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Dating Medical Translations

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Abstract

The third/ninth-century translator Ḥunayn b. Ishāq and his associates produced more than a hundred mostly medical translations from Greek into Syriac and then into Arabic. We know little about the chronology of these translations, except for a few scattered remarks in Ḥunayn's *Risāla* (Epistle). This article attempts to reconstruct the chronology based on Hippocratic quotations in the Arabic translation of Galen's works. Hippocratic writings were usually not translated independently but embedded in Galen's commentaries, so a comparison between this "embedded" Hippocrates and quotations from the same Hippocratic text elsewhere in the Arabic Galen might reveal chronological relationships. The findings of this collation are thought-provoking, but they need to be weighed against the uncertainties surrounding translation methods and potential interference by well-meaning later scholars and scribes.

Keywords

Dating texts; Galen; Greek-Arabic translation movement; Hippocrates; Ḥunayn b. Ishāq; Medicine

Introduction

Ḥunayn b. Ishāq (d. 260/873 or 264/877) is a towering figure in the Greek-Arabic translation movement. His activities and those of his circle are relatively well documented, not least thanks to a letter Ḥunayn addressed to one of his sponsors, the famous *Risāla* (Epistle).¹ The *Risāla* contains a detailed survey of Syriac and Arabic translations of Galen (d. ca. 217 CE), the most prolific and influential medical scholar of antiquity.

While we are reasonably well informed about the output of Ḥunayn's translation workshop, we know next to nothing about the sequence in which the translations recorded in the *Risāla* were produced: the *Risāla* is mostly silent on the date of individual translations. Both the absolute and the relative chronology of most of the texts listed in the *Risāla* are still to be established.

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¹Edited by Gotthelf Bergsträßer in 1925 with additions and revisions in 1932 (Ḥunayn ibn Ishāq, *Risāla* and Bergsträßer, *Neue Materialien*). For the current state of research on the *Risāla*, see Ullmann, *Wörterbuch*, I, 30f.; also Käs, *Eine neue Handschrift*, who has edited and translated a recently discovered abridged version of the text that only records the title, length in books and translator of each of Galen's works.

The “Embedded” Hippocrates

The title under which the *Ris la* has been transmitted reveals Ḥunayn’s focus: it explicitly singles out “what was translated of Galen’s books” (*m turjima min kutub J l n s*). As far as we know, there is no comparable treatment of the Hippocratic corpus by Ḥunayn or anyone else. In addition, studies of surviving Arabic Hippocrates translations² have largely confirmed that, few exceptions aside, no separate translations of Hippocratic works were produced. Rather, the translators concentrated on Galen’s commentaries on Hippocratic texts. Inasmuch as these commentaries consisted of a series of quotations from the Hippocratic text followed by Galen’s exposition, they include most or all of the Hippocratic work Galen commented on. Thus, Galen’s commentaries became the main source for the reception of Hippocratic works in the Islamic world. After the translation stage, some of these “embedded” Hippocratic writings were excerpted from the commentaries and transmitted as quasi-independent texts.

The Arabic medical tradition therefore deals almost exclusively with a pre-packaged and in some respects pre-digested Galenic Hippocrates. This has some important consequences: first, since Galen did not normally quote the full Hippocratic text in his commentary, all these quasi-independent Arabic Hippocratic works are characteristically truncated.³ They also display the typical division into “books” that Galen imposed on them, and they occasionally preserve traces of Galen’s comments that slipped through in the excerpting process.

This embedded Hippocrates may help to gain insight into the relative chronology of the Galen translations produced in the Ḥunayn workshop. The outline of the argument I want to make is as follows: Galen frequently quoted Hippocratic writings in his own works to illustrate a point or draw on the authority of Hippocrates, who was traditionally regarded as the founding father of Greek medicine.⁴ In some Arabic Galen translations, the wording of these Hippocrates quotations mirrors that of the Arabic Hippocratic texts embedded in the corresponding Galen commentaries. Such conspicuous word-to-word matches suggest that the translator not merely translated the quotations from his source text but copied them from an existing translation of the quoted Hippocratic text. This means that the text from which the translator copied the quotations must have been produced before the one he was working on at that point. A sufficient number of such textual relationships based on Hippocratic quotations together may form the nucleus of an internal chronology of the medical output of Ḥunayn’s translation workshop.

Dating information in the *Ris la*

Before following this hypothesis any further, it is worthwhile to reiterate what exactly Ḥunayn’s *Ris la* says about dating. The general time frame of the *Ris la*’s composition is

²See Overwien, *Einige Beobachtungen*, with further references.

³Galen may refer to this selection process in his Commentary on *Epidemics* I, where he noted that a commentary has to “preserve the thought” (τὴν γνώμην φυλάσσειν) of a text and “convey the useful material” (τὰ χρήσιμα διδάσκειν) it contains (cf. Galen, *In Hipp. Epid. I–II*, 6,16–18).

