

THE PROBLEMATA PHYSICA IN THE SEMITIC TRADITION

The *Problemata* literature was not only rich in the Greek tradition, but also in the Syriac–Arabic–Hebrew language area¹. The scheme of question and answer was used in almost every field of science. My study is particularly concerned with the *masā'il* literature on questions of natural science, i.e. *al-masā'il at-ṭabī'iyya*, which in Greek are known under the name *Problemata Physica* and are attributed to Aristotle. These *Problemata* are included in the Aristotelian Corpus², but outside the CA there are *Problemata Inedita* and other *Problemata* attributed to Alexander of Aphrodisias, and a few other collections³. The Semitic tradition attributes almost all of these *Problemata* to Aristotle.

M. Steinschneider was the first to give a survey of the material present in Europe in his great work *Die hebraeischen Übersetzungen des Mittelalters und die Juden als Dolmetscher*⁴. He mentions three Hebrew MSS of the *Problemata Physica*, also called the book of *Mabāl* after the opening words of almost every question, namely in Oxford, Bodleian

1 Cf. art. H. Daiber, EI², cols. 636–639, s.n. *Masā'il wa-adjwiba*. In Syriac e.g. Job of Edessa, *Book of Treasures*. Many references to the different *Problemata* collections also in *Sirr al-Ḥalīqa*, ed. U. Weisser, 1979, and see also U. Weisser, 1980 and the rev. by H. Daiber, 1982. Compare for the way this sort of collections of *Problemata* has been incorporated in the Syriac and Arabic literature H.H. Biesterfeldt and D. Gutas, 1984, pp. 21–55, and W. Raven, 1989, pp. 82f. For Hebrew, see the responsa literature, see e.g. W.O.E. Oesterley and G.H. Box, 1920, pp. 209ff.

2 Ed. I. Bekker vol. I 859a–967b. I will not discuss the question of the *Problemata* in the ancient bibliographies, because our text goes back directly to the PPG. I confine myself to referring to P. Moraux, 1951, pp. 11, 26 and 115–117; I. Düring, 1957, pp. 48, 80–119 (esp. pp. 84, 85 and 97) and 244; A. Baumstark, 1900, pp. 85–87 and C. Hein, 1985, pp. 422–423, 428–429 and 432–433 (list of Ptolemaeus). A condensed survey is given by H. Flashar, 1975, pp. 308–316. All information in the Arabic writers goes back to the list of Andronicus of Rhodes (1st century BC), preserved in Arabic in the *Pinax* of Ptolemaeus al-Ġarīb.

3 For the various collections, see H. Flashar, 1975, pp. 359ff.

4 1893, pp. 229–232 and M. Steinschneider, 1960, p. 112. He based himself on E. Renan, 1877, pp. 774–775.

Library Opp. Add. Qu. 131 and Reggio 44 and in München, Staatsbibliothek 297. Information about the Hebrew translator Moses ibn Tibbon is found in MS Opp. Add. Qu. 131, fol. 1v. and 44v. The name of the Arabic translator Ḥunain ibn Ishāq is found in both MSS from the Bodleian Library, but not in the München MS.

It was clear to Steinschneider that there must have been an Arabic translation of the *Problemata Physica*, not only in view of the Hebrew MSS, but also of a reference in Ibn Abī Uṣaibi'a I 199 art. Ḥunain, if at least we can assume that *ṭabī'iyya* should be read instead of 'arabiyya, so that *al-masā'il aṭ-ṭabī'iyya* refers to the *Problemata Physica*. In that case Ḥunain ibn Ishāq made a translation of this work in 17 books/chapters¹, i.e. of part of the PPG. In turn Moses ibn Tibbon translated four chapters of these, corresponding to PPG I-III, because book I was split into two². Only, the Hebrew translation is not just a variant of the Latin translation by Theodorus Gaza³. The differences are very considerable when both translations are compared. Theodorus Gaza's translation must be a revision based on the Greek text (PPG) and, despite Flashar's contention, bears no relation to the Hebrew text.

Unfortunately, we cannot confirm Steinschneider's remark⁴ that John Philoponus wrote a commentary on a book *Mabāl* ما بال كتاب تفسير. لارسطوطاليس العاشر. He adds: "Vielleicht ist אלעאשר im Fihrist S. 254 ... verstümmelt aus der Zahl XVII der Tractate (so viel zählen auch al-Kifti und HKh.); Joh. konnte 17 commentirt haben u. daher die Zahl überhaupt angenommen sein"⁵.

1 Classical scholars usually talk about "books", because the scrolls were divided in this way. Arabic books are normally divided into maqālāt. But the word maqāla has no connection with "scroll" and rather suggests our word "chapter".

2 Cf. H. Flashar, 1975, p. 385. A similar division into two books can be found in some Greek MSS, namely Probl. 1-29 as book I and the rest of book I as book II.

3 Cf. M. Steinschneider, 1893, p. 231 and see also H. Flashar, 1975, p. 371.

On Theodorus Gaza (1398-1475), cf. H. Flashar, 1975, p. 374. The text of Theodorus Gaza is included in the Bekker edition, vol. 3, pp. 415-474.

4 1893, p. 230, n. 889 and M. Ullmann, 1970, p. 94.

