été prononcé.’ If chs. 1-8 have indeed originally been a self-contained speech, ch. 8 would have made an excellent peroratio, opening up a perspective.
Chs. 13-15: Appendix, varia (ch. 13: General rule on prognosis and treatment by opposites; ch. 14: Diseases of the blood vessels, kidneys, bladder, etc.; ch. 15: There are four kinds of fever (σύνοχος, ἀμφημερινός, τριταίος, τεταρταίος). First Pers. Sing. does not occur. [408 words]

Part 3 (1 textual unit, chs. 16-22 [= Du régime salutaire 1-7 ed. Li.]): General food-prescriptions for private persons in winter and summer and in the two seasons of transition: treatment by qualitative opposites (ch. 16); special food-prescriptions for particular somatic types in winter and summer (ch. 17); exercises, baths, and clothing in winter and summer generally and for particular somatic types (ch. 18); dietetic prescriptions for losing and gaining weight, regardless of seasons (ch. 19); vomiting and clysters for particular somatic types in winter and summer (ch. 20); dietetic prescriptions for children and women, regardless of seasons (ch. 21); dietetic prescriptions for athletes in winter and summer (ch. 22). First Pers. Sing. does not occur. [1302 words ≈ twice 100 epic verses]

Appendix 1 (1 textual unit, ch. 23 [= Du régime salutaire 8 ed. Li.]): Identical with the opening lines of the ‘treatise’ Morb.2 § 12-75. Extant already in the text of Nat.Hom. which Galen commented on. First Pers. Sing. does not occur. [75 words]

Appendix 2 (1 textual unit, ch. 24 [= end of book, = Du régime salutaire 9 ed. Li.]): Identical with the opening lines of the treatise Aff. Not in the text of Nat.Hom. which Galen commented on. First Pers. Sing. does not occur. [23 words]

Part 1 (chs. 1-8) is an attractive systematic account with a clear progression of thought. Ch. 1 illustrates what Celsus may have meant when he said that Hippocrates separated medicine from philosophy: The text describes public lectures held by others on the nature of man, lectures whose topics ‘pass beyond medicine proper’ and are based on philosophical speculation, λεγόντων ὁμι τῆς φύσις τῆς ἀνθρωπίνης προσωτέρω ἢ δεύον αὐτῆς ἐσ ἰητρικήν ἀφήκει. The author declares that he does not belong to those orators who contend that man consists entirely and exclusively of air or fire or water or earth or anything else, and who keep contradicting each other, with the public applauding whoever happens to satisfy them. Let them teach what they please, he says; he does not expect their audience to be his.

Chs. 2 and 3: Now he comes to medicine. Some physicians say that man consists entirely and exclusively of blood, or of bile, or of phlegm, each of which supposedly takes on various shapes and functions (μεταλλάσσειν τὴν ἱδέη καὶ τὴν δύναμιν) under the force of (ἀναγκαζόμενον ὑπὸ) the warm and the cold, and becomes sweet and bitter and white and dark. He thinks this is wrong. The author then produces reasons against such monistic theories (pain; ch. 3, generation).

Ch. 4, the author’s theory: The body of man has in itself blood and phlegm and yellow bile and black bile (σύμα καὶ φλέγμα καὶ χόλην ξανθήν καὶ μέλαιναν). They are the cause for disease and health: man is healthy when they are well blended, and sick when more or less of these four humours are isolated and concentrated somewhere in the body. The author explains why, following a mechanical or hydraulic model of thought: disease comes when parts of the body are emptied or filled, or when both processes happen in combination.

Ch. 5: The four humours can be well distinguished in clinical observation.

Ch. 6: The monistic humoral theories (that humans consist only of blood, etc.) rest, according to the author, on rash generalizations of clinical observation.

Ch. 7: The four humours are always present in the body, but their relative quantity is correlated to the four seasons:
Winter  cold / wet  maximum of phlegm
Spring  warm / wet  maximum of blood
Summer  warm / dry  maximum of yellow bile
Autumn  cold / dry  maximum of black bile

This theory is underpinned by the author’s clinical observation. Ch. 8: Diseases that have
begun in a given season tend to cease in the ensuing opposite season: winter diseases tend to end in
summer, spring diseases tend to end in autumn, etc. ‘The physician must oppose the diseases by
taking into account how each of them prevails in the body according to the season which favours it
most.’ (τὸν ἴπτρόν χρὴ σύντος ἱστασθαι πρὸς τὰ νοσήματα ὡς ἕκαστον τούτων ἱσχύοντος ἐν τῷ σώματι κατὰ τὴν ὑγίην τὴν αὐτῶ κατὰ φύσιν ἐσύσχει μάλιστα.)
That means: The physician is to compensate for the seasonal changes of the humoral balance by
counteracting these fluctuations. The way in which he is to effect this is not described here, but
later, in ch. 16 of Part 3.

Part 2 (chs. 9-15) is loosely tacked on to Part 1 and chaotically composed. As in the case of
other treatises, one feels, rather by intuition, that thematically its chapters have some affinity to Part
1 and moreover belong to each other somehow; they neither contradict Part 1 nor one another; but
they are not organically coherent, and no connecting lines are drawn between them. In a mental
experiment, one might try to take the author’s place and to do the task better than he did: one would
soon discover that this is extremely hard if not impossible, even if allowance is made for
considerable ‘poetic’ license as to details of medical doctrine. Take, e.g., chs. 9-12: As soon as you
are trying to be more concrete about topics such as qualitative opposites, movements of matters
within the body and its vessels, about melting etc., you will not be able to avoid becoming very
explicit about your assumptions, and you will be forced to construct theories upon theories (we
would call them auxiliary hypotheses).

Part 3 (chs. 16-22) is meticulously and systematically composed and looks at first sight as if it
were to draw the dietetic consequences from the theory of Part 1; but surprisingly only two humours
occur here, phlegm and bile. Black bile and blood are not mentioned any more, although occasions
to do so are not lacking. Part 3 has a theory based on only two elements, a binary doctrine. Instead
of the four possible combinations of the four elementary qualities (cold / wet; warm / wet; warm /
dry; cold / dry), which occur in part 1, part 3 has only the fixed combinations cold / wet (correlated
to winter, phlegm) and warm / dry (correlated to summer, bile). Spring and autumn are mentioned
in Part 3, but not as seasons in their own right. Instead, the year is explicitly divided in two halves,
six winter months and six summer months (ch. 20). The diet during autumn is recommended to be
analogous to that during spring (ch. 16). This prescription is the logical consequence of the binary
doctrine of Part 3 with spring and autumn as seasons of transition, but it contradicts the quaternary
doctrine of Part 1. There, spring and autumn have opposite elementary qualities (spring warm / wet;
autumn cold / dry). In order to compensate for this, the diet ought not to be analogous but opposite.

Between Parts 1 and 3 of *Nat.Hom.* there is, therefore, divergence and even a contradiction.
However, the disagreements are not so striking as to be necessarily noticed when reading the text,
and on the whole the two doctrines of Parts 1 and 3 are compatible. Evidently the practical dietetic
doctrine of Part 3 with its simple binary structure did not have its origin in the more elaborate theory
of Part 1, nor was it originally meant to set forth the practical consequences of the theory of Part 1.
More plausible is the assumption that the dietetic prescriptions of Part 3 are older than the
quaternary humoral doctrine of Part 1; that in Part 1 a personal discovery is described (with frequent
use of the first and second persons, as in a speech); and that for the practical application of this discovery the traditional text material of Part 3 was appended (in which the first and second persons do not occur). For an ancient reader, it was possible to understand Part 3 in the sense of the elaborate quaternary theory of Part 1, despite the unspectacular contradiction mentioned. Although the dietetic theory in this older text material is not completely compatible with the preceding Part 1, it was all right for practical purposes: why discard valuable old information because of allegedly minor disagreements?

That Nat.Hom. consists of three main parts is obvious to any reader and incontestable. Problematic is the following question: Is the text as we have it a compilation made more or less at random out of more or less fragmentary, unrelated pieces? The editors Littré and Jones affirmed this and even printed, against the direct and indirect tradition, Part 3 as a treatise of its own. Other analytic scholars are Galen in his extant commentary (and elsewhere), Fredrich, and Heinimann. Or is Nat.Hom. one work? Unitarian scholars are Ermerins, Schöne, Höttermann, Pohlenz, and Jouanna. Despite the weight of the analyst view, the balance of scholarly opinion has of late been verging towards the unitarian side. Jouanna in his edition of Nat.Hom. finds that ch. 8 does not conclude Part 1, but forms a transition to Part 2 at a turning point of the work, and that the work as a whole has a certain progression of thought. He has, moreover, discovered that Parts 1, 2, and 3 have considerable affinity to one another in thought, language, and style (p. 26-38). The situation that excellent scholars have been split up among each other into analytics and unitarians reminds one of the former controversy about Homer and suggests that, as in Homeric philology (see below, 5.1), both parties may be right but missed an important, decisive aspect. Nat.Hom. is, in fact, not the only case of a non-aphoristic ‘Hippocratic’ treatise where both analysts and unitarians have good arguments for their respective views. Therefore, Nat.Hom. can serve as an exemplary case.

2. Questions of Authorship

2.1. Ancient Testimonia on the Authorship of De natura hominis

Before taking sides with the analysts or the unitarians about Nat.Hom. (see 1.2.8. above), let us briefly examine who is, according to the ancient testimonia, the writer of this book, or of each of its three parts. Most of the testimonia come from Galen’s commentary (ed. Mewaldt [1914]; the following references are to this edition, unless otherwise stated). I shall first quote what Galen reports about the views of his medical and philological predecessors (unfortunately, he does not always mention their names), and subsequently summarize his own view: 26

22 And as Galen commented it, who read virtually the same text as we do, but without Appendix 2.

23 W.H.S. Jones called it ‘a chance collection of fragments, ... perhaps put together by a librarian or book-dealer’ (Jones [1931] p.xxviii).

