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THE SCIENCES OF THE ANCIENTS AND THEIR DIVISIONS AQSĀM °ULŪM AL-AWĀ'IL

A TEXT ATTRIBUTED TO AVICENNA, AN EDITION WITH A BRIEF INTRODUCTION

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Abstract. The famous philosopher and scientist Abū Alī b. Sīnā (d. 428/1037) had an exceptional command of all the subjects on which he wrote. He is especially known for his many writings in logic, philosophy, and medicine. His influence was such that even in Europe, his works on physics, metaphysics and medicine in particular, were widely studied until the beginning of modern times. A keen mind, he had a full understanding of the inner structure of the Islamo-Hellenistic tradition that he perpetuated and in places helped to develop and reshape. This is not only borne out by his many writings, but in some instances also by his explicit accounts of the sciences and their divisions. This article contains an edition of one such account, of which only two copies have been identified so far. It will be argued (against Biesterfeldt) that the text in question is likely to have been written in Bukhārā when Avicenna was still in his early twenties. Moreover, it will be shown that it could very well be that the text was actually copied from his famous Al-hāsil wal-mahsūl (Harvest reapings), a philosophical encyclopaedia in twenty volumes long since lost. The absence of algebra and a philosophical rather than a religious foundation of the sciences finally, are important clues to Avicenna's perspective on the rational sciences early in his career.

Résumé. Le célèbre savant Abū cAlī b. Sīnā (m. 428/1037) montrait une maîtrise exceptionnelle de tous les sujets qu'il traitait. Il est surtout connu pour ses nombreux travaux en logique, en philosophie et en médecine. Son influence est telle que même en Europe ses travaux (en particulier en physique, métaphysique et médecine) ont été étudiés jusqu'à l'époque moderne. Il comprenait parfaitement la structure interne de la tradition gréco-arabe; il l'a transmise et a aidé son développement et sa transformation. En témoignent ses nombreux travaux, mais aussi plusieurs exposés explicites quant aux sciences et à leurs divisions. Cet article contient l'édition d'un tel exposé, dont deux copies seulement ont été identifiées à ce jour. On expliquera (contre Biesterfeldt) que le texte en question a probablement été écrit a Boukhara quand Avicenne était encore jeune. De plus, on montrera que le texte peut très bien dériver de son célèbre Al-ḥāṣil wal-maḥṣūl, une encyclopédie philosophique en vingt volumes, perdue depuis longtemps. L'absence de l'algèbre, et un fondement des sciences plus philosophique que religieux, sont des indices importants révélant le point

de vue d'Avicenne sur les sciences rationnelles à une période précoce de son activité.

1. PRELIMINARIES

Abū °Alī al-Ḥusayn b. °Abdallāh b. Sīnā (d. 428/1037), better known as Avicenna, is arguably the most prolific philosopher and scientist in medieval Islam. His literary output ranges from philosophy and logic through mathematics, mysticism, music and other subjects all the way to medicine. Some of his works, notably his monumental philosophical encyclopaedia the $Kit\bar{a}b$ al- $shif\bar{a}$ (The cure) and his equally voluminous medical encyclopaedia Al- $q\bar{a}n\bar{u}n$ fi l-tibb (The canon of medicine), had a large impact in the Latin West, roughly from the late twelfth century almost until the beginning of modern times.

Being the scholar that he was, Avicenna had a keen understanding of the relationship between the different sciences that he practised and taught. General outlines of the philosophical sciences (*hikma*, *falsafa*)

- ¹ In view of the enormous amount of literature on Avicenna, I just refer to D. Gutas, *Avicenna and the Aristotelian tradition. Introduction to reading Avicenna's philosophical works*, 2nd ed. (Leiden: Brill, 2014), which includes extensive references to primary and secondary literature.
- ² In addition to Gutas, op. cit., see also J. Janssens, An annotated bibliography on Ibn Sīnā, (1970-1989), including Arabic and Persian publications and Turkish and Russian references (Leuven University Press, 1991); idem, An annotated bibliography on Ibn Sīnā, "First supplement (1990-1994)" (Louvain-La-Neuve: Fédération Internationale des Instituts d'Études Médiévales, 1999); idem, An annotated bibliography on Ibn Sīnā, "Second supplement (1995-2009)" (Temple, AZ: Arizona Center For Medieval Studies, 2017); Y. Mahdavī, Fihrist-i nuskhahā-yi muṣannafāt-i Ibni Sīnā (Tehran: Intishārāt-i Dānishgāh-i Tahrān, 1333 AHS); G. C. Anawati, Essai de bibliographie avicennienne (Cairo: Dār al-macarīf, 1950); O. Ergin, Ibni Sina bibliografyasi (Istanbul: Osman Yalçın Matbaası, 1956, an upgraded version of the same in Büyük Türk filozof ve tıp üstadı İbn-i Sinā, Şahsiyeti ve Eserleri Hakkında Tetkikler [Istanbul: Ahmet İhsan Matbaası et al., 1937], which is a chapter in a large commemorative volume, with separate pagination). From among these latter three works Mahdavī is the most dependable, listing 131 items on philosophy, logic, medicine, and other subjects.
- ³ On these two works, including references to editions, translations and studies, see Gutas, op. cit., 103-15, 420-22, 512-14.
- ⁴ For the impact of his philosophy, see for instance J. Janssens, "Ibn Sīnā, Latin translations of", in H. Lagerlund (ed.), *Encyclopedia of medieval philosophy*, vol. 1, "Philosophy between 500 and 1500" (Dordrecht: Springer, 2011), 522a-527b; for the lasting impact of his Canon, see for instance Nancy G. Siraisi, *Avicenna in Renaissance Italy. The Canon and medical teaching in Italian universities after 1500* (Princeton University Press, 1987).

are contained in several of his surviving works. These take the form of introductory accounts at the beginning of some larger work or of a separate text, devoted specifically to this subject. Avicenna divides these sciences typically into logic (mantiq) and theoretical $(nazar\bar{\imath})$ and practical $(^camal\bar{\imath})$ philosophy, with logic acting as an "instrument" $(\bar{a}la, cp.$ the Greek organon) in the service of the other two, which together constitute the domain of the philosophical sciences proper. Each of these further divides into a number of subordinate branches, unique to the science concerned. Accounts differ according to their level of detail, use of terminology, the order in which the sciences are discussed, the presence or absence of some subordinate branch or, in some cases, the placement of one or more of these branches in relation to others.

The introduction to M. Kadīvar's edition of Avicenna's $Ris\bar{a}lat\ aqs\bar{a}m\ al-hikma$ (On the parts of philosophy), mentioned below on section 2 (f), contains (p. 50-70) a comparative analysis of the major characteristics of five texts by Avicenna on the division of the philosophical sciences (all mentioned below in section 2), leaving out the $Aqs\bar{a}m\ ^cul\bar{u}m\ al-aw\bar{a}^{\circ}il$ as well as a brief statement on the subject from the beginning of the $Il\bar{a}hiyy\bar{a}t$ (Metaphysics) of the $Kit\bar{a}b\ al-shif\bar{a}^{\circ}$ (below, 2 (b)). Turning mostly around terminological and taxonomological issues, this analysis, while useful on its own terms, does not address the matter of the relation between the divisions of the sciences in Avicenna and the divisions as we know them from Hellenistic sources. The latter was done with great insight by G. Endress in his comprehensive sketch of the development of the scientific encyclopaedia in the medieval Islamic world. The $Aqs\bar{a}m\ ^cul\bar{u}m\ al-aw\bar{a}^{\circ}il$ was not included in that survey. It may therefore be useful to briefly mention some of its major points of interest:

First of all, the $Aqs\bar{a}m$ $^cul\bar{u}m$ al- $aw\bar{a}$ oil is in many ways very similar to Avicenna's $Ris\bar{a}lat$ $aqs\bar{a}m$ al-hikma, his only other separate statement on the division of the sciences, which was modelled on the $Asn\bar{a}f$ al- $^cul\bar{u}m$ al-hikmiyya (The classes of the philosophical sciences) by his teacher in medicine, Abū Sahl al-Masīḥī (d. 401/1010). Both works contain an elaborate listing of the Hellenistic sciences, comprising the whole Aristotelian curriculum (logic, theoretical and practical philosophy (adding Plato and Bryson)), supplemented by the applied branches of the natu-

⁵ G. Endress, "The cycle of knowledge: Intellectual traditions and encyclopaedias of the rational sciences in Arabic Islamic hellenism," in G. Endress (ed.) & A. Filali-Ansary (pref.), *Organizing knowledge. Encyclopaedic activities in the pre-eighteenth century Islamic world* (Leiden: Brill, 2006), 103-33, esp. 119-20, 122-25.

⁶ Ibid., 119; see also M. T. Dānishpazhūh (ed.), "Aṣnāf al-culūm al-caqliyya," $Taḥq\bar{q}a\bar{t}$ i $Isl\bar{a}m\bar{\iota}$, vol. 6, no. 1-2 (Spring-Summer 1370 AHS / 1991), 211-220.

ral sciences (e.g. astronomy and medicine) and mathematics (theoretical and applied), which is placed between natural philosophy and metaphysics. They differ inasmuch as the order in which the sciences are treated is different (*Agsām al-hikma*: 1) theoretical philosophy (natural science, mathematics, metaphysics), 2) practical philosophy (ethics, economics, politics), 3) logic (in 9 parts); Aqsām culūm al-awā il: 1) logic (in 9 parts), 2) practical philosophy (ethics, economics, politics), 3) theoretical philosophy (natural science, mathematics, metaphysics). Also, while Greek sources and authors are mentioned in both, the Agsām culūm al-awā'il refers to about 35 titles & book genres and 17 individuals and groups (see section 4), the Agsām al-hikma to just four individuals (Plato, Aristotle, Bryson and Euclid) and 24 books. The difference lies mainly in the applied sciences (natural sciences & mathematics), which have much greater detail in the Agsām culūm al-awā'il than in the *Aqsām al-hikma*. In this connection it is also interesting to note that the applied natural sciences, apart from medicine, astronomy and alchemy, are focused on dream interpretation $(ta^c b \bar{t}r)$, talismans (tilas $m\bar{a}t$), physiognomy ($fir\bar{a}sa$), and white magic ($n\bar{i}ranj$) in the $Ags\bar{a}m$ alhikma, while the Agsām culūm al-awā il does not contain any of these, instead providing quite a lot of detail on astronomy, astrology, medicine and farming as well as alchemy. Another important difference lies in the fact that the mathematics section in the *Agsām al-hikma* contains a reference to algebra (al-jabr wal-muqābala), invented by al-Khwārazmī (d. ca. 232/847), while the $Ags\bar{a}m$ $^{c}ul\bar{u}m$ al- $aw\bar{a}^{\circ}il$ does not contain any such reference. This makes the $Aqs\bar{a}m$ culum al-awā'il more truly a statement on the Hellenistic sciences than the *Aqsām al-hikma*. This is the more true because in the latter, the ultimate justification of all science lies in revealed religion (viz. Islam), whereas in the former there is no such justification, only that the principles of all the individual sciences are to be found in metaphysics. Finally, the Agsām culūm al-awā il differs from the ones mentioned below under 2 (a)-(f) in that subject and object of the different sciences are stated with less philosophical detail and conceptual consistency than in the other works.

Ahead of the edition, it will be helpful to list Avicenna's other known accounts of the division of the sciences. From the six accounts cited below the first five are found in introductions to some larger work, while the sixth one is a separate treatise, just like the $Aqs\bar{a}m$ " $cul\bar{u}m$ al- $aw\bar{a}$ "il. For each account I shall mention the standard edition, translations, glosses / commentaries and studies, of course also in Arabic and/or Persian where available. In this way the interested reader will have less trouble in find-

ing his way in the literature around one or more of these texts. The edition of the $Aqs\bar{a}m$ $^{c}ul\bar{u}m$ al- $aw\bar{a}$ ^{o}il will follow after that.

2. AVICENNA ON THE DIVISION OF THE SCIENCES, SIX ACCOUNTS

- (a) Al-shif \bar{a} , Kitab al-mudkhal (Eisagoge), 7 12.3-16.12 (ca. 1.200 words)
- G. C. Anawatī et alii (ed.), *Ibn Sīnā*, *Al-shifā*, *Al-manṭiq 1: Al-mudkhal* (Cairo: al-Maṭba^ca al-Amīriyya, 1371/1952).

Latin translation by Avendauth (i.e. Abraham Ibn Da'ūd [d. ca. 1180]; on the attibution see S. Di Vincenzo, "Avicenna's *Isagoge*, chap. I, 12, *De universalibus*: Some observations on the Latin translation," *Oriens*, 40 (2012), p. 437-76, esp. 438-39) in Caecilius Fabrianensis (ed.), *Auicene perhypatetici philosophi: ac medicorum facile primi, Opera in luce redacta etc.* (Venice: Bonetus Locatellus for Octavianus Scotus, 1508), fol. 2r col. a line 1 – 2v col. a line 9; new edition of the Latin translation by F. Hudry (ed.) & A. de Libera (introd.), *Logica (Logique du Šifā)* (Paris: Vrin, 2018), 23-28.

English translation and discussion in M. E. Marmura, "Avicenna's division of the sciences in the *Isagoge* of his $Shif\bar{a}^{\,\circ}$," *Journal of the history of Arabic science*, 4 (1980), 239-51, repr. in idem, *Probing in Islamic philosophy. Studies in the philosophies of Ibn Sīnā, al-Ghazālī and other major Muslim thinkers* (Binghamton, NY: Global Academic Publishing, 2005), 1-15.

Italian translation of page 12 lines 4-9 in O. L. Lizzini, "L'Epistola sulle divisioni delle scienze intellettuali di Avicenna. Alcune note sulla psicologia e sulla profetologia," in S. Caroti et alii (ed.), *Ad ingenii acuitionem: Studies in honour of Alfonso Maierù* (Louvain-la-Neuve: Brepols, 2007), 235-262, on p. 231, with a wealth of bibliographical information on the division of the sciences in Avicenna and his predecessors, focussing on 2 (f) below.

