

rather than South Italian origin for these arulae. The choice of subjects for decorating them is more difficult to explain, and remains puzzling. They were obviously used as incense burners in household shrines, but why there should be this sudden burst of popularity all over the Greek world<sup>40</sup> remains obscure. The only thing which is clear is that the same class of artisans did work on both the relief bowls and altars, and they therefore drew upon a single repertory of scenes for both.

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<sup>40</sup> See above n. 22.

### The Arabic version of Galen's *De Elementis Secundum Hippocratem*

The following notes are the outcome of a study of Hunain's translation of Galen's treatise *De Elementis Secundum Hippocratem*.<sup>1</sup> As we have remarked in connection with the translations of the *De Sectis ad eos qui introducuntur*, *JHS* xcvi (1978) 167, and of the *Ars Parva*, *JHS* ci (1981) 145, we have found Hunain's versions in general very accurate. The most important apparent divergences from the Greek texts of Helmreich and of Kühn are set out below, the most interesting being, perhaps, the reference to Diodorus as well as Leucippus in ch. 2, where Galen contrasts the theory he ascribes to the followers of Epicurus (that atoms are unbreakable because of their hardness) with that which he attributes to the followers of Leucippus (in the Arabic version to Diodorus and Leucippus), namely that the atoms are indivisible because of their smallness.

*Abbreviations:* H: Helmreich; K: Kühn; abbreviations for codices as in Helmreich.

Book i

- H 1.15 f., K 414.6 *εἰς τὰς ἰάσεις* omitted from Arabic version.
- H 2.3, K 414.14 *τοῖς ἀετοῖς* omitted from Arabic version.
- H 2.25, K 416.3 After the sentence that ends *καὶ τὴν δύναμιν*, the Arabic adds 'and he has simply aimed at the destruction of what is claimed concerning the business of the element [which is] one in form and power'.
- H 4.2-4, K 417.15 ff. H square-bracketed *ὅπερ τοῦνομα*. But Arabic has 'and it [the essence] is what he calls the thing in truth'. This suggests that Hunain had a text in which some explanation of the term *ἔτεῆ* was given (though his version attempts no rendering of the etymology of *ἔτεῆ* from *ἔτεόν*).
- H 4.8 ff., K 418.4 ff. Arabic adds explanations: 'for he called the indivisible bulks "one thing" because they all, in his opinion, are of one form; and he called the void the absence of the one, because it is also not an existing thing.'
- H 4.12, K 418.9 Arabic has *σύμπαντα*, square-bracketed by H.

<sup>1</sup> We wish once again to express our warmest thanks to Dr Malcolm Lyons of Pembroke College, Cambridge, who has again most generously offered his invaluable advice on many points of interpretation. Needless to add, any errors that remain are entirely our own responsibility.

H 5.2, K 419.1 Where the Greek text has *οἱ περὶ τὸν Λεύκιππον* alone as exemplification of those who believed the atoms to be *ἀπαθῆ* on account of their being indivisible because of their smallness, the Arabic has 'as was claimed by Diodorus and Leucippus'.

H 6.20, H 421.12 Where the Greek has *ὁ τραωθείς* (presumably the individual who has been pierced, although previously this had been referred to simply as *ζῶον*, H 6.7, H 420.15, K 6.15, H 421.6, and cf. H 8.1, K 423.14), the Arabic has 'the two [viz indivisible particles] are immune from feeling and from pain'.

H 7.16, K 423.5 *ἢ τίς τοῦτο προσιέται λογισμός*; is omitted from Arabic version.

H 8.18 f., K 424.15 ff. There is no trace of *οὔκουν οὐδ' ἐξ ἀπαθῶν θ' ἄμα καὶ ἀναισθήτων ἐγχωρεῖ στοιχείων εἶναι τὸ αἰσθητικόν* in the Arabic version. In the Arabic it is only composition from elements that are *ἀπαθῆ* but that are sensible that is ruled out, i.e. H 8.19-20, K 424.17 ff.

H 8.25, K 425.6 Where the Greek has *τὰς ὁμοιομερείας*, the Arabic version has 'identical indivisible parts' (Galen is dealing with atoms here, not Aristotelian homoeomeries).

H 9.5, K 425.12 H square-bracketed *χρῆ* (in K). Arabic has 'must'.