24 Analysts: Galen ed. Mewaldt (1914); ed. Li. 6.29; Fredrich (1899) 13-26; ed. Jones (1931) 4, XXVI-XXIX; Heinimann (1945) 158 n. 31.


Galen’s discussion of the authorship of Part 2 implies that the whole of *Nat.Hom.* was regarded by some as genuinely Hippocratic (55.6-10). This is in agreement with the book titles in the direct manuscript transmission of *Nat.Hom.* Others, according to him, believed that the whole of *Nat.Hom.* was not a genuine work of Hippocrates (7.15-18). His own view about authorship was more nuanced: according to him, Parts 1, 2, and 3 are by three different authors.

— As to Part 1 (chs. 1-8), Galen states that most critics competent in Hippocratic medicine believed it to be by the Great Hippocrates. He was convinced that also Plato regarded it as genuine. This can, says Galen, be inferred from the *Phaedrus* (8.31-9.11; 4.19-5.9). Just a few critics, he states, thought it was spurious (8.22-24; 29-31; 9.18-19; 10.19-20); they contended that Hippocrates had only rudimentary notions of the warm, the cold, the dry and the wet, not a systematic concept, and that Part 1 of *Nat.Hom.*, where he deals with the topic, could not be by him (10.15-20). Some believed that the author of Part 1 was Polybus (8.24-29). This view was that of a pupil of Aristotle in an early Peripatetic work, the medical doxography by Menon. Galen says of this doxography: ‘The books bear the name of Aristotle, but it is commonly believed that they are by his student Menon. Therefore, some call them *Menoneia* (*Μένωνεια*)’ (ed. Mewaldt [1914] 15 sq.). The original wording by Menon is lost, but a papyrus of the first or second century AD, the *Anonymous Londinensis* (Anon.Lond.), contains excerpts of it (ed. Diels [1893]); here Menon outlines the content of *Nat.Hom.*, chs. 3 and 4, as the doctrine of Polybus (col. 19, lines 1-18).

According to Galen himself, Part 1 was originally, in pre-Alexandrian times, a little book of its own (ed. Mewaldt [1914] 57.12-21). It is a complete, self-contained work (89.3-6) by the great Hippocrates, having the whole of Hippocrates’s art as its foundation (裾ierung τῆς Ἰπποκράτους τεχνῆς ἔχει τὴν οἴνον κρηπίδα 8.20) and agreeing with it (ἐχομένων τῆς Ἰπποκράτους τεχνῆς 8.10). Part 1 agrees with the ‘most authentic books’ of Hippocrates (τοῖς γνησίωτάτοις ἑαυτοῦ βιβλίοις 9.24-26) and is the only text to contain the Hippocratic method as described by Plato in the *Phaedrus* (54.26sq., see above). It cannot be by one of the master’s disciples (such as Polybus), because Hippocrates would not have entrusted the composition of an important and central text like this to a pupil, and had he even done so, Part 1 would bear this pupil’s name, because there were no pseudopigrapha in pre-Alexandrian times; they began only to be composed when money could be earned with them from the book-collecting kings of Alexandria and Pergamum (54.26-55.25). Galen, when setting off to write his commentary on *Nat.Hom.*, announced the publication of a (now lost) treatise on the subject ‘that Hippocrates holds in all his other treatises the same doctrine as that in *Nat.Hom.*;’ later in his commentary he quotes his treatise as complete (10.9-12; 56.1-6).

— Regarding Part 2 (chs. 9-15), Galen states that Sabinus, commentator of Hippocrates shortly before his time, and most other commentators believed that it was not by Hippocrates, but by Polybus (87.15-88.8). Dioscorides,27 editor of Hippocratic treatises under Hadrian and quoted by Galen, contended that the beginning of ch. 9 (until ἑς τοῦτο μοι δοκεῖς εἶναι) was by Hippocrates’s grandson, Hippocrates Junior, son of Thessalus, and marked each line with a sign ‘which they call obelós, and which Aristarchus used in Homer for suspected verses’ (58.7-13). The description of blood vessels in ch. 11 was condemned already by predecessors of Galen (*De placit. Hipp. et Plat.* ed. de Lacy [1980] 380), and a very early source for this view (even older than Menon) is available: Aristotle in his *Historia animalium* quotes the description as by Polybus (Arist., *Hist.an.* 3. 3, 512b12 - 513a7).

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27 Not identical with the well-known author on *materia medica* of the first century AD.
In Galen’s own view, Part 2 (chs. 9-15) is neither by Hippocrates nor by Polybus (83.30-84.2). It must be condemned throughout (μεμπτα 89.10-11). It is by an anonymous author (ὁ γράψας 87.15) of Hellenistic times (ἐν τῷ κατά τούς Ἀπαλληλικούς καὶ Πολεμαϊκούς βοστάλεξις χρόνον 57.12-13), a man of low qualification, an unexperienced, bookish physician or a forger and impostor (πανούργος 88.1-7). He fabricated a large volume by combining Parts 1 and 3 and inserting Part 2 in order to sell it to a royal library as the work of a prominent ancient author (i.e., Hippocrates) and at a better price than he would have got for short texts (55.6-10; 57.12-21). Its terminology betrays its more recent date (οὕρημα, σύνοχος 83.27-84.2; 88.7-11). But even Parts 1 and 3 do not originally belong together but are each a book of its own (In Hp. Nat. hom. 57.12-21). The description of the blood vessels in ch. 11 is not by Hippocrates nor by Polybus (De placit. Hipp. et Plat. ed. de Lacy [1980] 380). It is wrong from beginning to end, not a word in it is true, whereas that by Hippocrates in Epidemics 2. 4.1 is absolutely correct (ed. Mewaldt [1914] 75.18-76.6).

— That Part 3 (chs. 16-23 = De salubri diaeta 1-8) was by Polybus, was not only Galen’s view, but also that of others (88.12-13). In Galen’s opinion, it was originally, like Part 1, a little independent book (57.12-21) keeping to Hippocrates’s principles (8.17-18) and mostly impeccable, to be criticized only in a very few points (89.11-14). It is a complete, self-contained work (89.3-6) by Polybus (57.7-8. 11-12. 89.14), Hippocrates’s direct disciple (57.8; 87.25), who during Hippocrates’s travels was his substitute as a medical teacher in Cos (8.28) and faithfully followed his master’s doctrines (8.24-26). Two pieces of information²⁸ state that he was the son-in-law of Hippocrates.²⁹

2.2. Ancient Testimonia on the Authorship of Other Treatises

The ancient testimonia that attribute Nat.Hom. to particular authors can neither be verified nor refuted. Their value consists not so much in the names of the individuals mentioned but rather in the general scenario which they presuppose. That Nat.Hom. is heterogeneous and, in parts, systematic seems to be obvious from the text itself. A standard philological explanation of such a fact would, of course, be that a writer has worked texts from various sources into each other. This is certainly a valid explanation. But the testimonia in the case of Nat.Hom. and of other ‘Hippocratic’ texts permit us to go further, namely to ask, and to tentatively answer, the questions: What were the cultural conditions under which Nat.Hom. was written? What was the material technique of writing ‘Hippocratic’ texts?

Let us first review the ancient testimonia about the authorship of other treatises of the ‘Hippocratic Collection’. They are transmitted by Galen and present a picture no less variegated than in the case of Nat.Hom. Galen and his predecessors, to whom he often refers, regarded a number of ‘Hippocratic’ writings as genuine (γνησιωτάτα βιβλία) or as essentially genuine, and on most treatises of these two classes Galen wrote commentaries, most of which have

²⁸ Oratio Thessali (= Presbeutikos) ed. Li. 9.420; Galen, De diff. respir. ed. Kühn (1821-33) 7.959sq.
survived. Besides frequently affirming Hippocrates’s authorship, he also often states negatively that other texts are ‘not by Hippocrates’. Beyond that, he names a considerable number of persons as presumptive authors or redactors. As in the case of Nat.Hom., he is drawing on earlier scholarship. It is needless to emphasize again that none of the Galenian and erratically transmitted pre-Galenian ascriptions can be proved correct or false.

In the following list I have, for the sake of convenience, sorted the ‘Hippocratic’ treatises on which ancient judgements of authorship survive into six classes of contents; I have, however, omitted Nat.Hom. and those treatises for which no other name than Hippocrates is mentioned.

(i) Surgery and treatment generally:

De officina medici, Κατ’ ηπερείον (vol. 3 ed. Li.): The author is said to be either Hippocrates or his son Thessalus (In Hp. Off. comm. ed. Kühn [1821-33] 18b, 666).

De fracturis, Περί ἁγμῶν (vol. 3 ed. Li.) and De articulis, Περί ἄρθρων ἐμβολῆς (vol. 4 ed. Li.): The author is Hippocrates; according to some, the author is the grandfather of Hippocrates, viz. Hippocrates, son of Gnosidicus (In Hp. Acut. comm. ed. Helmrreich [1914] 134sq.).

(ii) Nosology, Internal Diseases:

De affectionibus, Περί παθῶν (vol. 6 ed. Li.): The author is Hippocrates or Polybus (In Hp. Aph. comm. ed. Kühn [1821-33] 18a, 8).

