

## FRAGMENTS OF LOST HIPPOCRATIC WRITINGS IN GALEN'S GLOSSARY

Within Emile Littré's<sup>1</sup> classification of Hippocratic works, class ten consists of three lost works, two of which appear to have been treatises on the treatment of serious wounds and on the extraction of arrows.<sup>2</sup> The sources for their titles—Erotian, Galen, an eleventh-century Arabic MS and the twelfth-century MS Vat.graec.276—disagree on minor points, but it is clear that they are all referring to the same works.

The title of one treatise appears as *περὶ τῶν ὀλεθρίων τραυμάτων* [Galen,<sup>3</sup> XVIII.A.28.K] or *περὶ τραυμάτων ὀλεθρίων* [Vat.graec.276, a list of titles of Hippocratic works<sup>4</sup>], that of the other as *περὶ βελῶν ἐξαιρέσεως* [sic.],<sup>5</sup> when they are named separately. An eleventh-century MS of a treatise by the Arab scholar Ibn Ridwān<sup>6</sup> contains a list, allegedly translated from the Greek, of 'works of Hippocrates'. Among them are *Deadly Wounds* [*περὶ τραυμάτων ὀλεθρίων*?] and *The Extraction of the Tips [of Spears and Arrows]* [*περὶ βελῶν ἐξαιρέσεως*?].

It seems, though, that the two texts were also transmitted in a combined form under one title—*περὶ τραυμάτων καὶ βελῶν*<sup>7</sup> or *περὶ βελῶν καὶ τραυμάτων*.<sup>8</sup> If Ilberg's emendation<sup>9</sup> of the meaningless *ἐν τῷ τρώματι καὶ βέλτιον ἐξαιρέσιος* at Galen XIX.116.K to *ἐν τῷ (περὶ) τραυμάτων καὶ βελῶν ἐξαιρέσιος* is correct, Galen may also have known the combined work.<sup>10</sup> (He may, of course, also be paraphrasing the title.)

Since only a variety of titles has survived, it is impossible to determine the relation between the works—was the combined treatise the combined text of the two separate works, was it a more concise form of them, or was it an independent treatise on the same topic? Also, did the two versions exist simultaneously, or was one treatise used and transmitted during a certain period and two treatises during another? The extant material does not allow us to answer these

<sup>1</sup> *Oeuvres complètes d'Hippocrate*. 10 vols (Paris, 1839–61).

<sup>2</sup> I.422–5.L.

<sup>3</sup> C. G. Kühn (ed.), *Cl. Galeni Opera Omnia*, 22 vols (Hildesheim, 1964–86; facs. reprint of 1821 edn).

<sup>4</sup> Cited in H. Kühlewein (ed.), *Hippocratis opera* (Leipzig, 1894), I.xvi.

<sup>5</sup> Loc. cit.; J. Ilberg, in *Das Hippokrates-Glossar des Erotianos und seine ursprüngliche Gestalt* (Leipzig, 1893), p. 136, quotes the reading *ἐξαιρέσιος*. Littré (loc. cit.) does not appear to know this title, and assumes that *περὶ ὀλεθρίων τραυμάτων* and *περὶ βελῶν καὶ τραυμάτων* are different titles for one and the same work.

<sup>6</sup> The Istanbul MS Hekimoglu Ali Pasa 691, edited and translated by F. Rosenthal, 'An Eleventh-century List of the Works of Hippocrates', *JHistMed* 28 (April 1973), 156–65.

<sup>7</sup> Scholia ad Gal. XIX.97.K in Codex Parisinus graecus 2254, in J. Ilberg, 'De Galeni vocum Hippocraticarum glossario', *Commentationes philologiae quibus Ottoni Ribbeckio praeceptoris illustri sexagesimum aetatis magisterii Lipsiensis decimum annum exactum congratulantur discipuli Lipsienses* (Leipzig, 1888), pp. 329–54, at p. 336.

<sup>8</sup> Erotian according to Hesychius I.90.16, quoted in E. Nachmanson, *Vocum Hippocraticarum collectio cum fragmentis* (Upsala, 1918), p. 20.

<sup>9</sup> Ilberg (1888), pp. 334f., based on Laurentianus 74.3.