H 10.14, K 428.1 Arabic has 'by experience and reason' where Greek has only *τῷ λόγῳ*.

H 11.13, K 429.7 One Arabic MS supports *λευκά* (K), the other *πυρρά* (H).

H 12.15 f., K 430.15 f. The Arabic appears to take *δι' ὄλων* with *κεραννυμένων* (as in K) rather than with *ἀλλοιουμένων* (as in H) and has one word ('transformed') for *μεταβαλλόντων* (or *μεταβαλλομένων*) and *ἀλλοιουμένων*.

H 16.1 f., K 435.9 f. Arabic omits *καὶ πίστιν τὴν δέουσαν παρασχέσθαι τῷ λόγῳ*.

H 16.16, K 436.8 After *προὔκειτο*, the Arabic adds—what may be intended as an alternative—'no less than the exposition of the first by the method of demonstration in (all) clarity'.

H 17.16 f., K 438.1 Arabic appears to read *ὁ ἄνθρωπος* square-bracketed by H.

H 18.18, K 439.7 Arabic appears to read *ἀλλήλοις* deleted by H.

H 19.1, K 439.8 Arabic appears to read *τὸ ἐν τε καὶ τὸ πᾶν* deleted by H.

H 19.4, K 439.10 f. Arabic has nothing corresponding to *μῶνον / μόνον*—nor at H 20.3, K 440.6, though it has it at H 19.10, K 439.16.

H 19.13, K 440.3 f. Arabic appears to read *ἐν ἐόν* (with K) rather than *ἔνεον* (with H).

H 21.6, K 441.7 Where the Greek has 'neither air . . . nor fire', one Arabic MS omits 'nor fire', the other has 'nor water'.

H 21.9 ff., K 441.10 ff. The Arabic has the same lacuna after *χρέεσθαι / κεχρησθαι* as in the Greek MSS, where H restores after Hippocrates.

H 22.12, K 442.9 Arabic adds 'in spite of their obscurity'.

H 24.8, K 445.6 f. Like K, the Arabic reads *λέγουσι δὲ οὐ τὰ αὐτά* here as well as at H 24.6, K 445.4 f.

H 25.7, K 446.8 Arabic appears to read *ὄτι* (with K) rather than *ὅτε* (with H).

H 28.5, K 450.7 f. Arabic adds 'or earth': 'man is not in his totality of air or earth by itself'.

- H 30.6, K 453.8 Arabic has 'cold' for *νοτίδος*.  
 H 30.21, K 454.6 Arabic omits *τοῖς γε νοῦν ἔχουσιν*.  
 H 31.1, 4, K 454.11, 14 Arabic may have read *ἀναμνησκέτω σε* twice.  
 H 31.19, K 455.14 Arabic supports *τοῦ ὄλου φυτοῦ* (H) rather than *τῶν ἄλλων φυτῶν* (K).  
 H 33.19, K 458.10 Arabic omits *χόνδρον*.  
 H 35.15, K 461.3 Arabic adds 'moist and dry' after 'hot and cold' (with I).  
 H 35.18, K 461.7 Arabic apparently omits *ὠχρόν*.  
 H 35.19, K 461.8 Arabic has 'snow' for *κύκνον*.  
 H 36.18 f., K 462.13 f. Arabic omits *πεπερασμένα* at 18, but adds it at 19 (cf. K's Latin version at 462.14,  *finita quatuorque elementa*).  
 H 36.23, K 463.3 Arabic has 'cold' for Greek *ύγρόν*.  
 H 38.2, K 464.14 f. Arabic reads *θερμόν ὀνομάζειν* (as K, square-bracketed by H) and also *καθάπερ τὸ βαλανεῖον* (K, deleted by H).  
 H 38.3, K 464.16 Arabic favours *ἐμάθομεν* (K) rather than *εἰώθαμεν* (H).  
 H 39.6 ff., K 466.14 f. Where the Greek has *κατὰ μὲν γὰρ τὴν ἐπικράτησιν ὑγρόν μὲν ἢ σάρξ, ὁ χόνδρος δὲ ψυχρόν*, the Arabic has: 'Then as to dominance, it is said that flesh is moist; and cartilage dry; and flesh is hot and cartilage cold.' An omission may be suspected from the Greek text.  
 H 40.15, K 468.14 As in K, the second example (after fire) in Arabic is earth as cold and dry (not water, cold and wet).  
 H 42.25, K 471.16 Arabic adds 'almost' to 'simple' (*εἰλικρινέσι*).  
 H 43.21, K 473.4 Arabic omits *τελέως*.  
 H 44.20, K 474.7 Arabic appears to omit *ἐναντία*: 'as for that which takes the place of what has become deficient, that is not a quality, but it must be something most like the substance that was there before . . .'. This suggests a Greek text as in CLOV *ποιότης μὲν οὐκ ἔστιν*—leaving the subject of *ἀναπληροῦσα* to be understood. Compare also the sequel which states that what replenishes is a substance, *ἐκ τινος οὐσίας*, H 44.23, K 474.10, *οὐσίαν*, H 44.24, K 474.11 f.  
 H 46.3 f., K 476.5 f. *Τὸ ὡς ἐπικρατούντων* ('that they be predominant') Arabic adds 'in what we take as food'.  
 H 46.8–12, K 476.10–14 Arabic has all four examples, hot, cold, dry and moist, where Greek has only the first three.  
 H 47.8, K 477.15 Arabic omits *μόνον*, and gives the sense 'not qualities but elements' rather than 'not just qualities, but elements' (as in Greek).  
 H 50.20, K 482.5 Arabic has *πυκνόν* and either *ἀραιόν* or *μανόν* where K has *πυκνόν* and *μανόν*, and H has all three.  
 H 52.6, K 484.6 After *ἡ οὐσία*, Arabic continues: 'and we have found ourselves suffering, so it follows from