De morbis 2, Περί νοσεῖον β’ (vol. 7 ed. Li.): Not by Hippocrates; according to (‘the group around’ or ‘the followers of’) Dioscorides (οἱ περί τῶν Διοσκουρίδην), the author is Hippocrates Junior, son of Thessalus. Ch. 68 (p. 104 ed. Li.) has a parallel version in a text by Eurypon (In Hp. Epid. VI comm. ed. Wenkebach [1956] 55sq.).

(iii) Prognosis:

Prorrheticus 1, Προφητικός α’ (vol. 5 ed. Li.): Not by Hippocrates; the author seems, however, to be in his professional tradition, but on a much lower level (ὁ συνθείς τὸ βιβλίον τούτο φαίνεται μὲν ἀπὸ τῆς αὐτῆς ὡς Ἰπποκράτει τῷ μεγάλῳ τέχνης, ἀπολείπεται δ’ αὐτοῦ πάμπτολαι). Some think that the book was by Dracoon, son of Hippocrates, others that it was by Thessalus, his other son. The author may also have been someone else and have died before completing it (In Hp. Prorrh. I comm. ed. Diels [1915] 67sq.).

(iv) Embryology, Physiology:

De natura pueri, Περί φύσιος παιδίου (vol. 7 ed. Li.): The author is either Hippocrates or his pupil Polybus (De foetuim format. ed. Kühn [1821-33] 4.653).

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31 Cf. above, footnote 27. The expression ‘οἱ Περί ...’ often stands for the plain name; but see the discussion in Gorman (2001).
(v) *Epidemics* 1-7,’ Επιδημίαι α’ - ζ’:


(vi) Dietetics:

*De victu* 1-4, Περὶ διατής α΄-δ΄ (vol. 6 ed. Li.):


Book 2: Authors are Hippocrates or Philistion or Ariston or Euryphon or Philetas, ‘who are all ancient’. The book begins in some copies with ch. 2. 39 ed. Li., in others with ch. 2. 37 ed. Li. When the book is transmitted separately, it bears the title ‘On Regimen’ (Περὶ διατής). When it is transmitted as the second part of a unit of three books, the title (of the whole) is ‘On the Nature of Man and on Regimen’ (Περὶ φύσεως ἄνθρωπον καὶ διατής, *De alimen. facult.* ed. Helmreich [1923] 212). Another title of book 2 is ‘On Regimen, About Health’ (Περὶ διατής ψυχεινόν). Its author was not the great Hippocrates but one of his seniors or contemporaries, either Euryphon or Phaon or Philistion or Ariston or someone else of early times (*In Hp. Acut. comm.* ed. Helmreich [1914] 134sq.).

Book 3: The title is ‘On Regimen, About Health’ (Περὶ διατής ψυχεινόν), its author was Hippocrates or, according to some, Philistion or Ariston or Pherekydes (*In Hp. Aph. comm.* ed. Kühn [1821-33] 18a.8sq.).

Except for the last-mentioned dietetic work *De victu*, the authors mentioned by name all belong to Hippocrates’s kin. He appears here not as a ‘Father of Medicine’ (as he used to be called from the Roman period onward) but as the head of a family, in which medical craftsmen co-operated as practitioners, as instructors, and as ‘authors’ (the word ‘author’ taken in its broadest sense – and writing books was probably not their main concern). Members of several generations are mentioned.

Even if details in these testimonia remain doubtful, the overall scenario is plausible and may be right: other independent sources, too, indicate that in the Asclepiad family of Hippocrates, as in the Asclepiads of Cos and Cnidus generally, medical men occurred through several generations.\(^{32}\)

3. Re-Using Text Material: Parallel Texts Within the ‘Hippocratic Collection’

Let us now return from Galen to examining the texts of the ‘Hippocratic Collection’ directly: What do we learn from the treatises themselves about the cultural and material conditions of authorship? Originality was intended by some ‘authors’ (examples are *De arte, Flat.* [both of them speeches, see 1.1. above], *Morb.Sacr.*, and Part 1 of *Nat.Hom.* [see 1.2.7. and 1.2.8. above]), but such intentions to say something new did not prevent them from even extensively re-using older material. Thessalus, e.g., was, according to Galen, both a conservative follower of his father, collecting his father’s papers and writing-tablets, and an innovative physician. The way in which older text material was re-utilized can be observed in the ‘Hippocratic Collection’ itself. Here parallel texts or parallel constituents of text are a ubiquitous phenomenon. They can never be dated precisely nor is it often possible to find out which of several parallel versions is the oldest one. Text A may be dependent on text B, or B on A, or both may be dependent on a common extant or

\(^{32}\) Gossen (1913) 1802-05; Edelstein (1935) 1292-1307.
inferable written source; and more possibilities are conceivable: there may be intermediate written sources and secondary textual changes; sources may also be ‘oral’ or rather performative, i.e. memorized and transmitted within the professional complex consisting of doing plus talking. Sometimes similarities between passages in Hippocratic treatises are striking, sometimes they are rather vague even to the point that it may be impossible to indicate precisely where parallel texts begin and end; but the phenomenon as such is obvious.

A good example of parallel texts is the description of blood vessels in Part 2, ch. 11 of Nat.Hom. (see 1.2.8. above). Two parallel versions have been transmitted independently in Aristotle’s Hist.an. (see 2.1. above) as a text by Polybus and within the ‘Hippocratic Collection’ itself in the treatise De ossibus (ch. 9, ed. Li. 9.174-178), where the manuscripts give, of course, Hippocrates as the author, as they always do.

Other instances are provided by the numerous parallel reports on individual disease cases in Epidemics 5 and 7 (see Langholf [1977]) and by the many recipes transmitted in parallel textual versions. Recipes rarely have ‘authors’. In recipes, the materia medica mentioned and the methods described are seldom totally original. They are part of the medical craftsman’s professional knowledge, and he is free to write this information down or not, to change it, even to truncate it if he thinks it advantageous. In Nat.Mul. (see 1.2.4. above), there are recipes which rather hide than disclose information, and this very treatise is so chaotically composed that the usefulness of its written format must have been minimal for a work of reference: you could scarcely find anything. The true purpose of Nat.Mul. and of other books must have been to be learned by heart.

This holds true also of collections of prognostic aphorisms such as Aphorismi (ed. Li. 4.458-609), Prorrheticus 1 (ed. Li. 5.510-573), or Coae praenotiones (ed. Li. 5.588-733), which have a lot of parallel textual material and present its subject matter just rudimentarily sorted or, in parts, even completely chaotically arranged. Texts of aphorisms in the ‘Hippocratic Collection’ are not necessarily dependent on written sources rather than on professional sayings learned by heart and followed in practice. Even patients must have known some of these maxims and prognostic sentences. The notion of an ‘author’ of aphoristic texts becomes meaningless in such a situation.

One group of Hippocratic treatises has become particularly famous in modern Hippocratic philology for the large amount of parallel texts which they have in common: the so-called ‘nosological’ (including gynaecological) books (Morb.2, 3, Aff. [see 1.2.3. above], De affectionibus internis, De muliebris, Nat.Mul. [see 1.2.4. above] and others). They are quite obviously related to each other by their origins33 and have been called ‘Cnidian’ treatises since the 19th century on the questionable assumption that they have been derived from a now lost work mentioned in De victu acutorum 1 (ed. Li. 2.224): here ‘the writers of the so-called Cnidian Sentences (ὁι συγγράφοντες τᾶς Κνίδιας καλεομένας γνώμας)’ are mentioned, and a few lines further on (ed. Li. 2.226), this text mentions writers, again in the plural, who ‘later revised’ the Cnidian Sentences (ὁ ... ὑστερον ἐπιδιορκεύσασαντες). The wording leaves it unclear whether one or more revisions are intended. The ‘nosological’ treatises extant in the ‘Hippocratic Collection’, or rather part or parts of them, may in fact be identical with the revised text(s), or derive from the Cnidian Sentences or their revision(s). But it is just as possible that the revised version(s) of the Cnidian Sentences is, or are, lost like their immediate original, and that both the extant nosological

33 In the case of all parallel texts, it is instructive to study the modifications that occur from one version to the other. They often reflect more general trends. I cannot go into details here. Part 2 of De morbis 2 (chs. 12-75, ed. Li. 7.18-114) seems to be particularly old or conservative; Langholf (1990) 25; 52sq. with bibliography.
treatises and the *Cnidian Sentences* are derived from a lost common source. This source may have originated anywhere, not necessarily in Cnidos: The *Cnidian Sentences* may just have been the local adaptation of older, perhaps widely acceptable medical lore in the format of a text. That the doctrine of the *Cnidian Sentences* (of which we know very little) ever was a distinctive feature of a ‘Cnidian school’ of medicine is no longer commonly believed. No ‘Cnidian school’ seems to have existed as doctrinally distinguished from, or opposed to, a ‘Coan school’. Any similarities between ancient oriental and Greek medical texts should, therefore, not be explained within this hypothetical framework. There were indeed physicians in Cnidos and on Cos, less than two dozen nautical miles apart from each other, but there exist no sources whatever attesting to any contrast in practical methods or in theory. The dichotomy* Cos / Cnidos, even nowadays still popular, is, or rather was, an implausible, fanciful modern construct.

4. *Common Professional (‘Oral’ or Performative) Background of the ‘Hippocratic Collection’*

Similarities between texts, as has just been mentioned, need not necessarily be due to authors or scribes copying texts. Imagining written sources is an automatic reflex action of the philologist conditioned by professional schooling centred on the medium of writing. Ancient physicians and non-physicians must have been able to learn and to reproduce a lot of medical information through media other than writing and even speaking, viz. in practical instruction of medical apprentices (which implies ‘oral’ instruction, but is more than that), or in talks and therapeutic activities involving doctor and patient, or – last but not least – in many conceivable non-medical situations of daily life. An example may illustrate this latter aspect. A particularly painful disease repeatedly described in some ‘nosological’ treatises of the ‘Hippocratic Collection’ is called ‘swelling of the lung’. Part of the treatment prescribed consisted in poultices. This disease is mentioned by its

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*34* It may have mirrored collective experiences of cultural schisms in the 19th and 20th centuries.