Persian translation by A. Ārām, "Tarjuma-yi Manṭiq-i Abū 'Alī Sīnā,"

⁷ The reading mudkhal was suggested to me by Joep Lameer (Netherlands), who wrote me in a private communication that mudkhal or "introduction" (cp. Greek $eisag\bar{o}g\bar{e}$) relates to adkhala ("to introduce," verbal noun $idkh\bar{a}l$), while the more common but mistaken modern reading madkhal ("entrance") relates to dakhala ("to enter," verbal noun $dukh\bar{u}l$). On the distinction, see for instance Muḥammad b. Abī Bakr al-Rāzī (d. after 666/1268), $Mukht\bar{a}r$ al-sahāh (any edition), sub d-kh-l. Avicenna's work being clearly inpsired by Porphyry's Eisagoge, the reading mudkhal obviously imposes itself.

 $J\bar{a}w\bar{\imath}d\bar{a}n$ khirad / Sophia perennis, vol. 1, no. 2 (1354 AHS), 23-37, on p. 25-27 (fasl-i duwum). See also the introduction to the edition of item (f) below, p. 59-60.

- (b) Al-shifā $^{\circ}$, $Kit\bar{a}b$ al-il $\bar{a}hiyy\bar{a}t$ (Metaphysics), vol. 1, 3.8-4.17 (ca. 275 words)
- G. C. Anawātī and S. Zā^oid (ed.), *Ibn Sīnā*, *Al-shifā*^o, *Al-ilāhiyyāt*, vol. 1 (Cairo: al-Hay^oa al-^cĀmma li-Shu^oūn al-Maṭābi^c al-Amīriyya, 1380/1960).

Latin translation by Dominicus Gundissalinus (d. after 1190 CE) or (and?), possibly, Gerard of Cremona (d. 1187 CE), in S. van Riet (ed.), *Avicenna Latinus. Liber de philosophia prima sive scientia divina, I-IV* (Louvain & Leiden: Peeters & Brill, 1977), 1.4-3.3 (with the introduction by G. Verbeke, 1*-13*; on the translator(s?), see 123*).

English translation in M. E. Marmura, *Avicenna*, the "Metaphysics" of "The healing" (Provo, Ut.: Brigham Young University Press, 2005), 1-2, with notes on pages 381-84 and introd. xix-xx.

French translation in G. C. Anawātī, *Avicenne*, "La métaphysique" du "Shifā", 2 vol. (Paris: Vrin, 1978), vol. 1, 85-86, with notes on pages 277-79.

German translations in M. Horten, Die "Metaphysik" Avicennas. Enthaltend die Metaphysik, Theologie und Kosmologie und Ethik, übersetzt und erläutert (Halle a. S., New York: Haupt, 1907), 2-5 (with notes and introd. viii); J. O. Schmitt, Avicenna: Grundlagen der Metaphysik. Eine Auswahl aus den Büchern I-V der Metaphysik: Arabisch – Lateinisch – Deutsch (Freiburg etc.: Herder, 2016), 34-39.

Italian translations in O. L. Lizzini (introd. & transl.) and P. Porro (pref. & Latin part), Avicenna "Metafisica": "La scienza delle cose divine" ("Al-ilāhiyyāt"), dal "Libro della guarigione" ("Kitāb al-šifā") (Milan: Bompiani, 2002), 17-19, 1051-1054; A. Bertolacci (transl.), "Libro della guarigione": "Le cose divine" di Avicenna (Ibn Sīnā) (Turin: UTET, 2007), 138-41, with notes.

Spanish translation in C. Segovia (transl.), *Avicena (Ibn Sīnā)*, "Cuestiones divinas" ("Ilāhiyyāt") (Madrid: Biblioteca Nuova, 2006), 91-92.

For a Turkish translation, see E. Demirli & Ö. Türker (transl.), "*Metafizik I*", *İbn Sina*. Istanbul: Litera Yayıncılık, 2004 (page numbers not available).

Persian translations: I. Dādjū (transl.), *Ilāhiyāt az Kitāb i shifā* (Tehran: Amīr Kabīr, 1390 AHS, 2nd pr.), 3-4 (§ 1-2); M. Muḥammadī Gīlānī (transl.), *Tarjuma-yi Kitāb al-shifā (Fann-i sīzdahum*,

maqālāt 1-4) (Qom: Bustān, 1379 AHS), 13.1-15.9; on earlier Persian translations, see I. Panzeca, "On the Persian translations of Avicenna's Ilāhiyyāt," *Documenti e studi sulla tradizione filosofica medievale*, xxviii (2017), 553-67 (discusses eight manuscripts of two as yet unpublished 17th-century translations, in India and Iran).

From the sixteenth century onwards, interest in the $Il\bar{a}hiyy\bar{a}t$ of the $Shif\bar{a}^{\,\circ}$ increased in Iran, resulting in a whole series of commentaries, glosses and superglosses. Since these may throw additional light on the text, especially on what might have motivated Avicenna to make certain choices in his division of the sciences, it seems useful to mention them. Also, sometimes reference is made to Avicenna's other works, putting the matter of the division in a wider perspective. The works contain explanations, comments and even longer discussions. From among the available material, I only mention works that were published in print.

Arabic glosses & commentaries on the text from Iran (16th-18th centuries): 1) Ghiyāth al-Dīn Mansūr b. Ṣadr al-Dīn Dashktakī (d. 948/1541), Shifā al-qulūb, ed. A. Ahari, in A. Ūjabī (ed.), Ganjīna-yi Bahāristān, Majmū^ca⁵ī az 18 risālah dar mantig, falsafa, kalām wa ^cirfān (Tehran: Kitābkhānah, Mūzah wa Markaz-i Asnād-i Majlis-i Shūrāyi Islāmī, 1379 AHS), 185-276, see 196.17-207.11; 2) Sadr al-Dīn Shīrāzī (d. 1050/1640), Sharh wa taʻlīqa-yi Şadr al-Mutaʻallihīn bar Ilāhiyyāti Shifā³, 2 vol., ed. N. Habībī (Tehran: Bunyād-i Hikmat-i Islāmi-yi Sadrā, 1382 AHS), vol. 1, 5.1-17.4; 3) Āqā Husayn al-Khwānsārī (d. 1099/1687-88), Al-hāshiya cala 'l-Shifā' (al-Ilāhiyyāt), ed. Hāmid Nājī Isfahānī (Qom: Dabīrkhāna-yi Kungrih-i Āgā Husayn-i Khwānsārī, 1378 AHS), 11.1-17.5; 4) Muhammad Mahdī b. Abī Dhar-i Narāgī (d. 1209/1794-95), Sharh al-Ilāhiyyāt min Kitāb al-shifā°, ed. M. Muḥaqqiq (Tehran: Mu³assasa-yi Muṭālacāt-i Islāmi-yi Dānishgāh-i McGill bā hamkāri-yi Dānishgāh-i Tihrān, 1365 AHS), 2.20-11.17; H. Nājī Işfahānī (ed.), Sharḥ al-Ilāhiyyāt min Kitāb al-shifā°, ta°līf al-Ḥakīm al-cAllāma al-Mawlā Mahdī al-Narāgī (d. 1209 AH), 2 vol. (Qom: Kungrah-i Buzurgdāsht-i Muhaqqiqān-i Narāqī, 1380), vol. 1, 9-22; see also H. Nājī Isfahānī (ed.), Al-shifā° (Al-ilāhiyyāt) wa-ta°līgāt Sadr al-Muta allihīn alayhā. Ma a zubdat al-hawāshī min Mīr Dāmād, al-°Alawī, al-Khwānsārī, al-Sabzawārī, Mullā Sulaymān, Mullā Awliyā° wa-ghayrihim, wa ma^cahā ^cAwn ikhwān al-safā^o ^calā fahm Kitāb al-shifā, li-Bahā al-Dīn Muhammad al-Isbahānī, vol. 1 (Tehran: Publications of the International Colloquium on Cordoba and Isfahan: Two Schools of Islamic Philosophy, Isfahan 27-29 April 2002. Society for the Appreciation of Cultural Works and Dignitaries, Institute of Islamic Studies Tehran – McGill Universities, 2004), 6-20, 269-70, and the Introduction.

(c) $^cUy\bar{u}n$ al-hikma (Elements of philosophy), 16.4-17.10 (ca. 300 words)

^cA. Badawī (ed.), *Ibn Sīnā*, ^c*Uyūn al-ḥikma* (Beirut & Kuwait: Dār al-Qalam & Wikālat al-Maṭbū^cāt, 1980 2nd pr. [1st pr. 1954]); for other editions / printings see A. Lammer, *Elements of Avicenna's Physics* (Berlin & Boston: de Gruyter, 2018), bibliography.

A detailed Arabic commentary is given in Fakhr al-Dīn Rāzī (d. 606/1210), *Sharḥ °Uyūn al-ḥikma*, 3 vol., ed. M. Ḥijāzī & A. °A. Saqā (Tehran: Ṣādiq, 1373 AHS), vol. 2, 3-22. See also the introduction to the edition of item (f) below, 61-62.

(d) The *Manṭiq* (Logic) of his *Mashriqiyyūn* (The Easterners), 5-8 (ca. 1.125 words)

M. al-Khaṭīb and ʿA. Qatlān (ed.), *Manṭiq al-Mashriqiyyīn wal-qaṣīda al-muzdawija fi ʾl-manṭiq*. *Taṣnīf al-Raʾīs Abī ʿAlī Ibn Sīnā* (Cairo: al-Maktaba al-Salafiyya, 1910).

A Tadjik translation is available in *Abu Ali Ibni Sino: Osori muntakhab*, vol. 4 (Dushanbe: Irfon, 1992), 19-242 (logic, physics, and psychology of *Al-mashriqiyyūn*, so far as preserved). Having no access to the work, precise page numbers cannot be provided. See also the introduction to the edition of item (f) below, 63-64.

(e) $Il\bar{a}hiyy\bar{a}t$ (Metaphysics) of the $D\bar{a}nishn\bar{a}ma$ -yi $^cAl\bar{a}^{\circ}\bar{\iota}$ (Philosophy for $^cAl\bar{a}^{\circ}$ al-Dawla) (Persian), 1-8 (ca. 1.225 words)

M. Mu^cīn (ed.), *Ilāhiyyāt-i Dānishnāma-yi ʿAlāʾī. Taṣnīf-i Shaykh-i Raʾīs Abū ʿAlī Sīnā* (Hamadan: Dānishgāh-i Bū ʿAlī Sīnā, 1383 AHS 2nd pr.).

French translation in M. Achena & H. Massé (transl.), *Avicenne, Le livre de science I (Logique, Métaphysique)* (Paris: Les Belles Lettres, 1955), 89-94. See also the introduction to the edition of item (f) below, 60-61.

(f) $Ris\bar{a}lat\ aqs\bar{a}m\ al-\dot{h}ikma$ (On the parts of philosophy) (ca. 2.750 words)

Previous printings all go back to 1) $Tis^c ras\bar{a}^{\circ}il$ fi 'l-hikma wal- $tab\bar{\iota}^c iyy\bar{a}t$ lil-Shaykh al- $Ra^{\circ}\bar{\iota}s$ (Istanbul: Maṭbacat al-Jawānib, 1298/1880-81), 71-80 ($Aqs\bar{a}m$ al- $cul\bar{u}m$ al-caqliyya), or to 2) $Majm\bar{u}^cat$ al- $ras\bar{a}^{\circ}il$, $tubi^cat$ ' $cal\bar{a}$ nafaqat al-Shaykh... al- $Sabr\bar{\iota}$ al- $Kurd\bar{\iota}$ (Cairo:

Maṭbacat Kurdistān al-cIlmiyya, 1328/1910), 225-43 (Aqsām al-culūm al-caqliyya). The printing history of this text is explained in great detail in the introduction to the only scholarly edition of this treatise to have been published so far, in M. Kadīvar, "Ibn Sīnā wa ṭabaqah banda-yi ḥikmat: Risālat aqsām al-ḥikma," Jawīdān khirad / Sophia perennis vol. 5, no. 1 (Winter 1387/2009), 35-137 (text on p. 106-116 and 117-137 (notes); a PDF copy of this edition can be obtained at www.javidankherad.ir/article_32967_en.html). In the introduction the author further situates the text in the learned tradition in which it stands while comparing its major assertions with those of the works mentioned above, except for item (b), the Ilāhiyyāt of the Shifāc. After reviewing information drawn from the ancient inventories of Avicenna's writings, titles of manuscript copies as well as internal evidence from the text, the title Risālat aqsām al-ḥikma is retained, which is more or less identical with Gutas' (Avicenna, 416) Maqāla fī aqsām al-ḥikma.

Latin translation by Andrea Alpago (d. 1522 CE) as *Tractatus Avicennae De divisionibus scientiarum*, in idem (transl.), *Avicennae philosophi praeclarissimi ac medicorum principis Compendium de anima etc.* (Venice: Apud Iuntas, 1546), 139v-145v.

A partial Hebrew translation is contained in Shem Tov Ibn Falaquera's (d. ca. 1295 CE) Reshit hokhmah (The beginning of wisdom) (L. Strauss, "Eine vermisste Schrift Farâbîs," Monatsschrift für Geschichte und Wissenschaft des Judentums, 80 (1936), p. 96-106, on p. 97; Steve Harvey, "Shem Tov Ibn Falaquera," in The Stanford encyclopedia of philosophy (Fall 2014 edition), https://plato.stanford.edu/archives/fall2014/entries/falaquera/, § 3).

Partial English translation in M. Mahdi, "Avicenna on the divisions of the rational sciences," in R. Lerner & M. Mahdi (ed.), *Medieval political philosophy: A sourcebook* (New York: The Free Press of Glencoe, 1963, 1967 repr.), 95-97, on p. 96-97.

French translations: G. C. Anawati, "Les Divisions des sciences intellectuelles d'Avicenne," *MIDEO*, 13 (1977), 323-35; R. Mimoune, "Épître sur les parties des sciences intellectuelles d'Abū 'Alī al-Ḥusayn Ibn Sīnā," in J. Jolivet & R. Rashed (ed.), Études sur Avicenne (Paris: Belles Lettres, 1984), 143-51; J. Michot, "Les sciences physiques et métaphysiques selon la Risālah fī aqsām al-culūm d'Avicenne. Essai de traduction critique," *BPM*, 22 (1980), 62-73 (partial translation based on personal inspection of some of the more important MSS).