⁴On several occasions, Galen insisted that the most important source for understanding a text is the thought of the author as it is preserved in his other writings; cf. Mansfield, *Prolegomena*, 148f.

fairly clear: in a note at the end of the text, Ḥunayn explains that he wrote a first version at the age of 48 in the year 1167 of the Seleucid era (241–2/855–6). He adds that he updated the *Ris la* with new information around eight years later.⁵ Shortly after Ḥunayn's death, the *Ris la* was updated a third time, possibly by its original addressee, the courtier 'Al b. Yaḥy b. al-Munajjim (d. 275/888–9).⁶

The Galenic works Ḥunayn listed in the *Ris la* are arranged not chronologically, but thematically and according to their importance for medical teaching and practice. The *Ris la* starts out with introductory writings and then covers texts that were part of the late antique Alexandrian medical curriculum.⁷ The next section then presents texts related to individual subjects such as anatomy, the pulse or regimen. Towards the end, Ḥunayn listed Galen's commentaries on Hippocratic writings. The *Ris la* concludes with Galen's philosophical works.

Few translations listed in the *Ris la* come with concrete dating information, and much of this information refers to Syriac translations rather than the Arabic versions Ḥunayn or one of his associates later created on the basis of the Syriac. For example, Ḥunayn notes that the first Galenic work he ever translated was *Distinctions in Fevers*,⁸ followed by *Natural Capacities* when he was 17 years old.⁹ A few other Syriac translations are associated with Ḥunayn's age at the time he translated them or with the reign of 'Abbīd caliphs, for example:

- the Syriac translation of *On Sects for Beginners*, translated at the age of 20 and revised when he was 40 years old;¹⁰
- the Syriac translation of the *Art of Medicine* at the age of 30;¹¹
- the Syriac translation of *On the Elements according to Hippocrates* when he had reached (young) adulthood (*f waqt muntah shab b*);¹²
- a Syriac translation of *On the Method of Healing* under al-Ma'mūn (r. 198–218/813–33), specifically during one of the campaigns against Byzantium he waged in the years 213–18/828–33, which was then lost;¹³ and
- the Syriac translation of *On the Composition of Drugs* under al-Mutawakkil (r. 232–47/847–61).¹⁴

The *Ris la* has less information on Arabic translations. Two of them are tied to particular caliphs, namely the Arabic translation of *That the Prime Mover Remains Unmoved*,

⁵Ḥunayn b. Ishāq, *Ris la*, 52,8–11; 13–15 (Ar.), 43 (Ger.).

⁶Cf. Meyerhof, *New Light*, 687.

⁷Cf. Ḥunayn's remark on the sequence in which these books were taught and the nature of medical teaching in a note between nos. 20 and 21 of the *Ris la* (Ḥunayn ibn Ishāq, *Ris la*, 18,19–19,1 [Ar.], 15 [Ger.]). Iskandar, *An Attempted Reconstruction*, describes the curriculum based on the testimony of Ḥunayn's *Ris la* and a chapter from Abū Ḥasan 'Alī b. Rīḍwān's (d. 460/1061) *al-Kitāb al-nafī fī kayfiyyat ta'lim sin'at al-ṭibb* (Useful Book on the Quality of Medical Education).

⁸Ḥunayn b. Ishāq, *Ris la*, 15,16–18 (Ar.), 12 (Ger.) (no. 17).

⁹*Ibid.*, 11,2–4 (Ar.), 9 (Ger.) (no. 13).

¹⁰*Ibid.*, 5,1–7 (Ar.), 4 (Ger.) (no. 3).

¹¹*Ibid.*, 6,3f. (Ar.), 5 (Ger.) (no. 4).

¹²*Ibid.*, 10,5–6 (Ar.), 8 (Ger.) (no. 11); according to Bergsträsser, this means ca. 40 years of age.

¹³Ḥunayn b. Ishāq, *Ris la*, 11,2–4 (Ar.), 14 (Ger.) (no. 20).

¹⁴*Ibid.*, 37,12f. (Ar.), 30 (Ger.) (no. 79).

produced during the reign of al-W thiq (r. 227–32/842–7),¹⁵ and the Arabic translation of the commentary on *The Nature of the Child* produced under al-Mu‘tazz (r. 252–5/866–9), which is mentioned in one of the additions in the third version of the *Ris la*.¹⁶ Elsewhere, the *Ris la* notes that Hunayn finished the Arabic version of *The Method of Healing to Glaucon* “in these days,”¹⁷ which presumably refers to the time he composed the first version of the *Ris la*.¹⁸ The *Ris la*’s final redactor recorded some other works that were translated or revised towards the end of Hunayn’s life, for example *The Parts of the Art of Medicine*.¹⁹

These scattered references alone are hardly sufficient to reconstruct a reliable internal chronology. Moreover, most of the dated texts mentioned in the *Ris la* are lost and those that still exist do not always contain Hippocratic quotations that can be used for dating purposes.