*35* *De morbis* 3. 7, ed. Li. 7.124-27; ed. Potter (1980) 74-78; medical commentary *ibid.* 108; ed. Potter (1988b) 16-19, whence the following translation is taken): ‘When the lung is distended with phlegmasia and swells up (ὑπὸ δὲ τὸ πλεύωμα προσθῆ ὑπὸ φλεγμασίας καὶ ἀλήθης), a violent harsh cough and orthopnoea set in. The patient respires rapidly, gasps frequently for breath, sweats, dilates his nostrils like a running horse, and continually protrudes his tongue. His chest seems to sing and to contain a heaviness that prevents it from moving: in fact, it feels torn, and is powerless. Sharp pain (δόθη μὲν δὲξένη) is present in the patient’s back and chest, needles, as it were, prick his sides (ὡς βελόναι κεντέουσι), and he burns in these areas as though he were sitting next to a fire; red patches like flames erupt on his chest and back. A violent gnawing pain (δημοδός ἵσχυρός) attacks the patient, and he is in such straits that he can neither lie down, nor stand up, nor sit; he is distraught and casts himself about, and seems already on the point of death. He usually dies on the fourth or seventh day (ὥστε γὰρ κατακείσθαι οὐθ’ ἵστασθαι οὐθὲ καθίζεσθαι οἶς τ’ ἑστὶν, ἀλλ’ ἀπορρέει ἀλὰ ῥιπταίζει τε ἐνωτιν, καὶ δοκεῖ ἡ δὲ ἀποθνῄσκει ἀποθνῄσκει δὲ μάλιστα τεταρταῖος ἡ ἐβδομαίος); if he survives that many, death is rare. — If you treat this patient, ... [there follow instructions about purging, bloodletting, cooling, and diuretics]. Against the pains themselves, when they are pressing, you
name already in the seventh century BC, shortly after Homer’s and Hesiod’s time, in the poet Archilochus,\textsuperscript{36} and interestingly in a metaphor: ‘we have lungs swollen for grief’. Also the palliative \textit{pharmakon} as recommended in the ‘Hippocratic’ text, soothing compresses, poultices, is metaphorically intimated, v. 5-7 ‘the gods have ordained strong endurance as a \textit{pharmakon}’ (ἐπὶ κρατηρῆν τλημοσύνην ἔθεσαν | φάρμακον): here the verb ἐπιτίθημι, ‘to place upon’, ‘to apply externally’ may be intended to convey the medical connotation of ‘plaster’

must apply light moist fomentations to warm and moisten the place where the pain happens to be (καὶ πρὸς μὲν τάς ὀδύνας αὐτὰς, ὅταν καταιγίζωσι, χλιάσματα κούφα καὶ ύγρα χρῆ προσφέροντα χλιαίνειν καὶ ύγραίνειν τὸν τόπον οὐ ἄν ἣ <ἡ> ὀδύνη). Against the rest apply cooling agents; apply and remove these alternately. If the patient is consumed with heat, cool him. Have him abstain totally from wine (ἀουνεῖν δὲ τὸ πάμπαυν).’ — Parallel passages are \textit{De internis passionibus} 7 (ἡν πλεύμων οἴδηστη), ed. Li. 7.182-87; ed. Potter (1988b) 94-96; \textit{De morbis} 2.58 (ἡν πρησθῆ [ci. Jouanna: πλησθῇ codd. ΘΜ] ὁ πλεύμων), ed. Li. 7.90sq.; cf. 54, ed. Li. 7.82-85; ed. Jouanna (1983) 197sq.; 192sq. For the variant readings and a discussion, see Jouanna (1974) 376sqq., 200sqq., 162sqq.

\textit{Archilochus}, frg. 13 ed. West (1989); from Stobaeus 4. 56.30; cf. Adkins (1985) 35-44 (text, transl., comm.):

κήδεα μὲν στονόεντα Περίκλεες οὔτε τις ἀστῶν

μεμφόμενος θαλίτης τέρψεται οὐδὲ πόλις:

toioûs gár kata kúa polufoioîbhoi thalásson

ἐκλυσεν, οἱ δαλέους δ’ ἀμφ’ ὀ δύνης ἔχομεν

πνεῦμονας. ἀλλα θεοὶ γὰρ ἀνήκε στοις κακοίσιν

ὦ φίλ’ ἐπὶ κρατηρῆν τλημοσύνην ἔθεσαν

φάρμακον: ἄλλοτε ἄλλος ἔχει τόδε: νῦν μὲν ἐς ἡμέας

ἔτραπθ’, αἴματοι β’ ἐλκός ἀναστένομεν,

ἐξαίτις β’ ἐτέρους ἐπαμείζεται. ἀλλὰ τάχιστα

τλῆτε γυναικεῖον πένθος ἀπωσάμενοι.

\textit{(v. 4 Gaisford: ἀμφ’ ὀδύνη ἐσχομεν [< ΩΔΥΝΗΣΧΟΜΕΝ, R. Führer] S: ἐσχομεν ἀμφ’ ὀδύνη Par. 1985 (ex coni.). — v. 6 κρατηρὸν ci. Reeve; the hyperbaton would be tempting (cf. v. 4sq.), but the adjective κρατ- (καρτ-) in connection with φάρμακον is not attested before late antiquity. — v. 7 τάλλος S: ἄλλος Diehl: δ’ ἄλλος Frobenius). — Adkins’s translation: ‘Pericles, neither will any of the citizens, finding fault with our grievous woes, take pleasure in festivities, nor yet will the polis. Such men has the wave of the much-resounding sea drowned, and we have our lungs swollen because of our sorrows. But the gods, my friend, to our woes without cure have applied firm endurance as a remedy. Now one, now another has this woe. Now it has come to us, and we are lamenting a bloody wound, but on another occasion it will visit others in turn. But swiftly (begin to) endure, having thrust away womanly grief.’}
(κατάπλασμα). The disease with its name, its symptoms and its specific treatment must have been quite commonly known as early as the time of Archilochus.

The example suggests the assumption, which is plausible in any case, that many other parallel texts in the Hippocratic Collection, but also texts for which no parallels are extant, may simply reflect common knowledge, medical folklore.

5. The Process of Writing Books

5.1. Individual vs. Collective Authorship

Writers of Hippocratic texts around 400 BC, besides drawing on unwritten (‘oral’ or performative) medical lore and common knowledge, felt free to appropriate other people’s circulating written materials, which then became in fact theirs. Any text publicly available belonged to everybody; a craftsman who did not wish to share his know-how with others had to keep it secret (hence, perhaps, the sometimes cryptic recipes in Nat.Mul., see 1.2.4. and 3. above). The concept of ‘intellectual property’ was not yet operative. In De victu, the author declares (1.1): ‘What has been stated correctly by my predecessors, I cannot write down correctly if I do not write it down the same way’ (ὅσα μὲν γὰρ ὀρθῶς ὑπὸ τῶν πρῶτερον εἴρηται, οὐχ οἶον τε ἄλλος πῶς ἐμὲ συγγράψαινα, ὀρθῶς συγγράψαι). And he evidently keeps to this maxim, as can be assessed from the structure of his four books which is no less complex and heterogeneous than that of Nat.Hom.

Correctness and usefulness of doctrine were the criteria for adopting professional information and appropriating other people’s texts (λόγοι) within the ‘Hippocratic Collection’. Helpful in

37 Cf. Kühn / Fleischer (1986–89) s.v. ἐπιτίθημι (e.g. Morb.2 ed. Li. 7.84.16: in a pulmonary disease ἐπὶ τὰ στήθεα ἐπιτίθεναι καὶ ἐπὶ τὸ νῶτον), ἐπίθεσις, ἐπιθέτον. Hom. Iliad 4. 190sq. ἐπιθήσει φάρμαξ’ (ον αν ἐλκος).

38 On plagiarism in antiquity, see Stemplinger (1912); Ziegler (1950). – In the field of crafts it was even later quite usual to appropriate texts written by others. In most cases this happened tacitly; but sometimes it is explicitly stated: Artemidorus (Onirocritica 1, proem.) mentions that his immediate predecessors in dream interpretation copied from each other’s books, or revised books of olden times by interpreting or supplementing them, and he describes how he tried on the one hand not to contradict the ancients and on the other hand not to repeat what they had written (2, proem.). The physiognomist Adamantius Sophista declares in the beginning of his work (Physiognom. 11, ed. Foerster [1893] 1, 297) that he has taken over his method and material from Aristotle, Ptolemy, and others, and declares his intention to give a paraphrase of Polemon’s treatise with additions of his own. The veterinary Pelagonius announces a presentation of both traditional recipes and cures invented by himself (edd. Oder / Hoppe (1924) 1, 34.