<sup>10</sup> In neither passage does Galen suggest that the work he is referring to was by Hippocrates; the expression *ὁ γράψας τὸ βιβλίον* at XVIII.A.28.K appears to imply that he did not consider it to be the work of an author known to him.

questions, but for the sake of expedience the singular ('work'/'treatise') will be used throughout.

The title *περὶ βελῶν ἐξαιρέσεως* is also used for chapter VI.88 of the untitled medical compendium by the seventh-century physician and medical writer Paul of Aegina.<sup>11</sup> While it is an obvious title for any work or chapter dealing with the extraction of arrows and other missiles, it is possible that it is a conscious reference to the Hippocratic work also known by the same title.

At VI.88.3 [II, p. 131] Paul quotes 'Hippocrates' as saying that one should try to put the casualty in the position in which he was when hit, a passage that does not correspond to any in the Hippocratic Corpus as we have it.<sup>12</sup> It is therefore more than likely that Paul knew the lost treatise, and possible that his chapter is partly a paraphrase of the Hippocratic text.

The work is lost except for the title(s) and a list of words identified as originating from it by Ilberg,<sup>13</sup> who hypothesizes from their position in Erotian's glossary: the glossary contains no references to indicate from which Hippocratic work any particular word is taken, but the order of works within the alphabetical list always appears to be the same. Thus terms that do not figure in the extant version of the Hippocratic Corpus appear in the same position, following words belonging to *περὶ τῶν ἐν κεφαλῇ τραυμάτων* and preceding those belonging to *περὶ ἀγμῶν*, and are therefore in a surgical context. (As mentioned above, the Hippocratic Corpus available to Erotian included a work with the title *περὶ βελῶν καὶ τραυμάτων*, which he lists among the surgical treatises.) At least some of them—e.g. *ἄρμη· πᾶσα σύννοδος τραυμάτων* or *ἀγκυρομήλη*—can be said, without doubt, to refer to wounds or wound treatment. Based on these premisses, Ilberg<sup>14</sup> comes to the convincing conclusion that these must be expressions belonging to the lost work on wound treatment and the extraction of arrows.

In his alphabetical glossary of Hippocratic words,<sup>15</sup> Galen explains terms that he considers ambiguous or unusual, listing them in the form in which they appear in the Hippocratic Corpus. As suggested above, the lost work was presumably still available to Galen, and it is therefore statistically probable that several of the terms explained in the glossary should be taken from that work.

Indeed, two of the words in Erotian's glossary identified by Ilberg<sup>16</sup> as pertaining to the lost *περὶ βελῶν καὶ τραυμάτων* also feature in Galen's list in exactly the same reading, and three more in slight variants. Thus both XIX.69.K and Erotian 51.5 have *ἀγκυρομήλη*, *ἄρμης* at XIX.86.K corresponds to Erotian's (51.1) nominative *ἄρμη*, *ἀναχελύνεται* (XIX.80.K) stands for Erotian's (51.7) *ἀναχελύσσεται*, we find *ἀψιῖρόον* in Galen (MX.87.K) for Erotian's (51.6) *ἀψιόρροον*, and *σκύτα* both at XIX.139.K and Erotian 117.6.

Those, however, are not the only terms in Galen's glossary that cannot be found in the extant Hippocratic Corpus, but it would appear that so far not many scholars have shown an interest in the problem. More than 300 years after A. Foesius' *Oeconomia*

<sup>11</sup> J. L. Heiberg (ed.) (2 vols), *Corpus Medicorum Graecorum*, IX.2 (vol. II), pp. 129–35.

<sup>12</sup> Heiberg (loc. cit.) misattributes to *περὶ τῶν ἐν κεφαλῇ τραυμάτων* 10. H. Schöne, in his review of Heiberg, *Gnomon* 3 (1927), pp. 129–38, at p. 130, points out Heiberg's error and—ibid. and in 'Aus der antiken Kriegschirurgie', *Bonner Jahrbücher* 118 (1909), 1–11, at 8ff.—relates the gloss to *περὶ βελῶν ἐξαιρέσεως*.

<sup>13</sup> Ilberg (1893), pp. 136f.

<sup>14</sup> Loc. cit.

<sup>15</sup> Γαληνοῦ τῶν Ἱπποκράτους γλωσσῶν ἐξηγήσις, XIX.62–157.K.