The entries for individual translations often name the client who had commissioned them. For Arabic translations, this was more often than not one of the Ban M s — three sons of a prominent courtier, all eminent scientists — who sponsored a wide range of translations and other scholarly research.²⁰ The oldest of the brothers, Ab Ja‘far Muḥammad b. M s , who most often figures in the *Ris la*, died in 259/873, around the time Hunayn himself died. This means that his active life and probably also that of his brothers is likely to have coincided with that of Hunayn’s life to such a degree that their association with a particular translation does not help much in narrowing down its date.

Also potentially relevant for dating translations and interpreting evidence from (biographical) literature are reports about Hunayn’s temporary fall from grace during the reign of the caliph al-Mutawakkil.²¹ These reports describe a falling-out between Hunayn and the caliph, allegedly instigated by Hunayn’s rivals at court, that resulted in his imprisonment and the confiscation of his library. Hunayn mentions these events in the first redaction of the *Ris la*, which suggests that they may have taken place between 232/847 and 241/856: in his notes on the translation of Galen’s commentary on the Hippocratic *Epidemics*, Hunayn explains that he had lost his library while working on the Syriac version of the Commentary on Book 3 of the *Epidemics*.²² The incident is also described in some detail in a supposedly autobiographical report preserved in Ibn Ab Uṣaybi‘a’s *Uy n al-anb ’ f ṭabaq t al-aṭibb ’* (The Best Accounts of the Classes of Physicians).²³ According to this account, the conflict between Hunayn and the caliph was eventually settled and the latter granted Hunayn three furnished houses filled with books.²⁴ The preamble to the *Ris la* alludes to the episode and refers to the role of its addressee, ‘Al b. Yaḥy , in recovering, at least, parts of Hunayn’s library. To justify why it took him so long to write the survey of

¹⁵Ibid., 51,6 (Ar.), 41f. (Ger.) (no. 125).

¹⁶Ibid., 44,4f. (Ar.), 36 (Ger.) (no. 101).

¹⁷Ibid., 7,15f. (Ar.), 6 (Ger.) (no. 6).

¹⁸Cf. Meyerhof, New Light, 691.

¹⁹Hunayn b. Ish q, *Ris la*, 32,1–2 (Ar.), 26 (Ger.) (no. 61).

²⁰Cf. Hill, M s , Ban .

²¹See for this incident Cooperson, The Purported Autobiography, esp. 237–243. Strohmaier, Hunain, considers the actions that led to Hunayn’s imprisonment in the context of the ongoing iconoclastic debates at that time; and Saliba, Competition, discusses the incident as an illustration of the fierce rivalries between contemporary Christian physicians.

²²Hunayn b. Ish q, *Ris la*, 42,5f. (Ar.), 34 (Ger.) (no. 95).

²³Ibn Ab Uṣaybi‘a, *Uy n*, I, 191,1–197,23.

²⁴Cf. Meyerhof, New Light, 689f.

Galen translations 'Al had requested, Hunayn points out that he still had not received all of the relevant literature he had lost.²⁵

Hippocratic Quotations

Since the biographical literature has little to offer for establishing a chronology of translations from Hunayn's workshop, it is now time to turn to the abovementioned Hippocratic quotations and try to assess their value for dating texts.

The Hippocratic *testimonia* scattered throughout the writings of Galen are well documented,²⁶ so the procedure to check for Hippocratic quotations that match the wording of the corresponding commentary is relatively straightforward. Hippocratic *testimonia* found in the Greek Galen need to be cross-referenced with extant Arabic translations and then compared with corresponding Arabic Hippocratic texts. A comparison of the original Greek Hippocratic passage with the way it is quoted by Galen may help identify cases where Galen himself adapted or misquoted Hippocrates.

The range of potential sources is, however, limited: the number of extant Arabic Galen translations is considerable, but many still remain unedited or are inaccessible. Others do not contain any Hippocratic quotations or only very short ones. In addition, a small number of Galen translations are too paraphrastic to be of any use.

Thus, the sample of translations comprises the following Galenic works of varying length, some edited, some extant in manuscript:²⁷

- (1) *Critical Days (De diebus decretoriis)*, ed. Cooper (J l n s, Ayy m)
- (2) *Customary Practices (De consuetudinibus)*, ed. Klein-Franke (J l n s, ' d t)
- (3) *Distinctions in Fevers (De febrium differentiis)*, ed. Wernhard (J l n s, Aşn f)
- (4) *Medical Names (De nominibus medicis)*, ed. Meyerhof and Schacht (J l n s, Asm ')
- (5) *Recognizing the Best Physician (De optimo medico cognoscendo)*, ed. Iskandar (J l n s, Miḥna)
- (6) *The Seventh-Month Pregnancy (De septimestri partu)*, ed. Walzer (J l n s, Mawl d)
- (7) *Theriac, to Piso (De theriaca ad Pisonem)*, ed. Richter-Bernburg (J l n s, Tiry q)
- (8) Commentary on the *Aphorisms (In Hippocratis Aphorismos)*, unedited
- (9) Commentary on *Airs, Waters, Places (In Hippocratis De aere aquis locis)*, unedited²⁸

²⁵Hunayn b. Ishāq, *Risāla*, 1,11; 2,1f.; 3,4–10 (Ar.), 1; 2f. (Ger.).