39 They were still Galen’s motives in the second century AD for quoting texts by Hippocrates and his contemporaries, and for writing commentaries on them. Although Galen was very interested in the problem of which treatises of the ‘Hippocratic Collection’ were by Hippocrates, his interest in authorship was not a goal in itself. Quite often he made use of Hippocratic works considered spurious, if he believed their content to be correct; and quite often he quoted the Cnidian physician
this process of assimilation was the fact that medical texts, as far as we can judge from the ‘Hippocratic’ treatises and from other sources, e.g. the Anon. Lond., were to a high degree compatible with each other, at least for the concrete interests of the medical practitioner. The numerous contradictions and even overt polemics within the ‘Hippocratic Collection’, particularly in the theoretical superstructure, should not blur our perception of the fact that the common ground which they shared was enormously large. Borrowing was, therefore, besides being legitimate, also quite easy. Nat. Hom. and other ‘Hippocratic’ treatises are collective works – not necessarily in the sense that a team of physicians co-operated in writing (which cannot be ruled out), but that the person who gave a treatise its shape re-used older texts which he found to be correct and useful. He was free to blend his own texts and other people’s texts, he was ‘author’ and ‘redactor’ at the same time (so that these conventional philological terms may be inappropriate), he could re-formulate and adapt texts taken over, he could present new messages in new or in conventional stylistic forms, and traditional messages likewise. Any one-sidedly analytic or unitarian standpoint of modern philology would be inappropriate. Therefore, the Hippocratic question in its traditional form – ‘Which treatises of the “Hippocratic Collection” are by Hippocrates, son of Heracleidas?’ – is misleading. Like the ‘Homerian question’ (see above, 1.2.8 in fine), it cannot be solved but can, or even should, be replaced by other – and even more interesting – questions.41

The professional situation in which the ‘Hippocratic’ treatises originated was in several respects similar to that of the – much earlier – origins of Greek epic:42 and the ‘Hippocratic question’ is similar to the ‘Homerian question’. When imagining possible historical scenarios for the making of ‘Hippocratic’ treatises, it might be heuristically advisable to see these parallels. The physicians around 400 BC as well as the improvising singers (Δημιουργοί) of the eighth and seventh centuries were itinerant craftsmen (Δημιουργοί), literally ‘workers for the public’, who socially and economically depended on being esteemed and admired by the communities to which they came.43 Their public was a physically present audience in the case of the singer, a group or even crowd of household or neighbourhood members in the case of the practising physician; the interaction between craftsman and public was, therefore, more direct and collective than it would be nowadays. Both kinds of craftsmen operated within standard situations of social routine: of disease and healing in the case of the physicians, of performance at feasts and solemn gatherings in the case of the singers. Both the singers and the physicians followed certain professional and social rules, as in a game in which they and their public took part. Both were organised in vocational groups often based on kinship. With the colleagues of their craft they shared a professional training and a stock of common knowledge, abilities, and methods. The public was familiar with the principles of healing as well as with the outlines of the myths, it had certain expectations and was competent to appreciate professional quality both of medical men and of singers. In each craft, services were offered competitively, with the services of one member being interchangeable for those of another member. Like the services themselves (healing or entertainment respectively), also the ‘by-products’ of these services, viz. the

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41 On the formation of the ‘Hippocratic Collection’ see now Roselli (2000).
43 For crafts in antiquity generally, see Der Neue Pauly 5 (1998) 134-150 (Article ‘Handwerk’), with bibliography.
(inferable) oral or (partly extant) written texts were largely interchangeable: medical texts could be recombined and appropriated because of their common ground in medical tradition and their mutual compatibility in therapeutics and theory; epic texts could be recombined and appropriated because of their common ground in traditional tales and their compatibility in language, metre, and narrative conventions. Recombining and appropriating medical or epic texts was easy and practiced liberally in epochs when verbatim borrowing of text material was not yet censured as plagiarism.\textsuperscript{44}

\textsuperscript{44} Not team-work, but successive ‘authorship’ (in the sense that an epic text was borrowed and appropriated) is intimated in passages such as Suda s.v. Θεομησία (ed. Adler [1935] 4.533sq.) = Photius s.v. Θεομησία (ed. Naber [1865] 209sq.) οι τα Θεομησία γεγραφτες (Suda: -φηκότες Phot.). Davies (1988) 74. — Schol. (MAB) Eur. Phoen. 1760 (ed. Schwartz [1887] 1.414) οι την Οιδυποδίαν γράφουτες. Davies (1988) 20. — Such situations of ‘authorship’ were later interpreted as plagiarism, Pollian. Anth. Pal. 11. 130 τοὺς Κυκλικοὺς τοῦτους, τοὺς αὐτῶν ἐπιται λέγοντας | μισῶ, λωπιοδύτας ἀλλοτρίων ἐπέσων. Davies (1988) 15. — Clem. Alex. Stromat. 6. 25.1 (ed. Stählin [1960] 2.442) is representative of this later view: as examples in favour of his (extremist) standpoint that the Greeks habitually stole literary works from others and published them as their own, he charges Eugammon of Cyrene with having stolen from Musaeus the whole book about the Thestopatians (= Telegoneia), and Pisander of Camirus with having stolen from Pisinus of Lindus the Heraclea. Davies (1988) 71; 130. — The Ps.-Herodotean Vita Homeri (Wilamowitz-Moellendorff [1916] 9 = ed. Allen [1912] 201sq.) has a similar bias, but an older conception is shining through: Thestorides, schoolmaster (γραμματα διδάσκων τοὺς νέους) in Phocaea, asked Homer to let him have his songs in written form; in return he promised to care for the blind poet (θεραπεύειν καὶ τρέφειν). Homer thereupon stayed with Thestorides and created (ποιησαί) the Little Iliad, the Phocais, and other epics. Thestorides wrote them down and appropriated them for himself (εξιδιωσασθαί). In Chius, Thestorides performed the epics as his own, and with success. As a reaction to this, Homer said (λέγει) the epigram no. 5 (ed. Markwald [1986] 111-116; 281-286). Ps.-Herodotus must have understood the story in terms of plagiarism; according to Markwald, however, this epigram and the content of the story, which is closely connected with it, date from the sixth or even seventh century BC. This date would be too early for the original (i.e. pre-‘Herodotean’) version of the story to have implied plagiarism in the later sense. The charge against Thestorides may, therefore, originally have been abuse of confidence: Homer had entrusted the poems to his host, who, upon receiving them, broke the law of hospitality, abandoned the blind singer and no longer took care of him (καὶ οὐκέτι δομοίως ἐν ἐπιμελείαι eἰχ). Davies (1988) 49. — Three testimonia imply without any charge of plagiarism that that epic poems could be transferred from one person to another: Callim. Epigr. 6 (ed. Pfeiffer [1949-1953] vol. II, p.82 = ed. Gow / Page [1965] 1293sq.) says that the Oechaliae Halosis is called ‘Homeric’ but is in fact a work by Creophylus of Samus, who once lodged Homer. Oppositely, Strabo 14. 1.18 (p.638 C) and Proclus, Chrestom. (Vita Hom.) ed. Allen (1912) 100.11sq. = ed. Wilamowitz-Moellendorff (1916) 26.25sq. = ed. Severyns (1963) 70.30sq. claim that the Oechaliae Halosis is a work by Homer, who donated it to his host Creophylus; it therefore passed as a work by Creophylus. Davies (1988) 150. — A variant story is told by Schol. Plat. Resp. 600b (ed. Greene [1938] 273): Creophylus was the son-in-law of Homer, who lodged Homer and got the Iliad in return. Davies (1988) 151. — That this motif is old becomes evident from Aelian, Var. hist. 9. 15: He has it that Homer gave his daughter the Cyprus as a dowry, and that Pindar told the same (ed. Snell / Maehler [1989] frg. 265). Davies (1988) 27. — According to Proclus, Chrestom. ap. Phot.
It is instructive to compare the list of putative authors to whom ‘Hippocratic’ treatises were ascribed (see above) with an analogous list for early epic poems (numbers refer to the pages in Davies [1988]):

Cyclus (Κύκλος): Homer 14; several 15; unknown 15; the Cyclics (ὁ Κυκλικῶν) 25; 29.

Cypria (Κύπρια): Homer 27; 28; not Homer 28; 39; Hesias 36; Hegesinus of Salamis 29; Cyprias of Halicarnassus 29; 36; Cyprius 37; Stasinus of Cyprus 28; 29; 36; 37; 40; 43; one of the Cyclics (ἐἷς τῶν Κυκλικῶν) 29; unknown 29.

Epigoni (Επίγονοι): Homer 21; 26; 27; Antimachus (of Teos, eighth century? of Colpho, about 400?) 26; cf. 79.

Heraclea (Ἡρακλεια): Demodocus of Cercyra 142; Cinaetho of Sparta 142; Cono 142; Creophylus 152; Pisander of Camirus (Rhodus, sixth century) 129; 130-133; Pisander or somebody else 131; Pisinus of Lindus 143.

Iliupersis (Ἰλιόν πέρσις): Homer 65; Arktinus of Miletus 62-66; Lescheos, son of Aeschinylus 57.

Little Iliad (Ἰλιάς μικρά): Homer 49; Diodorus of Erythrae 50; 55; Cinaetho of Sparta 50; 55; Lesches of Pyrrha (Lesbus) 50-52; 55; 57-59; Thestorides of Phocaea 50; 55.

Nosti (Νόστοι): Homer 66; Agias of Troizen 67; 69; the Colophonian (ὁ Κολοφωνίος) 73.

Oechaliae Halosis (Οἰχαλίας Ἀλώσις): Homer 150; Creophylus 149; 150.

Oedipodia (Ὀιδίποδεις): Cinaetho of Sparta 20; the writers of the Oedipodia (ὅι τῆς Ὀιδίποδειαν γράφοντες) 20.

Phocais (Φοικαίς): Homer 49; 153; Thestorides of Phocaea 49; 153.

Telegonia (Τηλεγόνεια): Eugammon of Cyrene 71; 72; Cinaetho of Sparta 72; Musaeus 71.

Titanomachia (Τιτανομαχία): Arctinus of Miletus 16-18; Eumelus of Corinth (eighth / seventh century) 16; 18.