that that our substance is not one in form and not unreceptive of the impression', i.e. *ἀλλὰ μὴν ἀλοῦμεν, οὔτε μία ἄρα τὸ εἶδος οὔτε ἀπαθής ἔστιν ἡμῶν ἡ οὐσία*, which H notes in M but thought 'in contextum temere inlata'.

- H 52.16, K 484.16 Arabic has nothing corresponding to *μαλακόν* here, though 'soft' at H 52.14 (K 484.15).  
 H 55.6, K 488.4 Arabic omits *εἴτε περὶ στοιχείων* (which might indeed be thought inappropriate; see H 55.10, K 488.8).

#### Book ii

- H 59.6, K 494.1 Arabic adds 'to the womb' here; cf. H 60.5–6, K 495.7 *ἐκ τοῦ παρὰ τῆς μητρὸς αἵματος εἰς τὴν μήτραν ἰόντος*.  
 H 60.9, K 495.10 Arabic has 'finer' or 'thinner', where Greek has *ύγρότερον*, though we expect the converse of *παχύτερον* (H 60.8, K 495.9 f.), i.e. possibly *λεπτότερον*, cf. *λεπτόν* at H 60.17, K 496.1 (K's Latin version has 'tenuius').  
 H 62.6, K 498.6 Arabic explains *λευκοφλεγματίαν*: 'and that is the fleshy dropsy'.  
 H 66.20, K 504.14 f. Arabic reads *κατὰ τὸν Ἀσκληπιάδην* (with K), square-bracketed by H.  
 H 67.22, K 506.8 Arabic omits *τῶν ἰατρῶν τε καὶ φυσικῶν*.

#### Note on Arabic MSS

The two Arabic manuscripts of which we have used the microfilms are, respectively, the last of the set collectively known as MS 1075 of the Garrett Collection of the Library of the University of Princeton, and MS Arabe 2847 of the Bibliothèque Nationale of Paris.

On the set belonging to the Garrett Collection we have published a note in *JHS* xcvi (1978) 169. The present treatise is the last in this set and belongs to those copied in A.H. 572 (A.D. 1176/7).

The copy of our treatise which belongs to the MS Arabe 2847 has a colophon stating that it was finished in the month of Safar of the year 614, corresponding approximately to A.D. 1217. Somewhat surprisingly, the colophon also states that the copy was made in Jerusalem.

The two MSS, as is usual, complement one another and there seems to be no reason to judge one better than the other. We wish to thank cordially the Librarians in Paris and in Princeton for their kindness in sending us the microfilms. Our thanks are also due to Mr Bye, of the Photographic Department of the Library of the University of Cambridge, for his care in preparing enlargements from the microfilms.

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