²⁶Anastassiou and Irmer, *Testimonia*.

²⁷I will refer to these texts throughout the article with their English titles. The Latin titles are given for reference purposes and the Arabic titles indicate where to find the editions in the list of references at the end.

- (10) Commentary on *Epidemics* I (In Hippocratis Epidemiarum I), ed. Vagelpohl (J l n s, *Tafs r If dh miy*)
- (11) Commentary on *Epidemics* II (In Hippocratis Epidemiarum II), unedited
- (12) Commentary on *Epidemics* VI (In Hippocratis Epidemiarum VI), unedited

The commentaries (nos. 8-12 above) obviously play a special role: they supply the Hippocratic lemmata that are the likely source of excerpted Hippocrates texts. At the same time, Galen made extensive use of Hippocratic quotations to support his reading of the text he commented on.

Three examples may suffice to illustrate what positive matches between quotations and the corresponding Hippocratic texts amount to. Particularly instructive are quotations that reappear in more than one work.²⁹

The first example consists of two quotations of aphorism I 21 of Hippocrates's *Aphorisms*. In the Greek text and Arabic translation of the *Aphorisms*, the wording is as follows:³⁰

Ἄ δεῖ ἄγειν, ὅκου ἂν μάλιστα ῥέπη, ταύτη ἄγειν, διὰ τῶν
ξυμφερόντων χωρίων.³¹

What matters ought to be evacuated, evacuate in the direction to which they tend, through the appropriate passages.³²

الأشياء التي ينبغي أن تستفرغ يجب أن تستفرغ من المواضع التي هي
إليها أميل بالأعضاء التي يصلح لاستفراغها.³³

The things that need to be excreted must be excreted from the regions to which they are most inclined (and) through the body parts that are appropriate for their excretion.

Version I: *Recognizing the Best Physician*

إنّ ما ينبغي أن يستفرغ فينبغي أن يستفرغ من الناحية التي يميل
إليها بالمواضع التي ينبغي استفراغها منها.³⁴

Evacuate whatever must be evacuated in the direction towards which it tends, through the places from which it must be evacuated.³⁵

This version shortens the text slightly and varies the terminology. Since the Greek original of this work is not extant, we cannot determine whether Galen or the Arabic translator rephrased the quotation.

²⁸My thanks go to Gotthard Strohmaier, who is preparing an edition and translation of the Arabic version of the commentary, for making his draft available to me.

²⁹The orthography of some of the following quotations has been slightly adapted.

³⁰I have slightly adapted the punctuation and vocalisation of the following text samples. Unless otherwise noted, the translations are my own.

³¹Hippocrates, *Aphorisms*, 106,20f.

³²*Ibid.*, 107,20–22.

³³Abuqr t, *Fuṣ l*, 8,4–6.

³⁴J l n s, *Miḥna*, 84,7f.

³⁵*Ibid.*, 85,9f.

Version II: Commentary on *Epidemics* I

ἃ δεῖ ἄγειν ταύτη ἄγειν, ὅπη ἂν μάλιστα ῥέπη, <διὰ> τῶν
 ξυμπερόντων χωρίων.³⁶

What matters ought to be evacuated, evacuate in the direction to which they tend,
 through the appropriate passages.

إنّ الأشياء التي ينبغي أن تستفرغ يجب أن تستفرغ من المواضع التي
 هي إليها أميل بالأعضاء التي تصلح لاستفراغها.³⁷

The things that need to be excreted must be excreted from the regions to which they
 are most inclined (and) through the body parts that are appropriate for their
 excretion.³⁸

While the Greek quotation in Galen's commentary changes the word order slightly, the
 Arabic wording is identical to that of the *Aphorisms* translation and constitutes a positive
 match.

The second, somewhat longer example is also taken from the *Aphorisms*. Aphorism III 8
 reads as follows in Greek and Arabic:

Ἐν τοῖσι καθεστεῶσι καιροῖσι, καὶ ὠραίως τὰ ὠραῖα ἀποδιδούσιν,
 εὐσταθέες καὶ εὐκρινέες αἱ νοῦσοι γίνονται, ἐν δὲ τοῖσιν
 ἀκαταστάτοισιν ἀκατάστατοι καὶ δύσκριτοι.³⁹

In seasons that are normal, and bring seasonable things at seasonable times,
 diseases prove normal and have an easy crisis; in abnormal seasons diseases are
 abnormal and have a difficult crisis.⁴⁰

إذا كانت أوقات السنة لازمة لنظامها وكان في كل وقت منها ما ينبغي
 أن يكون فيه كان ما يحدث فيها من الأمراض حسن الثبات والنظام
 وحسن البهران. وإذا كانت أوقات السنة غير لازمة لنظامها كان ما
 يحدث فيها من الأمراض غير منتظم سمج البهران.⁴¹

When the seasons follow their (proper) order and things are as they should be
 during each of them, diseases that occur during them are reliable and regular and
 have a good crisis. When the seasons do not follow their (proper) order, diseases
 that occur during them are irregular and have a bad⁴² crisis.