5.2. The Material Act of Writing

Upon recurring browsing in the schemes of disposition of Hippocratic treatises as displayed above, a recurrent quantitative phenomenon is particularly notable: textual units featuring the more or less equal length of ca. 600 to 800 words (or double that length), a quantity corresponding to 100 (or 200) epic verses (dactylic hexameters, στίχοι, see also 0. and 1.2.1. above). All these units are markedly set off from each other by their contents and/or their style and/or their appendix position

Bibl. 319a (ed. Henry [1967]) 5.157), some say that the Cypria are by Stasinus of Cyprus, others that Homer wrote them and gave them to Stasinus as a dowry. Davies (1988) 28. — On the other hand, ὁι περὶ Κώνωσθον are charged with having falsely attributed their own works (e.g. the Hymn to Apollo) to Homer. Davies (1988) 94.

45 Cf. now Cerri (2000).

46 ‘Words’ according to the definitions in modern dictionaries of ancient Greek; Homer (Iliad plus Odyssey) has an average of 7.31 ‘words’ in a verse (Iliad 1-100: 7.27; Odyssey 1-100: 6.89), Hesiod (Theogony, Opera, Scutum together, without fragments) has 6.95 (Theogony 1-100: 6.65; Opera 1-100: 7.07; Scutum 1-100: 6.74).
in the respective treatise. It is possible — although by no means conclusively demonstrable — that these quanta reflect the material conditions prevailing during the act of writing.\footnote{Langhoff (1989).}

One indication are the parallel texts transmitted in \textit{Epidemics 5} and \textit{Epidemics 7}, where in a series of such units two of them occur in an inverted order (for details, see Langhoff [1977]): this invites speculation that the textual units once, in an earlier stage of textual transmission prior to the book format, were not physically linked to each other (as, e.g., on a normal book scroll) but existed separatim, physically independently on smaller ‘data carriers’. This is what Galen claims in a number of passages with respect to parts of the Corpus: he speaks of διφθέρω (sheets of leather), χάρτιν (sheets of papyrus, perhaps rolled), and δέλτιον (wooden tablets).\footnote{De diff. resp. ed. Kühn [1821-33] 7.890 Θεσσαλόν τόν Ἰπποκράτους υἱὸν ... αὐτοῦ τοῦ πατρὸς ἐν διφθέραις τυπίν ἢ δέλτιοι εὐρόντα ὑπομνήματα. \textit{In Hp. Epid. VI comm.} ed. Wenkebach [1956] 76 τά γαρ ἐν διφθέραις ἢ χάρταις ἢ δέλτιοι υἱῷ Ἰπποκράτους γεγραμένα τόν υἱὸν αὐτοῦ Θεσσαλόν ἀθροίσαντά φασι ταύτι τά δύο βιβλία συνθετέναι, τό τε δεύτερον καὶ τό ἐκτον, ἐνοι δὲ καὶ τό τέταρτόν φασι. \textit{Ibid.} 272 τόν υἱόν αὐτοῦ Θεσσαλόν, <ὁ> ἀθροίσατα φασὶ τὰς υπογραφὰς τοῦ πατρὸς εὐρόντα γεγραμέναν ἐν χάρταις τε καὶ διφθέραις καὶ δέλτιοι. Nikitas (1968) 4sqq.; Langhoff 1977.} Common Greek synonyms originally designate ‘board’, ‘plank’: \textit{πίναξ, σανίς},\footnote{Iliad 6. 169, referring to the Peloponnese and, notably, to Asia Minor, ‘having scratched (drawn, written) on a folded (foldable) tablet’, γράψας ἐν πίναξι πεντανά.} and, referring to the number of tablets combined in one ‘codex’, \textit{diptukhōn, poliπtukhōn.} From the oldest times of Greek civilization\footnote{Stol (1998) 343sq., with a survey of recent literature. Neo-Hittite bas-relief representations in van Regemorter (1958).} until the middle ages\footnote{The common Greek word for ‘page’, \textit{σελίς}, originally means the same (J.L. Sharpe III, in: Lalou [1992] 136).} they were in use as one of the most comfortable and easily available media for writing.

Wooden tablets (either single or several bound together book-like with strings\footnote{Payton (1991); Lalou (1992); Warnock / Pendleton (1992); Symington (1992); Burkert (1992) 30; West (1997) 25.}) have been preserved from the ancient Near East materially and as a technical term (Akkadian \textit{daltu} > Greek \textit{dēltos} ‘board’, ‘tablet’, hence a Greek diminutive \textit{deltίον}).\footnote{Gardthausen (1911-1913) 1.40-45; 123-132 (about papyrus sheets 132-134); Schubart (1921) 23-28; Wendel (1949) 54; 89-91; 126 n.429; Roberts / Skeat (1987) ch. 3 (‘The Writing Tablet’); Brashear / Hoogendijk (1990); Blanck (1992) 46-51 (with a photo of fol. 2r of the wooden Isocrates}
contracts or letters, taking notes, and sketching longer literary and non-literary texts. Some of the oldest Greek testimonia about such tablets point to the Near East.\textsuperscript{55} The proverbial heavenly records which Zeus keeps are wooden tablets\textsuperscript{56} (délloë), not papyrus or leather.\textsuperscript{56} There were two kinds of tablets based on two different principles. Very common was a coating of wax\textsuperscript{57} or a mixture of wax and mineral substance, which was simple to prepare and made it most comfortable to handle the tablet: any pointed stick could serve as a \textit{stylus}, and no ink was needed. Signs scratched into the mass could be erased freely by smoothing the surface with any flat object; the tablets could thus be re-used infinitely (also be re-coated), and under normal storage conditions be kept for a long time without problems: a lot of texts have been preserved on extant wax tablets from antiquity. The other principle implied using ink on a whitened or otherwise primed surface (see below).

There were archives of uniformly formatted tablets: Diogenes Laertius says, e.g., that, according to ‘some’, Philipp of Opous transcribed Plato’s \textit{Leges} from the original wax tablets.\textsuperscript{58} We do not know in detail how this task was organized: Plato may have produced the original manuscript in one run and kept all tablets in a very large archive; or he may have produced it in instalments consisting of fewer tablets, and Philipp may have made a fair copy of these instalments one after the other, so that there never existed a wax version of the whole work (of more than 100,000 words) at any one time. Even in this case, the tablets, though fewer in number, must have been in one format in order to avoid confusion. This was probably also the case with the tablets of the grammarian L. Annaeus Cornutus in Nero’s time, which his son Titus edited under the title ‘Book from the wax tablets of his father’ (\textit{Liber tabellarium ceratarum patris sui}).

In the Hippocratic Corpus a text is referred to as ‘The Contents of the Little Tablet’ (Τὰ ἐκ τοῦ σμικροῦ πυρακιδίου), \textit{Epidemiae} 6. 8.7 (ed. Li. 5.344.17). The words may be a caption or title indicating the provenance of what follows; if this is so (the assumption is, however, not quite certain), it is reasonable to guess further that the text to which the caption refers extends until 6.8.26 (ed. Li. 5.354.2) as a penultimate appendix to the book \textit{[627 words ≈ 100 epic verses]}, because in 6.8.27 (ed. Li. 5.354.3) there starts a new series of notes quite different in contents and form, mostly case reports about individual patients. This new series is mutilated at its beginning; despite its loss of text \textit{(cf. the undamaged parallel passage in \textit{Epidemiae} 7. 117 [ed. Li. 5.464.1])} it has been mechanically tacked on, thus forming the last appendix until the end of the book \textit{[262 words]}. Literature: ed. Manetti / Roselli (1982) \textit{ad loc.}; Deichgräber (1971) 35; Bardong (1942) 577-603; Langhoff (1989) 70-72.

Whether the ‘Tablet’ referred to with its inferable length of ca. 100 epic verses was of the wax or the ink type is unknown. The amount of text which it contained is, however, not unique for

\textsuperscript{55} Homer, \textit{Iliad} 6. 168sq. to Lychia (‘he wrote many disastrous signs on a foldable tablet’); Herodotus 7. 239 to Persia (‘a diptych tablet’ coated with wax and sent from Susa to Sparta in the period of the Persian wars); 8. 135 to Caria (inscribed in this language, about the same time).


\textsuperscript{57} The coating procedure is described in Herodotus 7. 239 (see footnote 55).

In 1988, a ‘codex’ of the 4th century AD was found in Ismant el-Kharab, Dakhleh Oasis (SW Egypt).\(^{59}\) It consists of nine wooden ‘leaves’ (ca. 320 mm max. height, 160 mm max. width, 2-5 mm thickness), each of which have four perforations at one long side in order to be bound together (at the left margin when viewed from recto). Apart from the well-preserved string binding, diagonal cuts at the edges serve as marks for checking the right order and completeness of the set. The leaves have no wax coating, instead they have been primed with gum arabic (or, fol. 8, with a white substance) and inscribed with ink by at least 3 different hands. Compared to this verifiable book, a single tablet of the size as inferable from Epidemiae 6 might very well be called ‘little’: the codex with 1019 lines contains two complete orations of the Isocratean corpus (Ad Demonicum and Ad Nicoclem) and a major portion of a third (Nicocles, §§1-53). The editors find it plausible that the wooden book was written by a local teacher for school purposes; but this is mere conjecture: the fact that the writing task was shared among three persons is also quite compatible with a scenario of (semi-)professional (paid or otherwise remunerated) scribes.