Italian translation of 107.14-20, 109.7-10 (ed. Kadivar) in Lizzini, "L'Epistola sulle divisioni..." (p. 233, 236-37), as part of an extentive

study of his division of the sciences in this and some of his other works, its historical context, and importance.

Turkish translations: H. Akkanat, "İbn Sina'nın Aklî Bilimlerin Bölümleri Adlı Risalesinin Çeviri ve İncelemesi," *Dini Araştırmalar*, 11 (2008), 195-234, on p. 195-204; M. C. Kaya (ed. & transl.), "İbn Sînâ'nın *Kitâbu aksâmi 'l-hikme ve tafşîlihâ'sı*: Tahkik ve tercüme," *Tahkik İslami İlimler Araştırma ve Neşir Dergisi*, vol. 3, no. 1 (Haziran / June 2020), 1-40.

Persian translation: Diyā° al-Dīn Durrī, *Andishahā-yi buzurg-i Is-lāmī* (Tehran: Sharq, 1356 AHS), 660-75; repr. idem, *Rahnamā-yi ḥik-mat. Panj risālah Abū* °*Alī Sīnā* (Tehran: Khayyām, 1373 AHS), 9-23.

3. AQSĀM °ULŪM AL-AW°IL

3.1. The Aqsām ^culūm al-awā^oil: copied from Avicenna's Al-ḥāṣil wal-maḥṣūl?

The first mention of the existence of a treatise ascribed to Avicenna named $F\bar{\imath}$ $aqs\bar{a}m$ $^cul\bar{u}m$ $al\text{-}aw\bar{a}^{\imath}il$ — "The sciences of the ancients and their divisions," derived from the introduction, the work itself has no title — was made in 1990 by A. Sidarus, in his description of the contents of MS Lisbon, Academy of Sciences, Vermelho 292 and 293, the work itself being found in MS Vermelho 293 folios 1v to 6v.8 Almost 20 years later, another copy of the work, in MS Tehran, Majlis-i Shūrā-yi Islāmī 712/5, folios 134r-139r,9 was mentioned in the introduction to M. Kadīvar's edition of the $Ris\bar{a}lat$ $aqs\bar{a}m$ al-hikma (p. 83-85) mentioned earlier under 2 (f), and where the title is given as $Ris\bar{a}lat$ $aqs\bar{a}m$ $^cul\bar{u}m$ al- $aw\bar{a}^{\imath}il$. Neither author was aware of the existence of a copy other than the one mentioned by him. Both authors accept the ascription of this work to Avicenna, Kadīvar being slightly more cautious and after comparison with Avicenna's other works, although his attempt to link

⁸ A. Sidarus, "Un recueil de traités philosophiques et médicaux à Lisbonne," Zeitschrift für die Geschichte der Arabisch-Islamischen Wissenschaften, 6 (1990), 179-189, p. 186 (Fī aqsām culūm al-awācil). The catalogue is less specific, for which see A. Sidarus, Catálogo de manuscritos, Série Vermelho, 2 vol. (Lisbon: Academia das Ciências de Lisboa, 1978-86), vol. 1, 182. According to Gutas (Avicenna, 416) the title is Risāla fī jamīcagsām culūm al-awācil.

⁹ M. T. Dānishpazhūh and B. °Ilmī Anwārī (ed.), Fihrist-i kutub-i khaṭṭī-yi Kitābkhāna-yi Majlis-i Shūrā-yi Islāmī, shumāra-yi 2 (Sinā-yi sābiq), vol. 2 (Tehran: Intishārāt-i Kitābkhāna-yi Majlis-i Shūrā-yi Islāmī, 1359 AHS), 36-37 (Aqsām al-vulūm). In my description of this MS (see 3.2.2 below), this is text no. 7 because no. 4 and 5 of my list were omitted in the Majlis catalogue.

the work to one or more titles from some of the ancient inventories of his works seems somewhat strained. Be that as it may, there can be no doubt that the ascription of this text to Avicenna is based on the opening passage of this treatise, which runs thus:

هذا ما عَمِله الشيخ الرئيس أبو علي الحسين بن عبدالله بن سينا لمجلس الشيخ الجليل السيّد أبي الحسين أحمد بن محمّد السّهْلي لمّا عرف كمال حظّه في فنون الحكمة ومحبّته لها وتكفّله المنتمين إليها عَمِلَ مُشجَّرًا يُوضِع فيه جميع أقسام علوم الأوائل بحذاء العين ويذكر ما الّذي يشتمل عليه كلّ قسم منها وفي أيّ الكتب توجَد القوانين والأصول لكلّ فنّ منها ليسهل على من تأمّلها معرفة الفائدة والغرض في العلم الّذي يريده من علومهم والكتاب الّذي يدلّه عليه من كتبهم وشفع إلى الشيخ الجليل فضله العزيز في الأمر بإصلاح الخلل إن كان وقع في هذا العمل.

What follows is what the Shaykh and Master Abū °Alī al-Ḥusayn b. °Abdallāh b. Sīnā prepared for the court of the Eminent Shaykh, His Lordship Abu 'l-Ḥusayn Aḥmad b. Muḥammad al-Sahlī. When he learned of the latter's proficiency in the philosophical sciences and his liking for them, as well as of his patronage of those who were active in this field, he made a tree-like representation in which he laid out the sciences of the ancients in all their parts, such that they could be viewed in a single glance. In it, he mentioned what each constituent part was about and in which books the rules and principles of every single discipline could be found. In this way, anyone who would examine it 10 would have no problem in understanding the benefit and purpose of whatever science of the ancients that he was interested in, and which of their books would lead him into that field. And he begged the distinguished and highly refined Shaykh to be kind enough to tell him to correct any shortcomings that might have occurred.

The above quotation raises several questions: 1) who is speaking? 2) what is the message? 3) is what follows a text by Avicenna? Clearly, it is not Avicenna who speaks. Unfortunately, the text does not contain any clue regarding the identity of the author of this preface. On the other hand, Abu 'l-Ḥusayn al-Sahlī is mentioned by Avicenna in his autobiography, where he says, concerning events after his father's death (in 392/1002): "... Necessity led me to abandon Bukhārā and move to Gurgānj [= Kunye-Urgench, Turkmenistan], where Abu 'l-Ḥusayn al-Sahlī, a lover of the philosophical sciences, was minister. I was presented

 $^{^{10}}$ "Examine it." I think the mushajjar or tree-like representation is meant. This would require a masculine suffix (-hu). I think therefore that the feminine suffix $-h\bar{a}$ in $ta^{9}ammalah\bar{a}$ is Middle Arabic and that it was put there because of the following $ma^{c}rifa$ (which is feminine). In this connection see J. Blau, A grammar of Christian Arabic. Based mainly on South-Palestinian texts from the first millenium, 3 vol. (Louvain: Secrétariat du Corpus SCO, 1966-67), § 188.

to the prince [$am\bar{\iota}r$ = ruler] there, ^cAl $\bar{\iota}$ b. Ma^om \bar{u} n."¹¹ That Avicenna was received into the learned entourage of al-Sahl $\bar{\iota}$ as reported in the preface just cited is known to be a fact, since some of the works that he wrote there were actually dedicated to him and/or written at his request.¹²

Then there is the event itself. In the preface it is said that Avicenna prepared his presentation when he heard about al-Sahlī's interest in the sciences. When was this? When he came to Gurgānj? But he must surely have heard of him when he was still in Bukhārā? Indeed, it is quite likely that, when circumstances forced him to leave Bukhārā between 392/1002 and 395/1005, he went to Gurgānj precisely because of al-Sahlī's patronage of the sciences. So, if there is any truth to the above description of events, it seems more likely that upon his arrival in Gurgānj, Avicenna reckoned that the best way to position himself publicly as a scholar, would be by presenting al-Sahlī with an overview of the sciences in the way described above. Not just for its usefulness, but also and maybe even more so as an overview of all the expertise that he himself had on offer.

It is said that what he prepared had the form of a *mushajjar* or tree-like representation. How should we understand this? In this connection it is important to note that the preface combines a number of terms: first of all it does not start with a phrase like $h\bar{a}dh\bar{a}$ $m\bar{a}$ sannafahu / $h\bar{a}dh\bar{a}$ $m\bar{a}$ allafahu ("The following was written / composed by..."), but with $h\bar{a}dh\bar{a}$ ma 'amilahu (liter. "the following was made / produced / prepared by..."). Now even if 'amila is also used in reference to texts (already by Avicenna himself), 13 it is the combination with the expressions bi- $hidh\bar{a}$ 'al-'ayn (liter. "before the eye") and ta-'ammala (liter. "to contemplate," to look attentively") which leaves the impression that the reference is to something artfully produced rather than to an ordinary piece of text.

¹¹ Gutas, Avicenna, 19, with notes; see also Yāqūt al-Ḥamawī (d. 626/1229), Mu^cjam al-udabā^o, ed. I. ʿAbbās, 7 vol. (Beirut: Dār al-ʿArab al-Islāmī, 1993), vol. 1, 504-05 (about al-Sahlī). ʿAlī b. Ma^omūn succeeded his father Ma^omūn b. Muḥammad in Gurgānj in 387/997 and remained in power until he was succeeded in turn by Ma^omūn II b. Ma^omūn I in 399/1009. On the Ma^omūnids of Gurgānj, see C. E. Bosworth, The new Islamic dynasties. A chronological and genealogical manual (Edinburgh: Edinburgh University press, 1996), 178. W. E. Gohlman, The life of Ibn Sina. A critical edition and annotated translation (New York: State University of New York Press, 1974), p. 124, note 40 fixes the date of Avicenna's arrival in Gurgānj as somewhere between 392/1002 and 395/1005.

¹² See for instance Gutas, op. cit., 447 GP7, 448 GS 10b, 516 GMed 7.

¹³ Avicenna, Aḥwāl al-nafs, ed. F. al-Ahwānī, in idem (ed.), Aḥwāl al-nafs, al-Shaykh al-Ra°īs Ibn Sīnā; wa-yalīhā thalāth rasā°il fi 'l-nafs li-Ibn Sīnā (Paris: Dār Bībliyūn, 2007), 45-56, p. 45, l. 4: hādhihi risāla 'camiltuhā...

We then have to think of a setting in which Avicenna displayed what was likely a large sheet of paper (sizes of up to 52×72 cm were in use in the Islamic East at the time)¹⁴ carrying a taxonomic tree of the philosophical sciences (and logic) with all their branches and which he must then have clarified orally to the vizier and others present. This reminds one of Ibn Farīghūn's (fl. ca. 330-40/940-50) $Jawāmi^c al\text{-}^c ul\bar{u}m$ (Compendium of the sciences), which uses a similar system of visual representation. ¹⁵

All this is certainly possible, even though it may just as well be the product of the imagination of the writer of the preface. But supposing that it describes an event that actually took place in Gurgānj, then what is the text in relation to that event? Was the text copied from something like a "poster presentation," the way we see them nowadays at large conferences? This is not likely because a tree-like representation does not contain as much prose as does the $Aqs\bar{a}m$ " $ul\bar{u}m$ al- $aw\bar{a}$ "il. So maybe it was written afterwards, as a document accompanying it? This too, seems unlikely because at the beginning of the section on theoretical philosophy – which comes after his account of logic (referred to as part I of the sciences of the ancients) and practical philosophy (part II.1) – we read the following:

And the second, which makes up the second part of the second part of the book, i.e. theoretical philosophy...

So, what we seem to be dealing with instead is the introduction to or a very detailed table of contents of some kind of encyclopaedic work. This means that the anecdote introducing it, while possibly true, has no intrinsic relation with the treatise itself. The anecdote may therefore have been prefixed to the text in explanation of its highly-structured, compact character and also of the fact that it circulated separately in this way.

Now what book is the author, supposedly Avicenna, referring to? Unfortunately, the text contains no further direct clues. But what is interesting is the fact that practical philosophy is discussed before theoretical philosophy. So we must think of some kind of encyclopaedia in which logic and practical and theoretical philosophy were treated in that order. The only encyclopaedic work that might seem to qualify is his $Majm\bar{u}^c$, also known as Al-hikma al- $car\bar{u}diyya$, which he wrote in Bukhārā, before he left for Gurgānj. ¹⁶ For even though incomplete, it is clear that

 $^{^{14}}$ A. Gacek, $Arabic\ manuscripts.\ A\ vade$ $mecum\ for\ readers$ (Leiden: Brill, 2009), 191-93.

¹⁵ See H. H. Biesterfeld, "Ibn Farīghūn" in *Encyclopaedia of Islam*, 3rd ed.

the order in which the sciences are treated in this work is the same as in the Aqsām culūm al-awācil: logic, practical philosophy, natural philosophy, metaphysics. Only, the $Majm\bar{u}^c$ is a short work in which practical philosophy, even if placed before theoretical philosophy (scil. natural philosophy & metaphysics), only receives very brief mention (just some concepts)¹⁷ in a way that can hardly be compared to the triplet ethics, economics and politics described in the $Ags\bar{a}m$ $^{c}ul\bar{u}m$ al- $aw\bar{a}^{\dot{\nu}}il$. And in other ways also, it is much too concise and restricted (no mathematical sciences, for instance) while Greek sources are not mentioned at all, contrary to the $Aqs\bar{a}m$ $^{c}ul\bar{u}m$ al- $aw\bar{a}^{\circ}il$ which is full of them. Then there is the Physics part of his $^cUv\bar{u}n$ al-hikma which opens with a brief account of the philosophical sciences in which practical philosophy is also mentioned before theoretical philosophy. But the ^cUyūn al-hikma does not qualify either: in the work itself, there is no separate section on or even any treatment of practical philosophy, while it contains no section on mathematics. And none of his *Dānishnāma-yi °Alā °ī*, *Shifā °*, $Mashriqiyy\bar{u}n$, Al- $hid\bar{a}ya$ (The guidance) or Al- $naj\bar{a}h$ (Salvation)¹⁸ would seem to qualify either. This being so, could it then be that the reference is to another work? Is there an encyclopaedia of sufficient detail that we know has existed? Yes, there is, at least one: Al-hāsil wal-mahsūl (Harvest reapings),¹⁹ which Avicenna says he wrote for a certain Abū Bakr al-Baraqī in Bukhārā, when he was still in his early twenties.²⁰ This seems very young to write an encyclopaedia, but not when your name is Avicenna, who had finished reading all there was to read in philosophy by the age of 18.²¹ In this same passage from his autobiography, Avicenna further explains that Al- $h\bar{a}sil\ wal$ - $mahs\bar{u}l\ was\ a\ comprehensive$ exposition (sharh) of the philosophical sciences – eo ipso of the ancients - in twenty volumes (*mujallad*) and existed in one copy only: the one belonging to al-Baraqī. Possibly the copy in a library in Būzajān (between Nishapur and Herat) referred to as "now lost" by the biographer Abu

¹⁶ Gutas, Avicenna, 18, § 12; M. Ṣāliḥ (ed.), Kitāb al-majmū^c aw Al-ḥikma al-carūḍiyya, al-mansūb ilā Abī cAlī Ibn Sīnā (Beirut: Dār al-Hādī, 1428/2007).