The same aphorism is quoted in the Commentary on *Airs, Waters, Places* and in the
 Commentary on *Epidemics* II. The Greek texts of these commentaries have not survived.

Version I: Commentary on *Airs, Waters, Places*

³⁶Galen, *In Hipp. Epid. I-2*, 142,23f.

³⁷J l n s, *Tafs r If dh miy*, 470,8–10.

³⁸Ibid., 471,8–10.

³⁹Hippocrates, *Aphorisms*, 124,3–6.

⁴⁰Ibid., 125,3–6.

⁴¹Abuqr t, *Fuṣ l*, 21,5–10.

⁴²Lit. “ugly” or “disgusting” (*samija*).

إِنَّ السنين التي تحفظ أزمعتها على اعتدالها ومزاجاتها فالأمراض التي تعرض فيها تكون شبيهة وعلى استوائها غير مخالفة ولا مشبهة والأزمنة المخالفة الكثيرة الانتقال فإن الأمراض التي تعرض فيها غير مستوية ولا ملائمة وانحلالها عسر شاق.⁴³

Diseases that occur in years in which the seasons maintain their balance and mixtures are similar and consistent, not dissimilar and uncertain. Diseases that occur during seasons that are dissimilar and change a lot are inconsistent and not favourable, and their resolution is difficult and hard.

Since the quotation paraphrases and slightly extends the text, it cannot have been taken from the Arabic translation of the *Aphorisms*. It is in fact so different from the Greek text of the aphorism that it was probably Galen himself rather than the Arabic translator who adapted it.

The first half of the passage is quoted again later on; the terminology used in this quotation corresponds to that in the version above:

إِنَّ الأزمنة المستوية المعتدلة تكون الأمراض فيها مستوية سريعة الانحلال.⁴⁴

In regular, balanced seasons diseases are regular and rapidly resolved.

Version II: Commentary on *Epidemics* II

إذا كانت أوقات السنة لازمة لنظامها، وكان في كل وقت منها ما ينبغي أن يكون فيه، كان ما يحدث فيها من الأمراض حسن النظام حسن البجران. وإذا كانت أوقات السنة غير لازمة لنظامها، كان ما يحدث فيها من الأمراض غير منتظم سمج البجران.⁴⁵

When the seasons follow their (proper) order and things are as they should be during each of them, diseases that occur during them are regular and have a good crisis. When the seasons do not follow their (proper) order, diseases that occur during them are irregular and have a bad⁴⁶ crisis.

This quotation is identical to the text found in the Arabic translation of the *Aphorisms* and constitutes a positive match.

The third example is taken from Hippocrates's *Prognostic* and illustrates the degree to which quotations of the same text can vary. The "original" version of this short observation on critical days in fevers runs as follows:

Οἱ δὲ πυρετοὶ κρίνονται ἐν τῇσιν αὐτῇσιν ἡμέρησι τὸν ἀριθμόν, ἐξ ὧν τε περιγίνονται οἱ ἄνθρωποι καὶ ἐξ ὧν ἀπόλλυνται.⁴⁷

Fevers come to a crisis on the same days, both those from which patients recover and those from which they die.⁴⁸

⁴³Ms. Cairo, D r al-kutub, Ṭal'at ṭibb 550, fol. 31r.

⁴⁴Idem, fol. 63v–64r.

⁴⁵Ms. Madrid, Escorial, árabe 804, fol. 45v10–12 and ms. Milan, Ambrosiana, B 135sup., fol. 3r31–3v1.

⁴⁶Lit. "ugly" or "disgusting" (*samija*).

⁴⁷Hippocrates, *Prognostic*, 42,1–3.

⁴⁸Ibid., 43,1f.

فَأَمَّا الْحُمَّىاتُ فَيَأْتِي فِيهَا الْبَحْرَانِ فِي تِلْكَ الْأَعْدَادِ مِنَ الْأَيَّامِ بِأَعْيَانِهَا الَّتِي
يَسْلَمُ مِنْهَا مَنْ يَسْلَمُ مِنَ النَّاسِ وَيُعْطِبُ مَنْ يُعْطِبُ.⁴⁹

The crisis of fevers arrives in the same number of days in which those people who recover from them recover and those who perish, perish.⁵⁰

Galen quotes this handy passage in his *Critical Days*, the commentary on the *Aphorisms* and the Commentary on *Epidemics* I. There the quotation takes the following form:

Version I: *Critical Days*

οἱ δὲ πυρετοὶ κρίνονται ἐν τῇσιν αὐτέσιν ἡμέρησι τὸν ἀριθμὸν ἐξ
ᾧν τε περιγίνονται οἱ ἄνθρωποι καὶ ᾧν ἀπόλλυνται.⁵¹

Fevers come to a crisis on the same days, both those from which patients recover and those from which they die.⁵²

بحران الحمّيات يكون في أيام بأعْيَانِهَا فمن قبلها ينجو بعض الناس
ويموت بعضهم.⁵³

The crisis of fevers occurs in the same days, so because of them some people recover and others die.⁵⁴

Although Galen quotes the *Prognostic* verbatim, the Arabic translation of the *Critical Days* varies the word order and the translation of key terms, and it introduces a causal connection that is absent in the “original” text.