The text generally runs from one page to the next without regard for contents, with the switch-over usually occurring in the middle of a sentence or word; only on 2\(^v\), 4\(^v\), 4\(^v\), and 6\(^v\) the end of a sense structure coincides with the end of the page. No trace of this book’s page format would remain in a transcription on data-carriers of another size; on the other hand, we are not able to detect from what original page format the wooden codex was once copied.

Some of the paginae contain the amount of ca. 100 hexameters (note that the variation in length is considerable):

1\(^v\) Front cover; 1\(^v\) Ad Demon. §§ 1-11 [left side of column missing; text of the medieval tradition has 565 words \(\approx\) 100 epic verses (?)]; 2\(^v\) Ad Demon. §§ 11-24 [722 words \(\approx\) 100 epic verses]; 2\(^v\) Ad Demon. §§ 24-34 [655 words \(\approx\) 100 epic verses]; 3\(^v\) Ad Demon. §§ 35-46 [641 words \(\approx\) 100 epic verses]; 3\(^v\) Ad Demon. §§ 46-end and Ad Nicocle. §§ 1-5 [together 657 words \(\approx\) 100 epic verses]; 4\(^v\) Ad Nicocle. §§ 5-16 [609 words \(\approx\) 100 epic verses]; 4\(^v\) Ad Nicocle. §§ 16-26 [608 words \(\approx\) 100 epic verses]; 5\(^v\) Ad Nicocle. §§ 27-35 [530 words]; 5\(^v\) Ad Nicocle. §§ 35-46 [498 words]; 6\(^v\) Ad Nicocle. §§ 46-end [433 words]; 6\(^v\) Nicocle. §§ 1-9 [506 words]; 7\(^v\) Nicocle. §§ 9-17 [473 words]; 7\(^v\) Nicocle. §§ 17-25 [494 words]; 8\(^v\) Nicocle. §§ 25-33 [456 words]; 8\(^v\) Nicocle. §§ 33-42 [509 words]; 9\(^v\) Nicocle. §§ 42-53 [697 words \(\approx\) 100 epic verses]; 9\(^v\) Back cover.

The fact that the length of some pages in the wooden Isocrates codex and of the textual units in Hippocrates tends to correspond to that of 100 (or 200) epic verses may be coincidental; but perhaps it is not. Throughout antiquity and into the Middle Ages, the method of measuring the length of Greek and Latin texts, even in prose, consisted in comparing them to the length of the unit ‘heroic

\(^{59}\) For another instance, viz. an inscription from Eleusis of 329/8 BC mentioning sanides, see Langhoff (1989) 71, n. 39. – Already in ancient Assyria, similar ‘books’ of comparable size were used: fragments of two wax-coated polyptycha datable to ca. 710 BC (the period of Homer) were found in Nimrud. One is a leporello of ivory consisting of sixteen boards; the other was made out of wood and bears traces of cuneiform script formatted in two columns. The remains of this text allow one to estimate that one column contained about 125 lines, which amounts to 7,500 lines for a compound of sixteen boards, i.e. 30 two-column pages if front and back cover were left blank (B. André-Salvini, in: Lalou [1992] 21 sq.). To illustrate the dimensions: The Iliad has 15,693 (otherwise quantitatively not comparable) verse-lines.

verse’ = ‘dactylic hexamer’ (στίχος, ἔπος). This was the Normal Line. It was an abstract value and did not necessarily coincide with the material lines in the actual text documents. In scribal practice, the comparison was made by counting syllables (not words as has been practised for this paper.) The measure is attested as early as Plato, who, again in the Leges (7. 9.958e), prescribes that funeral inscriptions should not be longer than 4 heroic verses. His formulation is remarkable in so far as at his time such inscriptions, although usually being in verses, did not consist of dactylic hexameters but of distichs.

Application to prose works was very common. Already in the fourth century BC, Theopompus of Chius quantified his own works by comparing their length to the corresponding amount of heroic verses (150,000), and so did his older contemporary Isocrates (10,000). From the Alexandrian period onward, the testimonia abound. As extant papyri and manuscripts copiously witness, writers of epic and prose texts from then on marked every hundred (sometimes every two hundred) Normal Lines by a marginal sign in order to facilitate the calculation of the total length; otherwise it would have been extremely difficult in the case of long texts. This basic measuring unit of 100 Normal Lines is found also in other contexts: Philostratus (Lives of the Sophists 2. 10 [586sq.]) tells that the sophist Herodes Atticus, after lecturing for a general public, used to dine with his ten favourite students ‘for a period of time measured by a water-clock; this was set to run during (sc. the exegesis of?) 100 epic verses’.

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61 Perhaps this was a very ancient scribal technique of measuring: The oldest literary texts in Greek (Homer, Hesiod) are in dactylic hexameters, and so are the oldest alphabetical Greek inscriptions (Cup of Nestor, Dipylon Jug, and others). It has plausibly been surmised that the Phoenician letters were adapted to Greek particularly for the purpose of writing epic verses (B. Powell, in: ed. Morris / Powell [1997] 3-32).
62 μη πλεῖον τεττάρων ἥρωικῶν στίχων.
64 Panath. 136: ‘I want auditors who do not reproach me for the length of my speech, even if it count ten thousand verses’, οὐδὲ ἣ μυριῶν ἔπον ἥ το μήκος. Birt (1882) 205; Ohly (1928) 5.
65 Graux (1878); Birt (1882) Index s.v. ‘Stichometrica’; Gardthausen (1911-1913) 2.70-82; Ohly (1928); Wendel (1949) Index s.v. ‘Zeilenzählung’; Der Neue Pauly 11 (2001), 990 (Article ‘Stichometrie’).
66 Wendel (1949) 35-38; sometimes a finer subdivision, e.g. by tens, was additionally used (ibid.). Writers of non-hexametrical poetry counted the verse-lines instead.
67 τῶν τοῦ Ἱππόκρατος ἀκροατῶν δέκα οἱ ἀρετῆς ἀξιούμενοι ἐπεστίζοντο τῇ ἐς πάντας ἀκροάσει κλειψοῦραν ξυμμετρημένην ἐς ἐκατόν ἐπη.
68 Cf. Ioan. Chrysostomus, Ad populum Antiochenum hom. 16 (49.164 Migne) οὐδὲ ἐκατόν στίχους τῶν Γραφῶν ἢμιν ἵσχυσα ἐξηγήσασθαι.
From later antiquity, two testimonia are extant about one of the bibliographic purposes of ‘measuring the length of a text by dactylic hexameters’ (stichometry, στιχομετρία): it served, among other things, as a basis for assessing the task of scribes and for paying them. A papyrus dating from the first half of the 3rd century AD (i.e. a century older than the wooden Isocrates codex) contains an account of expenses for acquiring custom-made book copies: it explicitly sets into relationship the wages paid for a given amount of text and the applicable basic tariffs for 10,000 epic verses (a quantity equal to two thirds of the Iliad); these tariffs varied from $46\frac{1}{2}$ to $20\frac{2}{3}$ drachmae, dependent on quality. The other testimonium is the Edictum Diocletiani of 301 AD, where the maximum tariffs for three qualities of writing are indicated (7.39-41); here the basic unit of text length is 100 *versus* or epic verses, and the wages to be charged for it are 25 *denarii* for best, 20 for second-best quality, 10 for documents (*libelli* or *tabulae*).

6. Conclusion: Constructing a Possible Scenario

Distinct text *quanta* with a length of about 100 epic verses (or the double amount) are frequent in the Hippocratic Collection. The following list comprises all texts discussed above and in Langhoff (1989), and additional ones; for supplementary details, see there. As above (cf. 1.2.1.), texts close to 100 lines but shorter than 600 or longer than 800 words have been marked by ‘(?)’:

**Vol. 1 ed. Li.:**
*De vetere medicina* *(VM, Περί ἀρχαίης ἱερατικῆς)* chs. 20-24 (= end of book) [1209 words ≡ twice 100 epic verses]; on structure: Langhoff (1989) 68; ed. Jouanna (1990) 17-22; Festugière (1948) XXVIII-XXXI; Wanner (1939) 9-17 (‘Aufbau der Schrift’); Kühn (1956) 3-26 (‘Aufbau und Tendenz’)

**Vol. 2 ed. Li.:**

**Vol. 4 ed. Li.:**
* Aphorismi *(Aph., Αφορησμοί)*; on structure: Langhoff (1989) 72sq.; cf. Poeppel (1959) part 1, p.65 (my own additions to the verbatim quotation are in [ ]):

Nur in einigen der sieben Abteilungen ist eine gewisse Ordnung beachtet: 3, 1-23 Jahreszeiten und ihre Wirkung [= 486.4 - 496.11 ed. Li. [659 words ≡ 100 epic verses]]; 24-31 Altersstufen und Krankheiten; 4,1-20 Ausleserungen (Anwendung von Medikamenten); 21-28 Abgänge aus dem Körper [3.24 - 4.28 = 496.12 - 512.6 ed. Li. [613 words ≡ 100 epic verses]]; 29-68 meistens Fieberprognosen [= 512.7 - 526.6 ed. Li. [655 words ≡ 100 epic verses]]; [4.69 - 5.27 Varia, anfangs geordnet, = 526.7 - 542.4 ed. Li. [710 words ≡ 100 epic verses]]; 5, 28-62 Gynäkologie [= 542.5 - 556.2 ed. Li. [594 words ≡ 100(?) epic verses]].

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69 This term is of Byzantine origin (Nicephorus, *Chronographia brevis* 132).