<sup>16</sup> Ilberg (1893), pp. 136f.

*Hippocratis* (Frankfurt, 1578), Helmreich<sup>17</sup> made some suggestions and emendations to Galen's glossary, but in more recent years only H. Grensemann<sup>18</sup> has investigated any as yet undocumented words.

Among the terms that cannot be traced, four refer to arrows and can therefore be said with near-certainty (as much certainty as there can be for a statement that cannot be verified) to be taken from the Hippocratic work on arrow wounds:

- XIX.86.K                    ἄτρακτον: οὐ μόνον τὸν εἰς τὸ ἱερουργόν<sup>19</sup> χρήσιμον, ἀλλὰ καὶ τὸ ξύλον τοῦ βέλους.<sup>20</sup>
- id. 146                    τετράγωνα βέλη<sup>21</sup>: τὰ τέσσαρας ἔχοντα γλαγχῖνας.
- id. 147                    τοξεύματα: βέλη.<sup>22</sup>
- id. 155                    χήλωμα: τὴν δισχηλὴ γλυφίδα τοῦ βέλους, ἥ προστιθέασιν ἐν τῷ τοξεύειν τῇ νευρᾷ τὸ βέλος.<sup>23</sup>

Ten more entries, nine of them surgical instruments, are reasonably probable candidates for fragments of the lost work in question:

- XIX.85.K                    ἀπυρομήλη: τῇ πυρῇνα μὴ ἐξούση, τουτέστι τῇ μηλοτρίδι.<sup>24</sup>
- id. 94                    ἐγκάς: ἐν βάθει.<sup>25</sup>
- id. 122                    μήλην διαστομωτρίδα: τὸν διαστολέα.
- ibid.                    μήλην ἐξωτίδα: τὴν μηλωτίδα.

<sup>17</sup> 'Handschriftliche Verbesserungen zu dem Hippokratesglossar des Galen', *Sitzungsber KöniglPreussAkWiss* (1916), 197–214.

<sup>18</sup> 'Zu den Hippokratesglossaren des Erotian und Galen', *Hermes* 92 (1964), 505–7; id. 'Weitere Bemerkungen zu den Hippokratesglossaren des Erotian und Galen', *Hermes* 96 (1968), 177–90. It is possible that K. Mitropoulos has expressed an opinion on the question in his *Γλωσσάριον Ἱπποκράτους* (ἰδίᾳ κατ' Ἑρωτιανὸν καὶ Γαληνόν) (Athens, 1978), but the publication has so far proved elusive. The review by P. K. Georgountzos in *Platon* 31 (1979), 365–7, gives no indication of any conjectures about provenance of terms.

<sup>19</sup> Although Ilberg (1888), p. 333, emends to ἐριουργίαν, and thus appears to have examined the sentence carefully, he does not make any suggestions as to the origin of the gloss.

<sup>20</sup> Foesius [F], p. 106. While the word appears both in ἐπιδημία V and in περὶ ὄψιος, it is only in the sense of 'spindle', but not as 'shaft [of an arrow]'. The term ἄτρακτον, in the latter sense, is also used by Paul (VI.88.2/II, p. 130, etc.); τὸ ξύλον is the expression used at ἐπιδημία V.95/VII.121 (V.254 and 466.L).

<sup>21</sup> No mention in F. The τετράγωνα βέλη are one of the type of arrows, or rather arrowheads, enumerated by Paul (VI.88.2/II, p. 130). It is possible that the description of different kinds of missiles is lifted from the Hippocratic work, which Paul was using, rather than being an original idea of his own.

<sup>22</sup> F, p. 620. The dative τοξεύματι occurs at ἐπιδημία V.46, but, given that Galen always quotes the words in the form in which they occur, it is possible that he had another passage in mind.

<sup>23</sup> F, p. 677 (as occurring in Galen only). Helmreich, op. cit., p. 212, emends to τὴν νευρὰν τοῦ βέλους. The presence of this term would appear to support the hypothesis that the original Hippocratic treatise contained a discussion of different types of arrows, as there is no good reason why the end of the arrow that carried the flights should be mentioned in instructions of how to extract an arrow. (When the arrow was pushed out through a counter-opening—cf. Paul, loc. cit.—rather than pulled out, the shaft would be sawn off. Cf. Plut., *Fort. Al.* 345A–B, where this is done in order to remove Alexander's breastplate.)