Version II: Commentary on the *Aphorisms*

οἱ πυρετοὶ κρίνονται ἐν τῇσιν αὐτέσιν ἡμέρησι τὸν ἀριθμὸν, ἐξ
ᾧν τε περιγίνονται οἱ ἄνθρωποι καὶ ἐξ ᾧν ἀπόλλυνται.⁵⁵

Fevers come to a crisis on the same days, both those from which patients recover and those from which they die.⁵⁶

إِنَّ هَذَا الْبَحْرَانِ يَأْتِي فِي الْحُمَّىاتِ فِي أَعْدَادِ ذَلِكَ بِأَعْيَانِهَا مِنَ الْأَيَّامِ سَلَمٌ
مِنْهَا مَنْ سَلِمَ وَعُطِبَ مَنْ عُطِبَ.⁵⁷

This crisis arrives in fevers in exactly that number of days in which those who recover from them recover and those who perish, perish.

This version adds pronouns, it slightly adapts the word order and uses perfect forms for the verbs in the last part, but it retains the key terms. Galen quotes the *Prognostic* verbatim in the Greek text of the commentary.

Version III: Commentary on *Epidemics* I

⁴⁹Abuqr t, Taqdimā, 225,4–6.

⁵⁰I.e., fever crises arrive on the same day regardless of the ultimate outcome of the disease.

⁵¹Galen, Di. dec., 870,2–4.

⁵²Cf. Hippocrates, Prognostic, 43,1f.

⁵³J l n s, Ayy m, 275,2f.

⁵⁴Ibid., 274,3f.

⁵⁵Galen, In Hipp. Aph., XVIIb, 512,8–10.

⁵⁶Cf. Hippocrates, Prognostic, 43,1f.

⁵⁷Ms. Paris, Bibliothèque nationale de France, arabe 2837, fol. 36r15f.

οἱ δὲ πυρετοὶ κρίνονται ἐν ταῖς αὐταῖς ἡμέραις τὸν ἀριθμόν, ἐξ ὧν τε περιγίνονται οἱ ἄνθρωποι καὶ ἐξ ὧν ἀπόλλυνται.⁵⁸

Fevers come to a crisis on the same days, both those from which patients recover and those from which they die.⁵⁹

أَيُّ الْبَحْرَانِ يَأْتِي فِي الْحَمَّيَاتِ فِي عَدَادِ بَأْعَالِيْنَهَا مِنْ الْيَّامِ سَلَمَ مِنْهَا مَنْ سَلَمَ أَوْ عَطَبَ مِنْهَا مَنْ عَطَبَ.⁶⁰

Each crisis in fevers arrives after the same number of days in which those who recover from them recover or those who perish from them perish.⁶¹

The final version is closer to the Arabic *Prognostic* but also varies the word order and uses perfect verb forms at the end. The Greek text of the *Prognostic* and the quotation in the Greek commentary are again identical.

In spite of their close resemblance to the Arabic text of the *Prognostic*, neither the *Aphorisms* nor the *Epidemics* commentary reproduce the *Prognostic* translation verbatim, even though the Greek source texts quote verbatim in both commentaries. For positive matches of the Arabic texts to be conclusive, however, they need to be not just very similar but verbatim matches, that is, they need to be so close that it becomes highly unlikely that they came about purely by chance. Non-verbatim but strikingly close parallels such as the second example may be used to confirm existing verbatim quotations, but by themselves, they do not conclusively demonstrate that a translation depends on the Arabic version of a Hippocratic text.

Based on a strict standard of verbatim quotation, the sample of translations yields five conclusive and two potential positive matches, which are as follows:

- (1) the Commentary on the *Epidemics* quotes the *Aphorisms* and *Nature of Man* verbatim.
- (2) the Commentary on the *Epidemics* quotes *Nature of Man* verbatim.

This means that the Commentaries on the *Aphorisms* and *Nature of Man* probably precede the commentary on the *Epidemics*.

- (3) *Distinctions in Fevers* quotes the *Aphorisms* verbatim.
- (4) *Distinctions in Fevers* quotes the *Epidemics* verbatim.

Therefore, the Commentaries on the *Aphorisms* and *Epidemics* probably precede *Distinctions in Fevers*.

- (5) *Recognizing the Best Physician* quotes *Regimen in Acute Diseases* verbatim.