5 Compare *Fihrist* (ed. Teheran), p. 315, s.n. Yaḥyā an-Naḥwī, r. 5-6. The commentary of Yaḥyā an-Naḥwī is also mentioned by Ibn al-Qifṭī, *Ta'riḥ al-ḥukamā'*, p. 356, 7: كتاب تفسير ما بال لارسطوطاليس, so without the addition العاشر, found in the

Steinschneider mentions another Arabic MS in Hebrew letters, München 275, fol. 28: *הרה י"ח מסאלה אלתי סאל ענהא ארסטו אלפילסוף והוא חכמה מפירה*: 28. In this text 18 questions are posed to the philosopher Aristotle. A number of these questions starts with *מא באל*. But Steinschneider gives no other information, so that this manuscript too needs to be investigated further¹.

New data on the Semitic tradition are found in M. Ullmann, *Die Medizin im Islam*². Besides Steinschneider's information he also mentions the quotations in ar-Rāzī³. A place in Qoṣṭā ibn Lūqā⁴ from the sixth chapter of *Problemata Physica* makes it clear that there must have been more chapters in Arabic than the four in Hebrew.

Ullmann distinguishes between the "Hebrew" *Problemata Physica* and a second group of *Problemata*, which correspond to the collection of *Problemata Inedita* published by Bussemaker⁵ and shortly after by Usener⁶. Ullmann mentions two MSS of this collection of *Problemata*: Bagdād 952 and British Museum OR 12070⁷. Both MSS have the same type of *Problemata*, but the order of the *Problemata* presented is different. F. Sezgin has made a small addition to this list of MSS, but without ordering the material⁸.

Fihrist. Ibn al-Qifṭī has borrowed his information from Ibn abī Uṣaibi'a, I 105, 19. These data in turn depend on an abridged version of the *Fihrist*, see above. Both IAU and Ibn al-Qifṭī have omitted العاشر. The article of Ḥāḡḡī Ḥalīfa on the *Problemata* also goes back to IAU, namely IAU I, 69, 7f.: *مسائل في الشراب، شراب الخمر والسكر وهي*: 7f. 22, ḤḤ, ed. Istanbul, p. 1458, 15 (Probably Teheran, Maḡlīs 1568, see Introd., pp. XLIVf., a summary of PPA IV). ḤḤ, p. 1458, 15v *مقالة ٧١ المسائل الطبيعية* also goes back to IAU I 69, 16f. *مقالة ٧١ المسائل الطبيعية ويعرف ايضا بكتاب ما بال ٧١ مقالة*.

1 M. Steinschneider, 1878, pp. 66-69.

2 1970, pp. 93-97. See also the *Nachträge* in M. Ullmann, 1972, p. 458.

3 Cf. also M. Ullmann, 1970, p. 93 and *Der Islam*, 1970, pp. 113-114.

4 *Kitāb Ḥūlāf an-nās*, p. 136, 8.

5 *Aristotelis Opera Omnia Graece et Latine*, 1848-1874, vol IV pp. 291-334. Cf. also H. Flashar, 1975, pp. 362-364 and H. Flashar, 1962, pp. 402-418.

6 1859.

7 G. Meredith-Owens, 1955-1956, pp. 33-34.

8 GAS III, pp. 49-50.

Important additions were made by H. Daiber¹, especially because he mentions a new collection preserved in two Syriac MSS. This collection is a Syriac translation of Ἱατρικὰ ἀπορήματα καὶ φυσικὰ προβλήματα, attributed to Alexander of Aphrodisias and published by I.L. Ideler². Especially Daiber's account³ of his trip to India has made public many hitherto unknown MSS among which also new MSS with texts of the so-called *Problemata Inedita*.

The Arabic text going with the Hebrew translation has now also been found in Manisa⁴. This text comprises the 17 chapters as reported in the tradition. Moreover, a part of *PPA* has also been found preserved in a MS in Teheran, viz. the eleventh chapter, which was presented as a compendium of Aristotle's *Historia Animalium*, by Tābit ibn Qurra⁵.

Arranging the material known so far, we can distinguish the following text types in the Semitic tradition:

1. *Problemata Physica (PPA)*, related to those of the *CA*, but with important textual differences, passed down in a Hebrew translation in 3 Hebrew MSS, of which the original Arabic text has recently been discovered, passed down in 2 MSS, viz. a MS from Manisa, which contains the almost complete text, and one from Teheran with only chapter XI.
2. *Problemata Inedita Arabica (PIA)*, passed down in 12 Arabic MSS.
3. *Problema Inedita Arabica Hebraica (PIAH)*, in MS München 275, Arabic written in Hebrew letters⁶.
4. *Problemata Syriaca* in 2 Syriac MSS.

1 1970, pp. 545–546, bringing up to date the information of F.E. Peters, 1968, pp. 66–67. For the Baḡdād manuscript, compare G. Awad, 1949, p. 49, no. 104, cf. also F. Sezgin, *GAS* III p. 50 and Ullmann, 1970, p. 94. For the Syriac manuscripts see also J.T. Clemons, 1966, p. 249, no 167 and M.H. Goshen-Gottstein, 1979, p. 90.

2 1841–1842, vol. I pp. 3–80. There is a summary of this collection of *Problemata* by Abū 'l-Faraḡ ibn at-Ṭayyib, found in a MS in Istanbul, Nuruosmaniyye 3610 (new numbering 3095), fol. 1v.–21v. under the title كتاب في تحليل مسائل الاسكندر

3 *Manuscripts* 1986, pp. 26–48, nos. 9, 43, 63, 64, 143 and 150. Cf. also P.L. Schoonheim and G. Endress, 1986, p. 4.

4 See *Intro.*, pp. LViff.

5 See *Intro.*, pp. XI and XXXff.

6 In the near future I aim to add these *problemata* texts as an appendix to this edition of the *PPA*, together with the edition of the Syriac translation of the *Problemata* of ps. Alexander of Aphrodisias (items 2, 3 and 4).