70 P.Lond. Inv. 2110 (Pack [1965] no. 2092), ed. Bell (1921); Ohly (1928) 88-90; 126-129.

Vol. 5 ed. Li.:


Epidemiarum 6 (Epid.6, 'Επιδημιών ς’) (see 5.2. above)

Epidemiarum 7 (Epid.7, 'Επιδημιών χ’) chs. 15 [1450 words ≈ twice 100 epic verses]; chs. 6-10 [630 words ≈ 100 epic verses]; ch. 11 [610 words ≈ 100 epic verses]; chs. 12-28 [1220 words ≈ twice 100 epic verses]; chs. 29-38 [580 words ≈ 100 (?) epic verses]; chs. 60-69 [570 words ≈ 100 (?) epic verses]; chs. 70-81 [470 words ≈ 100 (?) epic verses]; chs. 82-84 [610 words ≈ 100 epic verses]; chs. 85-93 [670 words ≈ 100 epic verses]; chs. 94-105 [590 words ≈ 100 (?) epic verses]; on structure: Langhoff (1989) 66; for more details, see Langhoff (1977) 264-274

De humoribus (Hum., Περὶ χυμών) chs. 1-5 [632 words ≈ 100 epic verses]; chs. 6-11 [678 words ≈ 100 epic verses]; chs. 12-19 [748 words ≈ 100 epic verses], on structure: Langhoff (1989) 73


[Chs.] 1-38: Phrenitis, mania, mental derangement [480 words ≈ 100 (?) epic verses]; 39-98: Bad or fatal signs [790 words ≈ 100 epic verses]; 99-124: Spasms and convulsions [552 words ≈ 100 (?) epic verses]; 125-152: Haemorrhages [ ]; 153-170: Swellings beside the ears [chs. 125-170: 752 words ≈ 100 epic verses]

Vol. 6 ed. Li.:

De natura hominis (Nat.Hom., Περὶ φύσις ἀνθρώπου) (see 1.2.8. above)

De liquidorum usu (Liqu., Περὶ υγρῶν χρήσεως) (see 1.2.5. above)

De morbis 1 (Morb.1, Περὶ νοσουσών α’) (see 1.2.6. above)

De affectionibus (Aff., Περὶ παθήσεων) (see 1.2.3. above)

De locis in homine (Loc.Hom., Περὶ τόπων τῶν κατὰ ἀνθρώπου) (see 1.2.2. above)

De morbo sacro (Morb.Sacr., Περὶ ἱ(ερής νοσουσῶν) (see 1.2.7. above)

Vol. 7 ed. Li.:

De morbis 2 (Morb.2, Περὶ νοσουσῶν β’) ch.411 (the treatise’s more recent part called Maladies 2. 1 by Jouanna [ed., 1983]) [1430 words ≈ twice 100 epic verses]; on structure: ed. Jouanna (1983) 7ff.; Potter (1988a) 186-189

De morbis 3 (Morb.3, Περὶ νοσουσῶν γ’) ch. 17 (= end of book) [568 words ≈ 100 (?) epic verses]; on structure: Langhoff (1989) 70; ed. Potter (1988b) 3-5

De morbis 4 (Morb.4, Περὶ νοσουσῶν δ’) ch. 54/603 words ≈ 100 epic verses; ch. 55 [677 words ≈ 100 epic verses]; ch. 56 [597 words ≈ 100 (?) epic verses]; ch. 57 (= end of book) [588 words ≈ 100 (?) epic verses]; on structure: Langhoff (1989) 70
De natura muliebri (Nat. Mul., Περὶ γυναικείης φύσιος) (see 1.2.4. above)

Vol. 8 ed. Li.:
De morbis multierum 1 (Mul. 1, Περὶ γυναικείων α’) chs. 92109 (‘Spurious’, Νόθα, = end of book) [1205 words \(\cong\) twice 100 epic verses]; on structure: Langhoff (1989) 69
De superfetatione (Superf., Περὶ ἐπικυνήσιος) chs. 33-43 (= end of book) [660 words \(\cong\) 100 epic verses]

Vol. 9 ed. Li.:
Prorrheticus 2 (Prorrh. 2, Προρρητικός β’) (see 1.2.2. above)
De alimento (Alim., Περὶ τροφῆς) chs. 1-55 (= end of book) [1313 words \(\cong\) twice 100 epic verses]
De videndi acie (Vid. Ac., Περὶ δψιος) chs. 1-9 (= end of book) [794 words \(\cong\) 100 epic verses]
De medico (Medic., Περὶ ἱεροῦ) chs. 1-14 (= end of book) [1528 words \(\cong\) twice 100 epic verses]
De decenti habitu (Decent., Περὶ εὐσχημοσῦνης) chs. 1-18 (= end of book) [1520 words \(\cong\) twice 100 epic verses]
De diebusindicatoriiis (Dieb. Judic., Περὶ κρισίμων) chs. 1-14 (= end of book) [1358 words \(\cong\) twice 100 epic verses]

In a number of treatises the quantitative phenomenon is discernible several times. In others it cannot be made out at all: this does, of course, not mean that the *quanta* are lacking there. As the wooden Isocrates codex exemplifies, scribes ancient and medieval usually wrote their texts continuously and without adapting the length of their textual units or sense units to the size of their pages. Only under favourable circumstances such as that of the peculiar, often unsystematic structure of Hippocratic treatises can the *quanta* be surmised, viz. where ‘seams’ or ‘sutures’ are visible: where the texts in question, by their content and/or their style and/or their position (appendices or inversion, see 5.2. above), are clearly distinct from neighbouring texts. More passages of the same length might, therefore, exist without our having any chance of making them out, whenever the transitions are smooth: a transition to the next quantum could just as well occur within a sentence or even a word.

A serious and fundamental objection that could be made to the discussion of text *quanta* concerns the possibility that they are due to coincidence, and that their ‘detection’ is due to arbitrary parameters: the quantitative phenomenon as such is only imprecisely defined, the range in length from 600 to 800 words being rather fuzzy.\(^\text{72}\) More exactitude in definition is, however, problematical, because, on the one hand, any two extant passages of 100 verses in epic poetry can

\(^{72}\)This fuzziness is the reason why only textual passages of ca. 100 epic verses or at most of twice that length have been taken into account. Longer passages could, of course, be interpreted as higher multiples of 100 epic verses, but the higher the presumptive multiples are, the more the uncertainty increases. Examples are *Prorrh. 2* (above 1.2.1.), chs. 1-4 [1735 words]; *Nat. Mul.* (above 1.2.4.), chs. 2-18 [2897 words]; chs. 32-34 [2881 words]; chs. 35-49 [1828 words].
differ considerably in their number of words (or syllables, or letters), 73 and on the other hand the Hippocratic writers cannot be expected to have kept to a quantitative routine strictly and pedantically. Although the range of 600 to 800 words taken in this paper as a basis for the selection of text *quaanta* is, in fact, arbitrary, any other similar range would be so, too.

It is, therefore, conceivable – and I do not rule out this possibility – that the observations made in this paper about text *quaanta* occurring in the structure of Hippocratic treatises do not reflect any characteristics of their genesis. One ought not to form a hypothesis from these findings, let alone build any theory upon them. By their nature, they can (as often happens in the historical disciplines) neither be verified nor falsified, so that the criterion of ‘truth’ is inapplicable and irrelevant. Hypotheses taken to be ‘true’ have exerted a disastrous influence particularly on modern Hippocratic scholarship (one of the best-known instances being the Cos-Cnidus controversy of the nineteenth and twentieth centuries). Instead of rashly relying on allegedly testable, allegedly correct hypotheses, one should rather employ constructs of another type, which avoid the traditional ‘true’/‘false’ decision. At first glance, such constructs look like hypotheses, but they have the advantage that they do not claim faith, and that they do not force our minds into blind alleys. I am proposing such a construct. It is a *scenario*, which claims to be *plausible*, nothing more, and which should be accepted only with reservations; a story which seems to make sense, perhaps better sense than other rival stories would do, and which might be ‘true’ but is just as untestable as to its ‘truth’ as many hypotheses in the historical disciplines are.

The construct is that at an early stage of their genesis around 400 BC a number of Hippocratic treatises were written down, partly or entirely, on leather pieces or papyrus sheets (little scrolls?) or rather wooden tablets in disconnected instalments, the instalments being equivalent in length to about 100 (or 200) epic verses or Normal Lines. These medical texts were either originals, or copies from originals, or copies from copies, or excerpts of various origin (the fact that so many parallel texts are extant in the Hippocratic Collection, and that all of them are of unclear origin, should warn against any simplifying stemmatic assumptions). The writing was done either by one hand, a secretary or scribe or pupil, or, as in medieval *scriptoria*, by several of them in handwriting (more or less) unified size. The scribal work was paid on the basis of the number of instalments. (This seems to be the weakest point in the construction of the scenario, the testimonia for this mode of calculation being admittedly late; but it is barely imaginable that payment, *if such was made*, could have been other than on a piece-work basis.) The uniform format of the pieces made it easy to store them in archives. For ‘publication’, the instalments were filed one after the other. The concepts of literary property and plagiarism did not yet prevail. Some innovative Hippocratic texts, whose authors used the First Person Singular, ‘I’, may have been composed originally in such instalments by one person, while other, rather traditional collections of material, in which the First Person Singular is not found, e.g. appendices or collections of recipes, may have been secondary copies or excerpts written down in the same way and on the same type of writing material. Such collections are ‘collective’ works, but not necessarily in the sense that a team of authors has worked on them simultaneously. The chaotic structure of a majority of treatises in the Hippocratic Corpus is a necessary corollary of a professional situation in which abundant doctrinal tradition (‘oral’, performativ, and written) about medical details was available and was collected in a written format, but no generally accepted comprehensive theory existed which was capable of integrating the bulk of these doctrinal details into a system.

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73 Cf. footnote 46.
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(Abbreviation: ed. Li. = ed. Littré [1839-61])

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