The commentary on *Regimen in Acute Diseases* therefore probably precedes *Recognizing the Best Physician*.

⁵⁸Galen, *In Hipp. Epid. I–II*, 144,7–9.

⁵⁹Cf. Hippocrates, *Prognostic*, 43,1f.

⁶¹Cf. *ibid.*, 475,20–22.

⁶⁰J l n s, *Tafs r If dh miy*, 474,16f.

The first four correlations taken together yield the following sequence:

The commentaries on the *Aphorisms* and *Nature of Man* precede the commentary on the *Epidemics*, which in turn precedes *Distinctions in Fevers*.

There is as yet no connecting element that links this sequence with the second one, that the commentary on *Regimen in Acute Diseases* precedes *Recognizing the Best Physician*.

Not included in these sequences are two potential positive matches, namely verbatim quotations from the Hippocratic *Humours* found in the *Epidemics* and *Aphorisms* commentaries. The relationship between the Hippocratic *Humours* and the remaining Hippocratic corpus is complex, many parallel passages appear both in *Humours* and the *Aphorisms*. When quoting such passages, Galen usually assigns them to the *Aphorisms* rather than *Humours*. These matches will therefore be left aside for now.

The remaining findings consist of a substantial number of negative correlations: while the Arabic translations of the Galen works in question contain sufficiently extensive Hippocratic quotations to compare with the Hippocratic reference texts, these quotations consistently do not match the wording of the latter. These negative correlations are as follows:

- quotations in *Critical Days* do not match the *Aphorisms*, *Epidemics*, *Nutriments* and *Prognostic*;
- quotations in *Customary Practices* do not match the *Aphorisms*, *Epidemics*, *In the Surgery* and *Nutriments*;
- quotations in the Commentary on *Airs, Waters, Places* do not match the *Aphorisms* and *Epidemics*;
- quotations in the Commentary on the *Aphorisms* do not match *Airs, Waters, Places, Epidemics, Nutriments* and *Prognostic*;
- quotations in the Commentary on the *Epidemics* do not match *Prognostic* and *Nutriments*;
- quotations in *Medical Names* do not match *Epidemics* and *Regimen in Acute Diseases*;
- quotations in *Recognizing the Best Physician* do not match the *Aphorisms* and *Prognostic*;
- quotations in *The Seven-Month Pregnancy* do not match *Epidemics* and *Nutriments*;
- quotations in *Theriac to Piso* do not match *Epidemics*.

Interpreting the Findings

My interpretation of the positive matches outlined above — that they indicate chronological relationships between the texts — rests on a number of assumptions. The first is that the translators working with and for Hunayn cooperated closely and cross-checked their texts with available translations or had them revised by a colleague. This idea may be plausible,

but our knowledge about the working conditions and interactions between Ḥunayn and his associates is too limited to know for sure. At the very least, the *Ris̄ la* tells us about Ḥunayn's efforts to proofread and correct several translations produced by his associates. This kind of proofreading may also have involved "updating" quotations.

My second assumption is that the source for Hippocratic quotations were the corresponding Galen translation and not some other translation that also happened to quote the very same Hippocratic passage. It is at least conceivable that the quotation direction may in some cases have been reversed, that is, Hippocratic material that was quoted in another Galen text may have been used to fill in lemmata in a later translation of the corresponding Galen commentary. This scenario seems less likely than transferring passages directly from the Galen commentaries: a translator or scribe would have to recall at just the right moment that a certain Hippocratic passage had already been translated in a different context, or he would have had this other source right in front of him at the very moment he worked on his translation of the Galen commentary.

The picture is somewhat complicated by the frequent phenomenon of Hippocratic parallels that was mentioned above, sections of Greek Hippocratic material that appear in identical or almost identical form in more than one Hippocratic writing. Galen sometimes explicitly notes these parallels in his commentaries on these works. This includes for example shared material in Book 2 and Book 6 of the *Epidemics* or in the Hippocratic *Humours* and *Aphorisms*.⁶²

My third assumption is that the positive matches were created by the translators themselves, not by copyists or redactors at a later stage. It is, however, conceivable that a later redactor replaced the text of Hippocratic quotations with that of Hippocrates translations available to him. On the other hand, if redactors went to such lengths, it is likely that their activities would have left traces or at least characteristic variants in later manuscripts.

One such trace is apparently visible in the Arabic version of *Recognizing the Best Physician*. The quoted section of aphorism I 1 reads as follows in the Greek and the Arabic *Aphorisms*:

εἰ δὲ οὐ μόνον ἑαυτὸν παρέχειν τὰ δέοντα ποιῶντα, ἀλλὰ καὶ τὸν νοσέοντα, καὶ τοὺς παρεόντας, καὶ τὰ ἔξωθεν.⁶³

The physician must be ready, not only to do his duty himself, but also to secure the co-operation of the patient, of the attendants and of externals.⁶⁴

وقد ينبغي لك أن لا تقتصر على توخي فعل ما ينبغي دون أن يكون ما يفعل المريض ومن يحضره كذلك والأشياء التي من خارج.⁶⁵

You should not confine yourself to aspire to perform the necessary action without (ensuring) that what the patient and those who attend him do is the same and the things that are external.