<sup>24</sup> F, p. 88 (Galen only).

<sup>25</sup> F, p. 176, suggesting a possible mistake for ἐκάς, in περὶ τῶν ἐν κεφαλῇ τραυμάτων 5.

- ibid. μήλην ἰσχυρήν: τὴν τραυματικὴν μήλην.
- ibid. μήλην πλατεΐη: τῇ σπαθομήλῃ.
- ibid. μήλης τῷ πλάτει: τῷ κυαθίσκῳ τῆς ὀφθαλμικῆς μήλης.<sup>26</sup>
- XIX.126.K ὀρθοπρίονι: τῇ χοινικίδι.<sup>27</sup>
- id. 141 στρογγύλην μήλην: τὴν σπαθομήλην.<sup>28</sup>
- id. 146 τομεῖον: τομεὺς καλεῖται σιδηροῦν ἐργαλεῖον δίχειλον, ᾧ οἱ χαλκεῖς πρὸς ἄλλα τέ τινα καὶ πρὸς τὸ ἀναβάλλειν καὶ μοχλεῖσαι ἤλους χρῶνται.<sup>29</sup>
- ibid. 151 φλεβοτομίαν: οὐ μόνον τοῦ συνήθους τοῦτο, ἀλλὰ καὶ τὴν ἄλλην ὁπασοῦν διηρημένων<sup>30</sup> τῶν φλεβῶν κένωσιν του αἵματος καὶ τὸ φλεβοτομηθῆναι ὡσαύτως.<sup>31</sup>

The seven references to probes (XIX.85.K, id. 122 (five entries), id. 141) would be very appropriate for a treatise on arrow and other wounds, as well as the trephine (XIX.126.K) and the instrument called *τομεὺς* (XIX.146.K), presumably some kind of forked lever.

The noun *φλεβοτομία* does not appear in the extant Hippocratic Corpus with the meaning of a haemorrhage from a severed blood vessel, a use which would be appropriate to a work on wounds. The adverb *ἐγκάς*, too, could well be used in a sentence referring, for example, to an arrowhead lodged deep in a wound.

It is possible that three further glosses can also be related to the treatise under discussion:

- XIX.80.K ἀνερυσθέωσιν: ἀνασπασθῶσιν.<sup>32</sup>
- id. 101 ἐρυθροῦν στέαρ: τὸ ἔναιμον.<sup>33</sup>
- id. 126 ὀλισθράζοντα: ὀλισθαίνοντα.<sup>34</sup>

If the hypotheses about the origin of the glosses enumerated here are correct, it would mean that the work on arrow wounds is represented in Galen's glossary by a fairly high percentage of citations—higher than some other works. This could, however, be justified by the large number of specialist terms, such as the words for types or parts of arrows, or the surgical instruments which do not feature in any other Hippocratic works and would be unfamiliar to most readers.

While these conjectures may shed some light on the contents and language of the lost Hippocratic treatise on arrow and other wounds, there is as yet no answer to the questions how and when it was lost, and why at some point it was dropped from

<sup>26</sup> F, pp. 413f., specifically notes that none of the five types of probe can be found in the Hippocratic Corpus.

<sup>27</sup> F, p. 462, suggests a misreading for τῷ πρίονι.

<sup>28</sup> F, p. 591 (Galen only). The Kühn edition has στρογγύλον.

<sup>29</sup> F, p. 619 (Galen only).

<sup>30</sup> Amending Kühn's διηρημένην.

<sup>31</sup> F, p. 658.

<sup>32</sup> Not in Foessius. Helmreich amends to ἀνερυσθέωσιν.

<sup>33</sup> F, p. 242. The form στέαρ... ἐρυθρόν occurs at γυναικείων 2.205 (VIII.392.L), but not in relation to bleeding wounds.

<sup>34</sup> F, p. 451 (Galen only).

textual transmission altogether. Littré's comment<sup>35</sup> is still true: 'Ces fragments ne rendent cette perte que plus regrettable.'<sup>36</sup>

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<sup>35</sup> Op. cit., I.424.

<sup>36</sup> I am much obliged to the anonymous reader for his helpful comments.