¹⁷ Avicenna, Al-maj $m\bar{u}^c$, 110-12.

¹⁸ On these latter two, see Gutas, Avicenna, 419-20 and 115-17, 422-24.

¹⁹ Hāṣil and maḥṣūl are synonyms for "harvest," "produce" and "gist," "essence," and "substance." In order for the title to be meaningful there must therefore be a difference in aspect in each case: in one case the reference must be to the Hellenistic tradition (the fruit of the intellectual endeavours of the Greeks), and in the other case to Avicenna's understanding and account of the substance of that tradition.

 $^{^{20}}$ Gutas, op. cit., 18-19, § 13; Gutas translates the title as "The available and the valid."

²¹ Ibid., 18, § 11.

'l-Hasan al-Bayhaqī (d. 565/1169-70)²² was that very same copy. What makes *Al-hāsil wal-mahsūl* a good candidate is the way in which practical philosophy is treated in the $Ags\bar{a}m$ ^cul $\bar{u}m$ al-aw \bar{a} ²il. It is a traditional account, in which practical philosophy is divided into the personal ethics of the human soul as a source of virtue and vice, economics of the household, and politics. As such, practical philosophy is contrasted with theoretical philosophy, which is described as being composed of natural science, mathematics, and metaphysics. If we follow Gutas' analysis of the evolvement of Avicenna's ideas on the rational soul as central to his reflections on the final destiny of man, 23 away from the more traditional discussions on the soul's irascible and appetitive faculties as potential sources of vice in the context of practical philosophy, then a scheme as laid out in the Aqsām culūm al-awā'il would seem to be "early."²⁴ It is therefore very well conceivable that the $Aqs\bar{a}m$ $^{c}ul\bar{u}m$ al- $aw\bar{a}^{3}il$, whose basic plan is the same as Al-maj $m\bar{u}^c$, an early work, was written around the same time. And because $Al-h\bar{a}sil\ wal-mahs\bar{u}l$ is the only other encyclopaedic work from around that period that we know of and which must have been at a scale commensurate with the ambitions laid out in the $Ags\bar{a}m$ ^cul $\bar{u}m$ al-aw \bar{a} ²il, it is very well possible that the $Ags\bar{a}m$ ^cul $\bar{u}m$ al- $aw\bar{a}^{3}il$, if indeed written by Avicenna, was actually copied from the introduction to that work.²⁵

To the above it might be objected that it is not very likely that Avicenna composed a Summa covering every domain, especially at that age, and that it is more likely that the $Aqs\bar{a}m$ $^cul\bar{u}m$ $al-aw\bar{a}^{\circ}il$ is what it is said to be in the introduction, namely a – likely somewhat extrapolated – reproduction of the taxonomic tree presented to Abu 'l-Ḥusayn al-Sahlī. In answer to this valid objection, two things may be noted: firstly, by Avicenna's own declaration in his autobiography referred to above, $Al-h\bar{a}sil$ wal-ma $hs\bar{u}l$ was realized in twenty volumes (mujallad), not in twenty quires ($kurr\bar{a}sa$). So it was by all means a very ambitious work and thereby conceivably thoroughly comprehensive. If such ambition is considered out of proportion, this becomes less so if we remember Avicenna's age at the time of writing and his personality and intellectual

²² Ibid., 97.

²³ Ibid., 288 ff.

²⁴ Ibid., 291, third paragraph.

²⁵ Gutas' qualification (Avicenna, 97) of Al-hāṣil wal-maḥṣūl as "the theoretical part of the book," treating Al-birr wal-ithm and Al-hāṣil wal-maḥṣūl – both written for al-Baraqī – as two parts of a single work, finds no justification in the sources and must be rejected for lack of evidence. They were two works, only related in the sense that they were both written for al-Baraqī.

prowess as a scholar. The other matter that needs to be mentioned was already noted above, namely the reference to theoretical philosophy as "... the second part of the second part of 'the book' (al-kitāb)...", the first part being logic and the first part of the second part being practical philosophy. The occurrence of a reference to "the book" makes it more likely that we are dealing with a preface or very detailed table of contents of a book than with an independent piece of writing as is a taxonomic tree. Of course al-kitāb can also refer to a piece of writing, but the way in which it is used here is not self-referential so that that interpretation seems to be ruled out. There is one more thing, which regards the relative dating. As has been noted earlier, Avicenna's Agsām al-hikma is believed to have been modeled on Abū Sahl al-Masīḥī's $Aṣn\bar{a}f$ al- $^cul\bar{u}m$ al-hikmiyya. The little evidence that we have on the life of al-Masīhī makes it probable that Avicenna only got to know him when he came to Gurgānj. 26 It is therefore less likely that the Aqsām al-hikma was written before he moved to Gurgānj from Bukhārā, sometime between 392/1002 and 395/1005 (see note 11 above). Now one of the things that the *Agsām al-hikma* shares with other texts by Avicenna on the division of the sciences, with the exception of the $Ags\bar{a}m$ ^cul $\bar{u}m$ al-aw \bar{a} ²il, is the fact that the rational sciences are said to find their (ultimate) justification in revelation (i. e. Islam); this is unlike the $Aqs\bar{a}m$ ^c $ul\bar{u}m$ al- $aw\bar{a}$ ^oil, in which it is stated that the principles of all the sciences are to be found in metaphysics. One could try to explain this difference by positing different purposes for which the various texts were written, but given that the subject matter of the Agsām al-hikma and the Agsām culūm al-awā il is one and the same, it seems rather that Avicenna's outlook was different in each case. On such an understanding, it is more likely that the Agsām ^culūm al-awā ^cil was written before Avicenna moved to Gurgānj, which would then be consistent with the hypothesis that it could well have been copied from the introduction to *Al-hāsil wal-mahsūl*, written in Bukhārā.

²⁶ The reasoning is as follows: According to the biographer Abu 'l-Ḥasan al-Bayhaqī (d. 565/1169-70), Masīḥī wrote a work on dream interpretation (tacbīr) for Mamūn b. Muḥammad Khwārazmshāh [of Gurgānj] (Abu 'l-Ḥasan al-Bayhaqī, Tatimmat siwān al-hikma, ed. M. Shafīc [Lahore: Ishwar Das, 1351/1935], 88.9-89.1; M. Meyerhof, "cAlī al-Bayhaqī's Tatimmat siwān al-hikma: A biographical work on learned men of the Islam," Osiris, 8 [1948], 122-217, p. 160). Mamūn b. Muḥammad carried the title of Khwārazmshāh only for about two years, between 385/995 and 387/997, the year in which he was succeeded by his son 'Alī b. Mamūn (Bosworth, The new Islamic dynasties, 178). So al-Masīḥī must already have been in Gurgānj when Avicenna arrived there from Bukhārā between 392/1002 and 395/1005.

3.2. The manuscripts

3.2.1. MS Lisbon, Academy of Sciences, Vermelho 293

MS Vermelho 292, 293 is a collective volume $(majm\bar{u}^c a)$ in two tomes. As I only have access to a digitized copy of the second tome, some of the information given here derives from Sidarus' article mentioned earlier. The catalogue of the collection has less detail. In its present state the manuscript comprises 82 and 85 folios, containing about 30 texts on philosophy and medicine by, or ascribed to, various authors: Plato, Aristotle, Galen, Ya^cqūb b. Ishāq al-Kindī (d. ca. 252/866), Abū Nasr al-Fārābī (d. ca. 339/950), Abū Hayyān al-Tawhīdī (d. 414/1023), Hibat Allāh al-Tabīb = Abu 'l-Hasan [Sa^cīd b.] Hibat Allāh b. al-Hasan (d. 495/1101), Abu 'l-Barakāt al-Baghdādī (d. after 560/1164-5), Avicenna, Abū Jacfar b. al-Jazzār (d. 395/1004-5), Abū Sulaymān al-Sijistānī (d. 316/929), ^cUmar al-Khayyām (d. 517/1123) and Muhammad b. Ahmad al-Bukhārī (d. 312/924). About 40 % of the manuscript was lost. From the preserved table of contents it is apparent that the missing part contained texts by 'Abd al-Latīf al-Baghdādī (d. 629/1232) and Abu 'l-Faraj b. al-Tayyib (d. 1043 CE). The works contained in the volume of the manuscript that contains the *Aqsām culūm al-awā il* (Vermelho 293) are the following:

- 1) Avicenna (attributed to), $Aqs\bar{a}m$ ^cul $\bar{u}m$ al-aw \bar{a} ³il (1v-6v);
- 2) Anonymous $Ta^{c}l\bar{\iota}q$, a gloss, on ethics, reference-text likewise not known (6v-8r);
 - 3) Avicenna, Risāla... fi 'l-sa'cāda wal-hujaj al-cashara (8v-21r);
- 4) Avicenna, *Risāla... fi 'l-quwā al-insāniyya wa-idrākātihā* (spurious)²⁷ (21v-25v);
- 5) Avicenna, $Mas\bar{a}^{\imath}il\ su^{\imath}ila\ ^{c}anh\bar{a}\ al ext{-}Shaykh\ al ext{-}Ra^{\imath}\bar{\imath}s\dots$ fi 'l ext{-}il\bar{a}hiyy\bar{a}t (spurious?) (26r-32v);
- 6) Avicenna, $F\bar{\iota}$ aqs $\bar{a}m$ al- $^{c}ul\bar{u}m$ al- $^{c}aqliyya$ (= $Ris\bar{a}lat$ aqs $\bar{a}m$ al-hikma) (folios 33r-39r);
- 7) Abū Ḥayyān al-Tawḥīdī, Al- $muq\bar{a}bas\bar{a}t$, fragments, begins with $muq\bar{a}basa$ 91, ends in the middle of $muq\bar{a}basa$ 62 (39v-44v);²⁸
 - 8) Avicenna, Al-qaṣīda al-muṣarra a fi 'l-manṭiq (44v-53v);
 - 9) ^cUmar al-Khayyām, *Risāla fī ḥikmat al-kawn wal-taklīf* (54r-58v);
- 10) Kalām fi 'l-nubuwwa wa-ithbātihā = Avicenna, Aḥwāl al-nafs, chapter 13: $F\bar{\imath}$ ithbāt al-nubuwwa²⁹ (59r 62r);

²⁷ Also known as *Fuṣūs al-ḥikam*, see Gutas op. cit., 523.

²⁸ Al-Tawhīdī, *Al-muqābasāt li-Abī Ḥayyān al-Tawhīdī*, ed. Ḥ. al-Sandūbī (Cairo: Dār Su^cād al-Ṣabāḥ, 1992 repr.), p. 309, line 3 from below (beginning of the text on folio 39v line 1), p. 252 line 2 from below (end of the text on folio 44v line 2).

- 11) Untitled = Avicenna, $Ahw\bar{a}l$ al-nafs, chapter 1: $F\bar{\iota}$ hadd al-nafs³⁰ (62v 66r);
- 12) Ya^cqūb b. Isḥāq al-Kindī, Fi 'l- $asm\bar{a}$ ' al-mufrada (title given on folio 66r last line), related to but not exactly the same as his $Ris\bar{a}la$ $f\bar{i}$ $hud\bar{u}d$ al- $ashy\bar{a}$ ' wa- $rus\bar{u}mih\bar{a}$)³¹ (66v-70r);
 - 13) Avicenna, Risāla fi 'l-hindibā' (70v-74r);
 - 14) Avicenna, Ḥayy b. Yaqzān (74v-80v);
- 15) Risālat Aflāṭūn ilā ba'd talāmīdhihi fī ma'na 'l-hamm wal-ghamm wa-īthār al-zuhd (title cited on bottom of folio 80v) (81r-85r);
- 16) $Min\ kal\bar{a}m\ Ibn\ S\bar{\imath}n\bar{a}\ il\bar{a}\ \bar{\imath}ad\bar{\imath}q\ lahu\ k\bar{a}na\ yazhad\ (=$ attrib. to Avicenna: $Makt\bar{u}b\ Abi\ 'l\text{-}Sa^c\bar{\imath}d\ ila\ 'l\text{-}Shaykh\ wa-jaw\bar{a}buhu$, only part of the letter by Abū Sa^c\bar{\imath}d\ Abu 'l-Khayr, starting from ... $fa\text{-}t\bar{u}b\bar{a}\ li\text{-}man\ h\bar{a}zahu$... (ed. vol. 2, p. 37-39) until the end of that letter)³² (85r-85v).