⁶²For examples from *Humours*, *Aphorisms* and *Epidemics* VI, see Overwien, *The Art*, 162–166.

⁶³Hippocrates, *Aphorisms*, 98,3–5.

⁶⁴*Ibid.*, 99,2–5.

⁶⁵Abuqr̄ ṭ, *Fuṣṣ* I, 1,5–7.

In *Recognizing the Best Physician*, we read:

وقد وصف هذه المعاني أبقراط نفسه، فقال: «إنّو ليس ينبغي لك أن تقتصر على فعل ما ينبغي أن تفعل دون أن يجرى المريض ومن يحضره، والأشياء التي من خارج، هذا المجرى» [«ومن قولوا أظبا،» وقد ينبغي لك أن لا تقتصر على توخّي فعل ما ينبغي دون أن يكون ما يفعل المريض كذلك ومن يحضره، والأشياء التي من خارج»].⁶⁶

Hippocrates himself gave the same description when he said, “Not only should you know your duty, but you should also secure the co-operation of patients, their attendants, and external things.” [He also said: “You should not confine your action to performing your duty, without the patients’ actions being (considered), also those of their attendants, and external things.”]⁶⁷

It seems that a redactor either slipped a marginal note with an alternative version into the text or he purposely updated the wording of the quotation in *Recognizing the Best Physician* but failed to remove the previous version. I have yet to find other examples for this phenomenon.

Confusingly, the same section of this aphorism is then quoted further down in a version that happens to be almost identical to the text of the Arabic *Aphorisms*:

ولكنّو يحتاج في صحّة ما يتقدّم بمعرفتو كما قال أبقراط «ألا يقتصر الطبيب على توخّي فعل ما ينبغي، دون أن يكون ما يفعل المريض، ومن يحضره، والأشياء التي من خارج».⁶⁸

Nevertheless, according to Hippocrates, in order that prognosis may be valid it is necessary that, “a physician should not confine his actions to performing his duty, without the patients’ actions (being considered), also those of their attendants, and external things.”⁶⁹

The evidential value of non-matching quotations for dating purposes is very limited; they can at most confirm already established positive matches. For example, we find that the *Epidemics* commentary seems to quote the *Aphorisms* commentary but not the other way round. The negative matches of *Epidemics* quotations in the *Aphorisms* commentary may therefore be taken to support the positive matches of *Aphorisms* quotations in the *Epidemics* commentary. It is conceivable that two commentaries quote each other verbatim because the translations of these texts were produced at the same moment in time, but there is as yet no pair of texts to which this would apply.

If there is no corroborating positive evidence, then non-matches do not signify any particular relationship; a translator may have failed to quote an existing translation for any number of reasons: the text was not to hand; or it was easier for the translator to re-translate a quotation instead of looking it up in the corresponding text.

⁶⁷Ibid., 73,18–22.

⁶⁶J n s, *Mihna*, 72,12–16.

⁶⁹Ibid., 79,6–9.

⁶⁸Ibid., 78,5–7.

Conclusions

Given the relatively small number of matching text pairs, the case for Hippocratic quotations as chronological markers is still tenuous. In the absence of corroborating evidence from biographical literature, we cannot know whether Ḥunayn and his associates consistently met the conditions under which positive matches would indeed signify chronological relationships. Did they consistently collaborate at the translation and revision stages? Did they always diligently consult available translations? And further, were the translations from the Ḥunayn workshop transmitted over hundreds of years without substantial alterations? For the reasons described above, this scenario seems unlikely. At the very least, the textual basis for establishing networks of textual relationships is too narrow at this point to draw firm conclusions. Numerous other translations, including commentaries and other texts of substantial length, remain to be examined.

Additional sources may confirm some of the impressions emerging from the current sample of texts. The first impression is that the Arabic translations of Galen's commentaries may have been produced fairly late in Ḥunayn's career: few of the Arabic translations studied so far depend on the corresponding Arabic Hippocrates texts. This may not be surprising: although the commentaries are important for medical theory, few of them are immediately relevant for medical practice, the selling point of many of Ḥunayn's Syriac and perhaps also Arabic translations. The translation of the commentaries perhaps had to wait until after the demand for translations of therapeutical and nosological writings with more relevance for medical practice had been met, and the majority of Galenic translations may therefore have been created before the commentaries. Hippocratic quotations would then provide chronological evidence only for a small number of translations.

The second impression is that the commentaries may have been translated in relatively short order and are therefore more likely to have been available at the same time. This increases the likelihood that they were consulted while the translators were working on other translations being produced at that time. It may therefore at least be possible to reconstruct a relative chronology of the commentaries and other late texts. But these and any other conclusions are conditional and depend on findings provided by additional translations, a task for future research.

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