The treatises contained in this manuscript were all copied by a certain al-Mubārak b. Ismā c īl b. Muḥammad al-Kutubī al- c Abbāsī al-Baghdādī al-Mutaṭabbib. According to Sidarus this happened during al-Mubārak's sojourns in Aleppo and Alexandria, in the years 764-65/1363-64. The treatises contained in MS Vermelho 293 that I have access to, were all copied in Alexandria. Only, not in the years 764-65/1363-64, as Sidarus believed. For in the explicit of the $Aqs\bar{a}m$ $^{c}ul\bar{u}m$ $al-aw\bar{a}^{o}il$ (folio 6v lines 9-10) we read:

Completed in the forenoon of Friday, the second of $Rab\bar{\imath}^c$ al-Awwal of the year seven hundred fifteen, in the port of Alexandria.

2 Rabī^c I 764 was a Tuesday and 2 Rabī^c 765 a Saturday, so the year cannot be 764 or 765, as stated by Sidarus. My reading is not only confirmed by the fact that 2 Rabī^c I 715 was indeed a Friday, but also by the matching dates found elsewhere in MS Lisbon, Vermelho 293: 1) fol. 21r lines 12-13: Saturday 3 Rabī^c I 715; 2) fol. 32v lines 6-8: Sunday 4 Rabī^c I 715; 3) fol. 39r lines 11-12: Monday 5 Rabī^c I 715; 4) fol. 53v lines 13-14: Tuesday 6 Rabī^c I 715; fol. 62r lines 12-13: Wednesday 7 Rabī^c I 715;

²⁹ F. al-Ahwānī (ed.), Ahwāl al-nafs: risāla fi 'l-nafs wa-baqā'ihā wa-ma'ādihā lil-Shaykh al-Ra'īs Ibn Sīnā (Cairo: cĪsā al-Bābī al-Halabī, 1371/1952), 114-121.

³⁰ Ibid., 48-56.

 $^{^{31}\,\}rm M.$ °A. Abū Rayda (ed.), $Ras\bar{a}^{\imath}il$ al-Kindī al-falsafiyya, vol. 1 (Cairo: Maṭba at Ḥassān, 1978 repr.), 113-30 (text).

³² H. Z. Ülken (ed.), İbn Sina risâleleri, 2 vol. (Istanbul: İbrahim Horoz Basımevi, 1953), vol. 2, 37-40 (including Avicenna's answer).

³³ Sidarus, "Un recueil...", 180.

³⁴ MS: ستعمایه, obviously a mistake.

fol. 66r lines 8-9: Wednesday 7 Rabī^c I 715; fol. 70r lines 6-7: Thursday 8 Rabī^c I 715; fol. 74r lines 7-8: Thursday 8 Rabī^c I 715; fol. 80v lines 9-10: Saturday 10 Rabī^c I 715; fol. 85v lines 16-17: Saturday 10 Rabī^c I 715. So the whole volume was copied in a mere nine days. Also, the manuscript is actually 50 years older than believed by Sidarus. It may be noted in passing that on the verso side of the numberless flyleaf before folio 1 of MS Vermelho 293, it is written in Portuguese on lines 4-5 that the tome was copied in 605 AH = 1206 AD. There first was something other than a 6 and a 2, and I suspect that before these numbers were changed, there was actually a 7 and a 3. Under this mistaken date there is also a statement in Portuguese on the content of (some of) this tome. Again, on folio 70r lines 10-12, it says in Portuguese: "Completed in Alexandria in 705 AH = 1306 AD", which is obviously wrong as well. More notes in Portuguese may be found on folios 75v and 86r. Finally, on folio 66r there are, under the explicit of Avicenna's treatise on the soul, in a different hand, the following lines in Persian (completely Arabized as far as the second and fourth lines are concerned):35

```
mard\bar{\imath}
              dir\bar{a}z
                                 n\bar{\imath}k\bar{u}
                                                 mihtar
                                                              bi(h)shahr
                                                                                imr\bar{u}z
jawhar
             kammiyyat
                                 kayfiyyat
                                                 idāfat
                                                              mak\bar{a}n
                                                                                zamān
       bā khwāstah
                            nishashtah
                                               az kard-i khwīsh
                                                                          p\bar{\imath}r\bar{u}z
       milk
                            wad^c
                                               fi^{c}l
                                                                          infi^c\bar{a}l
```

This is actually a mnemonic verse describing the ten Aristotelian categories:

```
A man
                 tall
                            handsome
                                                              today
                                         a groom
                                                    in town
    Substance
                 quantity
                                                              time
                            quality
                                         relation
                                                    place
With a gold-piece
                                                            of his work
                   sat down
                                         triumphant
Having
                   being-in-a-position
                                        being-acted-upon
                                                            acting-upon
```

This means that an amateur of philosophy who knew Persian must have had access to this manuscript. This is very well possible since the manuscript is known to have circulated in the Ottoman empire. As I have no information other than the second tome and the article by Sidarus, this is all that can be said at this stage.

At some point, the manuscript, already incomplete, came into possession of an anonymous Syrian Christian, after which it is found in the collection of the Maronite Patriarch of Antioch, Yūsuf b. Istifān (d. 1793),

³⁵ The poem is ascribed – in a slightly different reading – to Naṣīr al-Dīn Ṭūsī (d. 672/1274) in M. T. Mudarris Raḍawī, Aḥwāl wa āthār-i Khwājah Naṣīr al-Dīn-i Ṭūsī (Tehran: Asāṭīr, 1386 AHS, repr.), 615.

who sent the manuscript in around 1778 to the Syro-Lebanese Frei João de Sousa (Yuḥannā al-Dimashqī) in Lisbon, where the latter lived in the Franciscan convent of Nossa Senhora de Jesus. In 1832 the library of the convent was legated to the Academy of Sciences at Lisbon, and with it MS Vermelho 292, 293.

About a third of the $majm\bar{u}^c a$ comprises texts by or ascribed to Avicenna, some twelve in all. Among these we find not only the $Aqs\bar{a}m$ $^cul\bar{u}m$ al- $aw\bar{a}^{3}il$ (folios 1v - 6v line 10), but also a copy of the $Ris\bar{a}lat$ $aqs\bar{a}m$ alhikma mentioned above under no. 6 (folios 33r-39r, here with the alternative title $F\bar{\iota}$ $aqs\bar{a}m$ al- ${}^{c}ul\bar{u}m$ al- ${}^{c}aqliyya$). The $Aqs\bar{a}m$ ${}^{c}ul\bar{u}m$ al- $aw\bar{a}$ ${}^{i}l$ is written in a clear hand and has 17 lines to the page, with an average of 12,5 words to the line, in total ca. 2000 words, which is about 75% of the length of the Risālat agsām al-hikma. The manuscript has very few corrections. 36 The $Ags\bar{a}m$ $^{c}ul\bar{u}m$ al- $aw\bar{a}$ ^{3}il is on folio 6v line 11 ff immediately followed by a text headed by the word $ta^c l\bar{\iota}q$ ("gloss"). This is, however, not a gloss on the preceding text, but rather part of an as yet unidentified ethical tract treating of the balanced and unbalanced states of the human soul, and of remedies aimed at redressing the balance and removing vice. This text runs from folio 6v line 11 until folio 8r line 13 and appears to be a fragment from within some larger text. In the upper right margin of folio 1v there is a remark in Garshuni (Arabic in Syriac characters),³⁷ in a West-Syrian or Jacobite hand called "Serto," difficult to read. It seems to say: $l\bar{a}dam$ (or $l\bar{a}dim$)³⁸ bi- $kit\bar{a}bihi$ fi 'l-abr(s?)wy. Unfortunately the first and the last word are unintelligible. However, what is clear is that there is reference to some as yet unidentified book. It is, however, not likely that the Syriac author who put this note meant to refer to the ultimate source of the *Agsām culūm al-awāil*.

3.2.2. MS Tehran, Kitābkhāna-yi Majlis-i Shūrā-yi Islamī 712

A collection of philosophical texts, 155 folios, erratic numbering by later hands, corrections throughout, not many (on average about 1 in 5 or 6 pages) and very few in Avicenna's $Kit\bar{a}b$ al- $ish\bar{a}r\bar{a}t$ wal- $tanb\bar{t}h\bar{a}t$, 17 lines to the page, 39 with a single date, 1070 AH (1659-60 CE), in the

³⁶ See folios 5v, 18v, 20v, 33v, 36r, 54r, 54v, 55v.

³⁷ Notes in Garshuni (very brief) are also found on folios 6v, 8v, 21v, 23r, 26r, 33r, 35v, 36r, 37r, 39v, 42r, 54r, and 62v.

 $^{^{38}}$ $L\bar{a}dam$ (or $l\bar{a}dim$) is also found on folios 21v, 26r, 33r, 39v, 54r, and 62v. The word seems therefore not specific to the $Aqs\bar{a}m$ $^cul\bar{u}m$ al- $aw\bar{a}$ il .

³⁹ With the exception of the lines of poetry cited on folios 1r-2v, 154v-155v, and Avicenna's $F\bar{\imath}$ $ta^cr\bar{\imath}f$ al- ra^3y al-muhassal (146r-153r) which has 19 lines to the page.

manuscript's only buyer's note on folio 1r:

God is the Ever-Living / Something I bought for a trifle, a handful of counted dirhams, and which they / set little store by. Signed by God's servant, seeking His nearness / in station, Muḥammad, known as 'Alam al-Hudā, / May God place him among the unwavering believers, / in the year 1070

الله حيّ / مما اشتريته بثمن بخس دراهم معدودة وكانوا فيه / من الزاهدين
40
 وكتب عبد الله المتقرب اليه / زُلفي محمد المدعُوّ بعلم الهُدى / جعله الله من الموقِنين / سنة $^{1.9}$

From the above it may be inferred that Muḥammad al-Mad^cūw bi^cAlam al-Hudā was the buyer of this manuscript, and not the copyist
(who remains unknown) as recorded in the Majlis catalogue. ⁴¹ ^cAlam
al-Hudā (1 Rabī^c I 1039-1115/19 October 1629-1703/4) was the son of
the prominent scholar in the philosophical and traditional Islamic sciences, student of such famous thinkers as Mīr Dāmād (d. 1041/1631) and
Sadr al-Dīn Shīrāzī (d. 1050/1640), Mullā Muḥsin Muḥammad "Fayḍ"-i
Kāshānī (d. 1090/1679). ⁴² Even if he did not reach the celebrity of his
father, ^cAlam al-Hudā was an intellectual in his own right with many
works to his name, mostly in the traditional Islamic sciences. ⁴³ That he
also took an interest in philosophy is shown by his acquisition of the
present manuscript, which he bought when he was about thirty years
old (1070/1659-60).

Folio 1r, on which the above hand-written buyer's note was placed, has the seals of two other owners, while folio 2r has four seals, one of which seems to be the same as another one on folio 1r (Muḥammad Ṣadr al-Dīn Fayḍī, following the catalogue for the name). More important than this is that folio 2r carries the handwritten names of what must have been three persons who owned the manuscript before any of the others did. What we read is:

⁴⁰ A reference to Qur³ān 12:20.

⁴¹ Dānishpazhūh & Anwārī, Fihrist..., vol. 2, 36.

⁴² °Alam al-Hudā Muḥammad b. al-Muḥsin al-Kāshānī, Ma°ādin al-ḥikma fī makātīb al-a°imma, 2 vol. (Qom: Mu°assat al-Nashr al-Islāmī al-ṭābi°a li-Jamā°at al-Mudarrisīn bi-Qum al-Mushrafa, 1388/1968-69), vol. 1, 9, 107; H. Algar, article "Fayż-e Kāšānī, Mollā Moḥsen-Moḥammad," in Encyclopaedia Iranica.

⁴³ Alam al-Hudā, *Ma adin al-ḥikma*..., vol. 1, 75-97.

...
Ex libris of the servant, craving
for his Lord, the Bountiful, the Fulfiller of needs,
Hasan (Quṭb al-Dīn Muḥammad?)

...
May God forgive them both

Ex libris of the servant
من كتب العبد
Abd al-Muḥsin, may he be forgiven

The names on top were almost entirely blotted out but that the first statement of ownership concerned relates to two persons and not one can be deduced from the words ${}^caf\bar{a}$ $All\bar{a}h$ ${}^canhim\bar{a}$ still visible underneath, in the same hand, in the same ink, with the same pen. The other owner was a certain cAbd al-Muḥsin. All in all we are dealing with nine or ten owners: four handwritten statements of ownership and five or six seals. Although it is not possible to say anything with certainly, the quantity of ownership statements and the hand of the manuscript itself allow for a dating well before 1070/1659-60, and I would estimate at least by a century or more.

This collective volume contains the following works:

- 1) Avicenna, Kitāb al-ishārāt wal-tanbīhāt (2v-112 r);
- 2) Abū Naṣr al-Fārābī (attributed to), $^cUy\bar{u}n$ $al\text{-}mas\bar{a}^{\circ}il$ $wa\text{-}nat\bar{a}^{\circ}ij$ $al\text{-}^cul\bar{u}m$ (113r-118r);
- 3) Abū Naṣr al-Fārābī, Al-gharaḍ alladhī yashtamil ^calayhi kitāb Arisṭāṭālīs al-ma^crūf bi-Mā ba^cd al-ṭabī^ca (118v - 120v);
- 4) "A man of learning" ($w\bar{a}hid\ min\ al\text{-}fudal\bar{a}$ "), beg.: $ittafaqa\ al\text{-}fudal\bar{a}$ " $cal\bar{a}\ anna\ lil\text{-}calam\ wal\text{-}um\bar{u}r\ al\text{-}mumkina\ mabda$ "an $minhu\ wuj\bar{u}duh\bar{a}...$, anonymous fragment on the origin of things (121r-v);
- 5) Avicenna (attributed), a very brief piece (less than 100 words) on testing conceptions and beliefs when produced by definitions or proof (121v)
 - 6) Avicenna, Al-risāla fī tahdīd al-ashyā (122r-133v);
 - 7) Avicenna (attributed to), $Aqs\bar{a}m^{c}ul\bar{u}m \ al-aw\bar{a}^{3}il \ (134r-139r);$
- 8) Abū Naṣr al-Fārābī, $Faṣl\ li$ -Abī Naṣr al-Fārābī (= Abū Naṣr al-Fārābī, $Fusūl\ muntaza^ca$, $fasl\ no.\ 98)^{44}$ (139v-140r);
- 9) Avicenna, Al- ma^c rifa bil- $ashy\bar{a}^{\circ}$ c a $l\bar{a}$ wajhayn (= Al-nukat fi 'l-mantiq = Al- $fus\bar{u}l$ al- $m\bar{u}jaza$) 45 (140v-143v); the text of the edition 46

 $^{^{44}}$ Abū Naṣr al-Fārābī, $Fuṣ\bar{u}l\ muntaza^ca,$ ed. F. Najjār (Beirut: Dar al-Mashreq, 1971), 100-101.

⁴⁵ Gutas, *Avicenna*, 438, GL 11.

⁴⁶ Ṣadr al-Dīn Shīrāzī, Sharḥ al-Hidāya al-Athīriyya (Lith. Tehran, 1313 AH), 327-329,

ends at folio 141v last line, but there is more material until folio 143v line 10; further study is needed;

- 10) Avicenna, quotation of his definition of philosophy (*hikma*) as given in his *Risālat aqsām al-hikma* (here referred to as *Al-risāla al-ma^cmūla fī aqsām al-^culūm*), edit. p. 106, last paragraph (143v);
- 11) Abū Naṣr al-Fārābī (?), $F\bar{\imath}$ $ma^c n\bar{a}$ al- $dh\bar{a}t$ (less than 60 words), no known source, needs study (144r);
 - 12) Abū Nasr al-Fārābī, Fī zuhūr al-falsafa (144r-145r);⁴⁷
- 13) Abū Naṣr al-Fārābī, a very small fragment from his $Ris\bar{a}la...$ fi 'l-radd 'calā Jālīnūs fī mā nāqaḍa fīhi Arisṭūṭālīs li-a'ḍā' al-insān (Alqawl fi 'l-dimāgh, from the first five lines)⁴⁸ (145r);
 - 14) Avicenna, Fī ta crīf al-ra y al-muhassal (146r-154r);
- 15) Persian poetry, some of which is ascribed to Avicenna (as are the lines cited on folio 1v, together with a quotation from someone saying that Avicenna believed in creation)⁴⁹ (154v-155r);
- 16) A (not entirely precise) quotation, in Arabic, from Bahā³ al-Dīn al-Ibshīhī's (d. after 850/1446) literary anthology Al-mustaṭraf $f\bar{\iota}$ kulli fann mustaṭraf, in this case an anecdote about Abū Saʿīd b. Kurayb al-Aṣmaʿī (d. 213/828), a famous Arab philologist, recounting a poetic drama in the desert, 50 and around it three short poems in Persian, of which one or both at the bottom are said to be quoted from the Kashf al- $mahj\bar{u}b$ by the Iranian mystic Abu ʾl-Ḥasan al-Hujwīrī (d. after 465/1063-64) (155v).

Apart from the above, the manuscript also contains a statement on the chain of transmission in validation of the famous philosopher, scientist and man of politics Naṣīr al-Dīn Ṭūsī's (d. 672/1274) knowledge of Avicenna's *Kitāb al-ishārāt wal-tanbīhāt* (112r bottom): Nasīr al-Dīn

p. 329 (in the margin).

⁴⁷ With in the margin of 144r a quotation from "Khalīl" on the terms *şinf* and *taṣnīf*. This is in a quotation from the beginning of the lemma *ṣ-n-f* from al-Khalīl b. Aḥmad al-Farāhīdī's (d. ca. 170/786) dictionary called *Kitāb al-ʿayn*.

⁴⁸ A. Badawī (ed.), Rasā²il falsafiyya lil-Kindī wal-Fārābī wa-Ibn Bājja wa-Ibn ^cAdī (Benghazi: Manshūrāt al-Jāmi^ca al-Lībiyya, 1393/1973), 92-93.

⁴⁹ According to Fatḥallāh Mujtabā^aī, Persian poetry is not mentioned in the ancient inventories of Avicenna's works while most of this poetry was only attributed to him from Safavid times onwards. Still, Avicenna had the capacities and did write poetry in Arabic. Thus some of the lines attributed to him might indeed be by him but as yet there is no solid evidence supporting the authenticity of any of those Persian lines. See F. Mujtabā^aī at the end of the last section of "Ibn Sīnā", in Dā^airat ul-ma^aārif-i buzurg-i Islāmī, vol. 4, 1-49, p. 49.

⁵⁰ Bahā^o al-Dīn al-Ibshīhī, Al-mustaṭraf fī kulli fann mustaẓraf, ed. S. M. al-Liḥām (Beirut: ^cĀlam al-Kutub, 1419/1999), 414.

al-Ṭūsī \to Farīd al-Dīn al-Dāmād \to al-Sayyid Ṣadr al-Dīn Sarakhsī \to Abu 'l-cAbbās Lawkarī \to Bahmanyār \to Avicenna.⁵¹

Moreover, lines of poetry are quoted at the bottom of folio 154r:

- By Nasīr al-Dīn Tūsī;⁵²
- By the mystic Abū Sa^cīd Abu 'l-Khayr (d. 440/1049);⁵³
- By the mystic Qāsim Anwār (d. 837/1433).⁵⁴

3.3. The edition

Even though MS Lisbon, Academy of sciences 293 is at least two centuries older than MS Tehran Majlis 712, it turned out to have many problematic readings, which is why MS Tehran, Majlis 712 was chosen as a basis for the edition. Of course MS Tehran, Majlis 712 was bought by the son of the famous 17th-century Persian thinker Fayd-i Kāshānī, himself also an intellectual of repute, while the text of the $Aqs\bar{a}m$ $^cul\bar{u}m$ al- $aw\bar{a}^{3}il$ has a note at the end, stating that it was copied from a copy that had been copied from the autograph. However, neither of these circumstances was of any consequence in my decision. Indeed, in my choice I was only guided by philological considerations. Where the manuscripts instead of الجزويه or الهيئة instead of الهيئة instead of and similar cases), modern orthography is used instead without الجزئيّة reporting this in the footnotes. Middle Arabic was retained where applicable and is usually to do with inaccurate concord of gender.⁵⁵ Readings are mostly based on philological considerations but sometimes contextual criteria prevailed. An example is l. 13 p. 215, where I rejected the reading of MS L (القسم الأوّل من القسمة الأولى), "the first branch of the first

⁵¹ For similar chains, see A. Gacek, "The Osler codex of Naṣīr al-Dīn al-Ṭūsī's Commentary on Avicenna's Al-ishārāt wal-tanbīhāt," Journal of Islamic manuscripts, 1 (2010), 3-17, see p. 9-11; R. Pourjavadi, Philosophy in early Safavid Iran. Najm al-Dīn Maḥmūd al-Nayrīzī and his writings (Leiden-Boston: Brill, 2011), 18; G. Endress, "Reading Avicenna in the madrasa", in James E. Montgomerey (ed.), Arabic theology, Arabic philosophy. From the many to the one: Essays in celebration of Richard M. Frank (Leuven – Paris – Dudley, MA: Peeters en Departement Oosterse Studies, 2006), 371-422, see p. 410-15; A. Shehadi, Doubts on Avicenna (Leiden: Brill, 2016), 13-15.

 $^{^{52}}$ See Mudarris Radawī, $Ahw\bar{a}l...$, 619 last two lines, 620 first two lines.

⁵³ Sa^cīd Nafīsī (ed.), Sukhanān-i manzūm-i Abū Sa^cīd Abu 'l-Khayr (Tehran: Intishārāt-i Kitābkhāna-yi Shams, 1334 AHS), 15 no. 102.

⁵⁴ Sa^cīd Nafīsī (ed.), Kulliyyāt-i Qāsim Anwār (Tehran: Intishārāt-i Kitābkhāna-yi Sinā²ī, 1337 AHS), 264 no. 4359.

⁵⁵ On gender in Middle Arabic, see J. Blau, *A handbook of Early Middle Arabic* (Jerusalem: The Max Schloessinger Memorial Foundation. The Hebrew University of Jerusalem, 2002), esp. § 58, 82, 83, 98.

division") as a later addition because further down in the text, the counterpart of logic (described as a "tool" or $\bar{a}la$), theoretical philosophy, is referred to simply as "... and a branch that constitutes an end (gharad)." Also, the designation of logic as "the first branch of the first division" is simply mistaken. So, all these are contextual and not philological considerations. And like the one just cited there are more, as the reader may infer upon consultation of the notes to the text. Finally, the abjad numbers used in numbering the different sections in the edition are found in both manuscripts and therefore likely belong to the text in its original form. 56

4. PERSONS AND BOOKTITLES MENTIONED IN THE TEXT

4.1. Persons & groups, in alphabetical order

الفيلسوف	بطلميوس	أرسطاطاليس
قاطاجينس	بقراط	أرشميدس
قسطوس	بنو _. موسی بن شاکر	أفلاطون
المحدَثون	جالينوس	الأوائل
هرمس	دياسقوريدوس	أوقليديس
واليس	الفُرس	الرحيد المال

4.2. Booktitles, order in which cited

كتاب إلفلاحة	بولوطيقا	كتاب إيساغوجي
كتاب أرثماطيقي	سمع الكيان	كتاب المقولات
كتاب المجسطي	كتاب السماء والعالم	كتاب العبارة
كتاب الموسيقيّ	كتاب الكون والفساد	كتاب القياس
كتب المرايا	كتاب الآثار العلويّة	كتاب البرهان
كتاب المخروطات	وكتاب المعادن	كتاب المواضع
كتب الأكر المتجرّكة	كتاب النبات	كتاب سوفسطيقى
	كتاب الحيوان	كتاب الخطابة
كتاب في علم الاوزان	كتاب الحسّ	كتاب الشعر
كتاب علم الحيل	كتاب النفس	كتاب الأخلاق
كتاب مابعدالطبيعة كتاب أثولوجيا	كنانيش	كتاب تدبير المنزل
تتاب الولوجيا	قراباذينات	كتاب السياسة

⁵⁶ Abjad numbers use Arabic letters instead of digits, e.g. y (yā° + wāw, to be read from right to left) = 16. See Stephen Chrisomalis, Numerical notation. A comparative history (Cambridge University Press, 2010), 162-167.

5. POSTSCRIPT

Not long after this article was accepted for publication in *Arabic sciences and philosophy*, I learned of two recent publications on the same text:

- H. Biesterfeldt & M. Cüneyt Kaya, "An Aristotelian classification of the sciences by Avicenna?", *Zeitschrift für Geschichte der arabischislamischen Wissenschaften*, 22 (2020), 1-21.
- H. H. Biesterfeldt, "Eine arabische Klassifikation der Wissenschaften aus dem 4./5. Jahrhundert H.", *Studia Greaco-Arabica*, 10 (2020), 261-270.

Of these, the first is an edition accompanied by an English translation, while the second is a study of the text in its wider historical context in general and in relation to a similar text by Avicenna in particular. Since the present article does not include an English translation while it does not place the $Aqs\bar{a}m$ $^cul\bar{u}m$ $al\text{-}aw\bar{a}^\circ il$ in a wider historical context either — or only in a very limited way — it is in this sense that the above publications can be seen as complementary to it. Conversely, the present article contains a comprehensive bibliographical overview concerning six texts on the division of the sciences by Avicenna, a well-argued theory on the possible origin and approximate dating of the $Aqs\bar{a}m$ $^cul\bar{u}m$ $al\text{-}aw\bar{a}^\circ il$, as well as a detailed codicological overview of the two manuscripts on which both of the editions are based. And it is in this sense, then, that it can in turn be regarded as complementary to the aforesaid publications. This much for generalities. As for specifics, I should like to limit myself to the following remarks.

Biesterfeldt's chronological placement of the $Aqs\bar{a}m$ " $ul\bar{u}m$ al- $au\bar{a}$ " il between Abū Sahl al-Masīḥī's $Aṣn\bar{a}f$ al-" $ul\bar{u}m$ al-hikmiyya and Avicenna's own $Aqs\bar{a}m$ al-" $ul\bar{u}m$ al-"aqliyya is premised on the idea that it must have been written after Avicenna came to Gurgānj. However, no argument is given in support of this claim other than the unvoiced supposition that, since the $Aqs\bar{a}m$ " $ul\bar{u}m$ al- $au\bar{a}$ " il and the $au\bar{a}m$ al-" $ul\bar{u}m$ al-"aqliyya distinguish themselves from Abū Sahl's $au\bar{a}m$ al-" $ul\bar{u}m$ al- $ul\bar{u}m$ a

that the text was likely written in Bukhārā, well before Avicenna's move to Gurgānj. And this is also what allowed us to be open to the idea that the $Aqs\bar{a}m$ $^cul\bar{u}m$ al- $aw\bar{a}$ cil could very well have been extracted from the introduction or table of contents of Avicenna's lost Al- $h\bar{a}sil$ wal- $mahs\bar{u}l$.

As for the edition and the translation, the following may be noted: the translation has the merit of being the first rendering in English of an Arabic text that had so far remained unpublished. But even if in general, the translator has produced a readable text, this does not mean that it is free from deficiencies. These shortcomings are – besides incidental inadequacies of the English – mostly to do with the translator's unfamiliarity with the standard terminology of the subject matter in hand or with details of the Arabic language. Examples of the first (page and line numbers in the translation between brackets):

- $-tasd\bar{i}q$ "verification" (instead of "belief", or at least the (according to some mistaken but) much-used term "assent") (3.22);
- al-alfaz al-kulliyya al-khamsa "the five general categories" (instead of "the five praedicabilia") (3.31);
- $-al\text{-}fi^{c}l \& al\text{-}infi^{c}\bar{a}l$ "activity" and "passivity" (instead of "acting-upon" and "being-acted-upon") (3.36);
- Kitāb al-akhlāq li-Arisṭāṭālīs "Aristotle's book on Character" (instead of "Aristotle's Ethics") (4.38-9);
- $Kit\bar{a}b\ tadb\bar{i}r\ al$ -manzil "the book Management of the house" (instead of "Management of the estate") (5.2);
- *wa-lā mutanāhin bil-quwwa* "nor potentially limited" (instead of "and, potentially, infinite") (5.25-6);
- $-q\bar{a}^{3}ima\ bi-jawharih\bar{a}$ "rests on its essence" (instead of "self subsisting substance") (6.32);
- $-l\bar{a}$ yushāru ilā dhātihi ayna huwa "that gives no indication of its own of where it is located" (instead of: "which cannot be localised physically") (6.40-7.1);
 - $-ta^c f \bar{t} n$ "putrefaction" (instead of: "crushing", "pounding") (7.29). Examples of the second:
- $-quw\bar{a}$ 'l- $amr\bar{a}\dot{q}$ "the faculties of the diseases" (instead of: "the properties of diseases") (7.18);
- wa-kayfiyyat $ilq\bar{a}^{\circ}ih\bar{a}$ $f\bar{\imath}$ 'l-ard aw $tadm\bar{\imath}nih\bar{a}$ al- $tur\bar{a}b$ "how to plant them in the earth and keep them safe in the humus" (instead of: "how to sow or plant them" $tadminuh\bar{a}$ al- $tur\bar{a}b$: lit. "(how) to insert them into the soil") (7.31-32);
 - $-taw\bar{a}lud$ "mutual generation" (instead of: "reproduction") (6.17);
 - $-wal-r\bar{a}bi^c al-k\bar{\imath}miy\bar{a}^{\circ}$ cinda ba^cd $al-aw\bar{a}^{\circ}il$ "(4) Alchemy according

some of the ancients" (instead of: "And the fourth is alchemy, as practised by some of the ancients") (7.35-6);

– finally the translator had some problems with the vocabulary: $baw\bar{a}tiq$, untranslated (instead of $naw\bar{a}tif$, sg. $n\bar{a}tifa$ = "pipette") (7.40); $k\bar{t}r\bar{a}n$, "cups with a handle" (instead of: "bellows," sg. $k\bar{u}r$, $k\bar{t}r$) (7.40-8.1); $rif\bar{a}q$, untranslated (instead of $ziq\bar{a}q$ (sg. ziqq) "blacksmith's bellows") (8.1); $uth\bar{a}l\bar{a}t$ "devices for distillation of dry substances" (better: "aludels," sg. $uth\bar{a}l$) (8.1); $adr\bar{a}j$, "clay plates for burning substances" (actually: "clay boxes," sg. durj) (8.2); $mad\bar{a}fin$, "burial places" (actually: $mad\bar{a}fi^2$, "stoves," sg. $midfa^2$) (8.2); $ay\bar{a}t\bar{t}n$, untranslated (actually: $at\bar{a}t\bar{t}n$, sg. $at\bar{t}un$, "kiln, furnace") (8.3).

As for the edition, the results of a comparison between the two editions are given in the table below and need no further explanation.

6. COLLATION OF THE PRESENT EDITION WITH THE EDITION BY BIESTERFELDT & KAYA

The table below contains the following information on the two editions:

- different choices between readings in the MSS;
- different choices between *possible* readings in the MSS;
- same reading, but alternative reading(s) in other or both MSS not mentioned in B & K;
- different reading, but alternative reading(s) in other or both MSS not mentioned in B & K;
- it will be noted that quite many differences are to do with gender. This is only to be expected when dealing with (late) medieval manuscripts which contain a lot of Middle Arabic in which gender is often fluid. The occurrence of this phenomenon is in itself not a problem, provided that matters are either properly reported or that the edition be headed by a blanket statement to the effect that the text was cleansed of any and all traces of Middle Arabic.
 - ✓ = mentioned in or compatible with ed. B. & K., text or footnotes.
 - X = not mentioned in or compatible with ed. B. & K., text or footnotes.

	ed. B & K	ed. E	MS Tehran	MS Lisbon
21.5	المنتمين	المنتمين	المنتنمين 🗶	المنتمين ٧
21.6	توجَد	توجَد	توجَد ✓	يوجد 🗶
21.7	ليسهّل	ليسهَل	ليسهَل 🗶	ليسهل 🗸
21.9	إن كان قد وقع	إن كان وقع ⁵⁷	إن كان وقع 🗸	إن كان قد وقع 🗸
21.11	ويشتمل	ويشتمل	وتشتمل 🗶	ويشتمل 🗸
21.12	والشبيه باليقين	والشبيه باليقيني	والشبيه باليقينيّ 🗶	والشبيه باليقين ٧
21.14	يكون	يكون	یکون ✓	تكون 🗶
21.14	يتميّز	يتميّز	ىتميّز ✓	تىمىز 🗙
21.17	ومبايناتها	ومبايناتها	ومبايناتها 🗸	ومنابتاتها 🗶
20.2	وأن ينفعل	وأن ينفعل	وأن ينفعل 🗸	ولن ينفعل 🗶
20.8	وكم نحو تتركّب	وكم نحو تُركّب	وكم نحو تركب ٧	وكم نحو يتركب 🗶
20.8	تستعمل	تستعمل	تستعمل √	يستعمل 🗶
20.9	وهو في كتاب	وهو في كتاب	وهو كتاب	وهو في كتاب
	الُقياس	القياس	القياس 🗴	القياس 🗸
20.10	تتركّب	تتركّب	ىتركب ✓	يتركب 🗶
20.11	وتعريف التحديد	وتعريف التحديد	وتعريف	وتعريف المقدّمات
			التحديد ٧	التحديد X
20.11	العلوم	العلوم	العلوم 🗸	للعلوم 🗶
20.13	تتركّب	تتركّب	تتركب 🗸	يتركب 🗶
20.14	إثبات	إثبات	إثبات ✓	إبتات 🗶
20.14	يثبت	يثبت	یثبت √	یکتب 🗶
19.8	ترتّب وتؤلّف	ترتّب وتؤلّف	ترتّب وتؤلّف 🗸	يرتّب ويؤلّف 🗶
19.8	يقال	تقال	✓ -	تقال 🗶
19.9	كتاب الشعر	كتاب الشعر	كتاب الشعر 🗸	كتاب الشعرا 🗶
19.12	لتشرقف	لتَشرُف	لتشرف 🗸	ليشرف 🗶
19.13	المطهّر	المطهِّر	المطهّر ٧	المظهر 🗶
19.13	والغضبيّة	والغضبية	والغضبية ٧	والعصيبة 🗶
19.14	تتحرّز	يُتحرّز	يتحرّز 🗶	يُتحرز 🗶

 $Continued\ on\ next\ page$

 $^{^{57}}$ I found this expression just once in Avicenna's works that are available on CD: $Shif\bar{a}^{\circ}$, Al-mantiq, Al-mudkhal (ed. Cairo), p. 20.5. A search for the expression إِنْ كَانْ قَدْ وَقَعْ produced no result at all.

	Ed. B & K	Ed. E	MS Tehran	MS Lisbon
19.16	يشتمل	مشتمل	مشتمل ٪	يشتمل ✓
18.4	من القسم الثاني	من القسم الثاني	من القسم	من القسم الأول
10 5 0	- w - t	:4 <1	الثاني 🗸	الثاني 🗶
18.5-6	لتشرّف	لتَشرُف	لِتَشْرُفَ 🗶	لتشرف ✓
18.13	والتتالي	والتتالي	والتتالي ٧	والتبالي 🗶
18.16	سمع الكيان	سمع الكيان	سمع الكيان 🗸	سمع الكنان 🗶
18.17	والأحياز	والأحياز	والأحياز 🗸	والأحيان 🗶
18.18	متحرك	متحرك	متحرك ✓	متحرك 🗴 (يتحرك B & K)
17.6	ومباينتها	ومباينتهما	ومباينتهما 🗶	ومباينتها 🗸
17.9	وإظهار جود	وإظهار جود	وإظهار جود 🗸	و إظهاراوح (؟) 🗴 جود
17.11	ما يتكوّن من	ما يتكوّن عن	ما يتكون عن ٧	ما يىكون من ٧
17.12	والثلوج	والثلوج	والثلوج ٧	والتلوج 🗶
17.16	ويتعطّف	وينعطف	وينعطف 🗶	وينعطف ٪
16.1-2	بزر (×4)	بزر	بزر 🗸	برز (×4) 🗴
16.3	تتكوّن	يتكوّن	يتكون 🗶	يتكون 🗶
16.3	الخشب	الخشب	الخشب ٧	الحسب 🗶
16.5	ويتوالد	ويتوالد	ويتوالد 🗸	وتتوالد 🗶
16.11-13	وأنّها كيف تحسّ	وأنّه كيف يحسّ	وأنّه 🗸 كيف	وأنّه 🗸 كيف
	وتتذكّر وتتوهّم	ويتذكّر ويتوهّم	يحسّ X	يحسّ X
	وتشتهي وتغضب	ويشتهي ويغضب	ويتذكّر 🗶 " 🗸	ويتذكّر 🗶
	وتحرّك وكيف تعقل	ويحرّك وكيف يعقل ⁵⁸	ويتوهم × ويشتهي ×	ويتوهم ٪ ويشتهي ٪
	تعفل	يعفن	وينسهي ٢٠ ويغضب 🗶	ويسمهي ۲۰ ويغضب X
			ويحرّك 🗶	وتحرّك ٧
			وكيف يعقل 🛚	وكيف يعقل 🗶
16.13	والمغيبة	والمغيبة	والمغيّبة 🗶	والمغيبة 🗸
15.3	_	Footnote –	_	والطب 🗴
15.4	وأفاعيلها	وأفاعيلها	وأفاعيلها ٧	وأفاعيله 🗶

Continued on next page

⁵⁸ The dual gender of nouns is a known feature of Middle Arabic, in this case of nafs. See J. Lameer, The Arabic version of Tūsī's Nasirean ethics (Leiden-Boston: Brill, 2015), 27-28. Interestingly, with one exception, its use is consistent here in both copies of the Risūla.

	Ed. B & K	Ed. E	MS Tehran	MS Lisbon
15.7	ومعالجتها	ومعالجتها	ومعالجتها ٧	ومَعالجها 🗶
15.7	لتثبت	لتثبت	لتثبت ✓	لبنيت 🗶
15.8	والكنانيش	والكنانيش	والكنانيش 🗸	والكيانيش 🗶
15.14	التراب	التراب	التراب 🗸	الثراب 🗶
14.2	السبيل	السبيل	السبيل ٧	السنبل 🗶
14.2	صبغ	صِبغ	صِبغ √	صنع X
14.2	يخلصه	تخلُّصه	ىخلصە 🗸	يخلُّصه ٧
14.4	البواطق	النواطف	النواطق 🗶	النواطق 🗶
14.4	والكيزان	والكيران	والكيزان 🗸	والكيران 🗶
14.4	والرفاق	والزِقاق	والزفاق 🗶	والرقاق 🗶
14.4	والأثالات	والأثالات	والآثالات 🗶	والايالات 🗶
14.5	والمدافن	والمدافئ	والمدافن 🗸	والمدافن ٧
14.5	والأياتين	والأتاتين	والاماتين 🗸	والايانين 🗸
14.6	يدّعونه	يدعَونه	ىدعونە 🗸	يدعونه ✓
14.6	والتشوية	والتشوية	والتشوية 🗸	والنسوبة X (والتسوية B & K)
14.11	اللاحقة بها	اللاحقة لها	اللاحقة لها ٧	اللاحقة بها 🗸
14.14	والنسب	والنسب	والنسب ٧	والسبب 🗶
14.14	أوقيلدس	أوقليديس	أوقليديس 🗸	أوقيلدس 🗸
13.2	تعمل	تُعمل	ي/تُعمل (بنقطتين فوق وتحت	X يعمل
			الحرف الأوّل) 🗸	
13.8	متواليها	متواليتها	متواليتها 🗶	منواليتها 🗶
13.14-15	نسب (×2)	نِسب	نسب √	يسبب ٪ ي/نسب ٪
13.16	تعرض	تعرض	تعرض √	يعرض 🗶
13.19	والراسية	والراسبة	والراسبة 🗸	والراسبة 🗶
13.19	ونسب	ونِسَب	ونِسَب √	وَتسب 🗶
13.19	أوزانها	أوزانها	أوزانها 🗸	أورايها 🗶
12.2	تنقل وتفعل	تنقل وتفعل	تنقل وتفعل ٧	ينقل ويفعل 🗶
12.4	اتّخاذ	اتّخاذ	اتحاذ √	اتحاد 🗶

Continued on next page

	Ed. B & K	Ed. E	MS Tehran	MS Lisbon
12.4	تظهر	تظهر	تطهر ✓	يظهر 🗴
12.5	الحيل	الحيل	الحيل ٧	الجبل 🗶
12.17	ومقلّده	ومقلَّدة	ومقلده ٧	ومقلده ٧
12.18	يتقلّدها	يقلِّدها	يىقلدھا ✓	يقلدها 🗶
12.19	بحقيقة	تحقيقه	تحقيقه 🗶	ىحقىقە √
12.19	وما بعد الطبيعة	وما بعد الطبيعيّ	وما بعد الطسعة ٧	وما بعد الطبيعي 🗸

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رسالة أقسام علوم الأوائل المنسوبة إلى الشيخ الرئيس* بسم الله الرّحمن الرّحيم

ول ١ظ) (ت ١٣٤و) هذا ما عَمِله الشيخ الرئيس أبو علي الحسين بن عبدالله بن سينا لمجلس الشيخ الجليل السيّد أبي الحسين أحمد بن محمّد السَهْلي. لمّا عرف كمال حظّه في فنون الحكمة ومحبّته لها وتكفّله المنتمين إليها عَمِلَ مُشجَّرًا يُوضِع فيه جميع أقسام علوم الأوائل بحذاء العين ويذكر ما الّذي يشتمل عليه كلّ قسم منها وفي أيّ الكتب توجَد القوانين والأصول لكلّ فنّ منها ليسهَل على من تأمّلها معرفة الفائدة والغرض في العلم الّذي يريده من علومهم والكتاب الّذي يدلّه عليه من كتبهم وشفع إلى الشيخ الجليل فضله العزيز في الأمر بإصلاح الخلل إن كان وقع في هذا العمل مُنعمًا إن شاء الله عزّ ذكره وله الحمد كفاء افضاله وصلواته على نبيّه محمّد وآله.

علوم الأوائل تنقسم قسمين: قسم هو آلة وهو المنطق ويشتمل على تعريف الأسباب التي بها يُتوصّل إلى التصديق اليقينيّ والشبيه باليقينيّ الجدليّ والشبيه باليقين المغالطيّ وإلى التحديق الإقناعيّ وإلى التخييل الّذي لا تصديق فيه وعلى تعريف تحديد الأشياء كيف ينبغي أن يكون حتّى يتميّز للإنسان في الحجج الفكريّة وفي الحدود الفرقُ بين الحقّ والغلط المتوهّم أنّه حقّ وهو تسعة أقسام:

آ فقسم يشتمل على تعريف الألفاظ الكليّة الخمسة الّتي هي الجنس والفصل والنوع والخاصّة والعرض (ل ٢و) العامّ وتحقيق حدودها ومشاركاتها ومبايناتها وهو في كتاب ٢٠ إيساغوجي.

* ت = Tehran 712, ل = MS Lisbon 293.

والكيف والمضاف والأين والمتى والمِلك والوضع وأن يفعل وأن ينفعل وما يلحق ببابها من سائر المعاني وذلك في كتاب المقولات العشر.

ج وقسم يشتمل على تعريف الألفاظ المركبّة تركيبًا تصير به صادقةً أو كاذبةً وأنّها كم هي وفيما يلحقها من التناقض والتضادّ والتداخل وفي روابطها وشرائطها وهو في كتاب العبارة.

د وقسم يشتمل على تعريف تركيب المقدّمات لتُنتَج عنها النتائج وأنّها كيف تَتركّب وكم نحوٍ تُركّب وما المُنتِج وما العقيم وأنّها كيف تُستعمل في العلوم وفي الجدل وهو في كتاب القياس.

ه وقسم يشتمل على تعريف المقدّمات الّتي عنها تتركّب الحجج البرهانيّة المنتجة لليقين وتعريف التحديد الحقيقيّ وتعريف ما أخذ العلوم من مبادئها وهو في كتاب البرهان. . . و وقسم يشتمل على تعريف المقدّمات الّتي عنها تتركّب الحجج الجدليّة وتعديد وجوه إثبات وإبطال ما يثبت ويبطل في الجدل ووصايا المجيب والسائل وهو في كتاب المواضع.

ز وقسم يشتمل على تعريف المقدّمات والقياسات المُغلِطة كيف هي وكم هي وما وجه التحرّز عنها فيما يفكّر الإنسان مع نفسه أو يسمعه من غيره وكيف يُوبَّخ المغالِطون ١٥ (ل ٢ ظ) وذلك في كتاب سوفسطيقي.

ح وقسم يشتمل على تعريف المقدّمات الموقعة للإقناع والاجتهاد (ت ١٣٥و) وبيان صورة القول المقنِع كيف يكون وترتيب الكلام الخطابي كيف يكون وفي ماذا يكون وهو في كتاب الخطابة.

ط وقسم يشتمل على تعريف المقدّمات المخيّلة الشعريّة وكيف هي وكيف ترتّب ٢٠ وتؤلّف وفي أيّ الأغراض تقال وما الّذي يخصّ كلّ غرض منها وهو كتاب الشعر.

وقسم هو غرض، وهو المسمّى عندهم فلسفة وهو ينقسم قسمين: أحدهما وهو

ا والمتى: ل ومتى. ا وأن: ل ولن. ا ببابها: ل بنايها. العشر: ل – العشر. ا تعريف: ت تركيب. ابه: ت بها. ا وأنها: ل أنّها. وفيها: ل وفيها. والتضادّ: ل المضادة ؟ وشرائطها: ت – وشرائطها. التُنتَج: ل فينتج. ا وأنّها: ل أنّها. ا تُركّب: ل يتركّب. المتعمل: ل يستعمل. ا في: ت – في. ا تتركّب: ل يتركّب: ل يتركّب. ا المأخذ إلى. المأخذ إلى. التحديد: ل + المقدّمات. ا الحقيقيّ: ل التحقيقي. ا ما أخذ: ل المأخذ إلى. العلوم: ل للعلوم. ا تتركّب: ل يتركّب. ا إثبات: ل إبتات. ا يثبت: ل يكتب. التحرّر: ل التحرر. المؤلف: ل كيف ماذا: ت، ل فيما ذي. ا في الأغراض تقال: ت – في. ا وكيف: ل كيف. المعرد: ل الشعرا. الشعرا.

الفلسفة العمليّة وهي الّتي الغرض فيها إصابة العلم بالخير لا لأجل نفسه بل لأجل العمل به لتَشرُف به النفس وهو ثلاثة أقسام:

آ قسم يشتمل على تعريف الخُلْق المطهِّر للنفس بتدبير القوّة الشّهوانيّة والغضبيّة والمحبيّة والمدبّرة حتّى تزكو وتذعن للنفس الناطقة العاقلة وكيف يُتحرّز من الرذائل وهو في كتاب . الأخلاق لأرسطاطاليس.

ب وقسم مشتمل على تعريف الوجه في تدبير المسكن والزوج والولد والدخل والخرج على الوجه الذي ينبغي في كتاب تدبير الشريعة والصلاح وذلك في كتاب تدبير المنال.

ج وقسم يشتمل على تعريف التدبير الذي يتولّاه مُنْشئ المدينة أو راعيها في أصناف ١٠ السوقة والعلماء والكتبَة والأجناد حتى تكون لجميعهم السعادة وهو في كتاب السياسة لأفلاطون وبولوطيقا لأرسطوطاليس.

والثاني وهو القسم الثاني من القسم الثاني (ل ٣و) من الكتاب وهو الفلسفة النظرية وهي التي الغرض فيها إصابة العلم بالحق (ت ١٣٥ظ) لأجل العلم نفسه لتشرُف به النفس لا لأجل عمل يعمل فيه وهو ثلاثة أقسام: أحدها العلم الطبيعيّ وهو العلم الذي ينظر في الموجودات المجسَّمة من جهة ما يعرض لها أصناف الحركات والتغيّرات والسكونات ومن جهة ما لها مبادئ هذه وفي سائر لواحق ذلك وهو قسمان:

أحدهما علم الأصول وهو العلم النظريّ منه وينقسم سبعة أقسام:

آ قسم يشتمل على تعريف ما يعمّ جميع الأجسام المحسوسة مثل العنصر والصورة وعدم الصورة والطبيعة والأسباب والحركة والسكون والنهاية واللانهاية والزمان والمكان روالاتصال والتماس والتشافع والتتالي وكيفيّة انقسام الأجسام والحركة والزمان، وأنّ كلّ حركة فله محرّك، والتفرقة بين الحركة الذاتيّة والعرضيّة، والمناسبة بين القوى المحرّكة والمتحرّكة، وأنّ جميع المحرّكات لها محرّك أوّل، وأنّ المحرّك الأوّل للكلّ غير مجسّم ولا متناه بالقوّة ولا في مكان، وذلك في سمع الكيان.

الأجل: ل + العلم. ٢ لتَشرُف: ل ليشرف. ٣ المطهِّر: ل المظهر. ٣ والغضبيّة: ل والعصيبة. ٥ لأرسطاطاليس: ل لجالينوس. ٦ مشتمل: ل يشتمل. ١٠ لجميعهم: ل بجميعهم. ١٠ السياسة: ت السيادة. ١١ وبولوطيقا: ت نولوطيقا: ل لأرسطوطاليس: ل لأرسطاطاليس. ١٢ القسم: ل + الأوّل. ١٤ يعمل: ل يعلم. ١٠ التغييرات: ل التغييرات. ١٦ مبادئ هذه: ل + وقوى هذه. ١٨ يشتمل: ل + منه. ٢٠ والتتالي: ل والتبالى. ٢٠ الأجسام: ل الاعظام. ٢٠ المحرّك الأوّل: ل + للجسم. ٢٠ للكلّ: ل الكلّ. ٣٠ متناهٍ: ل متناهى. ٣٠ الكيان: ل الكيان: ل الكيان.

ب وقسم يشتمل على تعديد الأجسام البسيطة الأولى والقوى والأحياز والحركات البسيطة الأولى، وأنّ الفلك متحرّك لا بالقسر ولا بالطبع الصِرف بل بالنفس والطاعة لله تبارك وتعالى وأنّ طبيعته لا خفيفة ولا ثقيلة بل خارجة عن الطبائع الأربع، وأنّه متناه ومبدع غير مكوَّن من شيء، وتامّ غير محتاج إلى زيادة ولا نقصان، وكذلك (ت ١٣٦و) الكلّ، وأنّ الأجسام البسيطة (ل ٣ط) غير الفلك كلّها كريّة، وأنّ ارتباط أجزاء العالم وبعضها ببعض أحسن ارتباطٍ لا يمكن أن يكون فيه نقص ولا خلل ولا فطور بل صانعه حكيم متقن، وذلك في كتاب السماء والعالم.

ج وقسم يشتمل على كيفيّة الكون والفساد ومباينتهما للاستحالة والرُبُوّ والاضمحلال وكمّيّة العناصر وكيفيّة امتزاجها وكمّيّة الطبائع الأولى، وأيّها الفاعلة وأيّها المنفعلة، وكيفيّة التدبير في انتظام أسباب الكون والفساد ما دام العالم موجودًا، وإظهار جود الله تعالى . . وحكمته فيه، وذلك في كتاب الكون والفساد.

د وقسم يشتمل على كيفيّة ما يتكوّن عن تأثير الحرارة الفلكيّة في الأجسام الأرضيّة اليابسة والمائيّة الرطبة حتّى يتكوّن السُحُب والأمطار والثلوج والبَرد والطَلّ والصقيع والرعد والبرق والصواعق والرياح وقوس قزح والهالة والسموم والزمهرير بل البحار والأنهار والعيون والزلازل والخسف بل الأجساد الذائبة المعدنيّة، وعلّة ما ينضج وما يبقى نيًّا، وعلّة ما ينطرق ويذوب وينحلّ وينعقد وينشقّ وينكسر ويترضّض ويتفتّت وينعطف وينعجن ويندفع ويرقّ ويخثر ويدخن ويشتعل ويحترق بلا اشتعال ويسيل ويجمد، وذلك في كتاب الآثار العلويّة وكتاب المعادن.

(ت ١٣٦٦) وقسم يشتمل على تصنيف أصناف النبات وتولّدها من غير بزر، وتوالدها من بزر، وكيف يكون (ل ٤و) البزر. من الشجر، والشجر من البزر، وأيّ القوى ٢٠ النفسانيّة للنبات، وكيف يتكوّن أجزاؤه الّتي هي كأعضائه مثل اللباب أو الخشب أو الساق أو الجلد والورق، وكيف يكوّن الثمار والزهر، وكيف يفسد وذلك في كتاب النبات.

 و وقسم يشتمل على تعديد أصناف الحيوان وخواصها وكيف يتولّد ويتوالد في الأرحام والبيض والعفونات، وكيف الذكورة والأنوثة وكيف حركاتها وما هي قواها وخواص أعضائها، وما يخص كلّ صنف من الهوائي والأرضي والمائي أو السابح والماشي والزحّاف والطائر ولِمَ ذلك، وما حكمة الصانع في تركيب أجزائها وذلك في كتاب الحيوان.

و زوقسم يشتمل على تعريف ماهيّة النفس وقواها وأجزائها وأفعالها، وبيان أنّ النفس الناطقة قائمة بجوهرها، فاعلة بذاتها دون البدن، وأنّه كيف يحسّ بالبصر والسّمع والشّم والذوق واللمس، وكيف يتصوّر ويتخيّل ويتذكّر ويتوهّم ويشتهي ويغضب ويحرّك الأعضاء بالإرادة، وكيف يعقل الأمور الكليّة والمغيّبة، وكيف يصير العقل بالقوّة عقلًا بالفعل، وكيف يكون وما الشيء الذي يصيّره كذلك، وفي بيان كيفيّة (ت ١٣٧و) الوحي والرؤيا والكهانة وإثبات وجود ما لا يُحسّ ولا يُشار إلى ذاته أين هو، وذلك في كتابي الحسّ والنفس للفيلسوف

والثاني علم الفروع وهو العلم العمليّ منه وينقسم أربعة أقسام:

أحدها احكام النجوم وهو قسمان:

آ قسم يشتمل على حسابات مطارح الشعاعات ومواضع (ل ٤ظ) الاتصالات وأنحاء النظر والانفصال، وتعريف طبائع البروج والكواكب، وما يحدث من امتزاجها فيها من القوى وعنها من الأفاعيل.

ب وقسم يشتمل على استنباط الأحكام من طوالع السؤالات والابتداءات والمواليد واختيار أوقات الأفعال وفيه كتب لهرمس وواليس* وللمحدّثين معروفة.

والثاني الطبّ وهو ثلاثة أقسام:

٢ آ قسم يشتمل على تعريف العناصر والأمزجة والأخلاط والأعضاء والقوى وأفاعيلها والأهويّة والبلدان والمياه وغير ذلك من الأمور المتقدّمة وفي كلّ واحد من هذه كتب لبقراط وجالينوس معروفة.

ب وقسم يشتمل على تعريف قوى الأمراض العامّة بالبدن والخاصّة بعضو عضو

ا يتوالد: ل تتوالد. $^{\Upsilon}$ والعفونات: ل والعقوبات. $^{\Upsilon}$ السابح: ل السابح: $^{\Upsilon}$ ويحرّك: ل وتحرّك. $^{\Upsilon}$ للفيلسوف: ل للفيليسوف. $^{\Upsilon}$ احكام: $^{\Upsilon}$ أحكام. $^{\Upsilon}$ اختيار: ل اختيارات. $^{\Upsilon}$ والثاني: ل والطب الثاني. $^{\Upsilon}$ قسم: ل $^{\Upsilon}$ منه. $^{\Upsilon}$ وأفاعيلها: ل وأفاعيله. $^{\Upsilon}$ ليقراط: ل بقراط.

^{*} Vettius Valens (2nd c. CE).

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وأسبابها وأعراضها الدالّة عليها ومعالجتها والتحرّز عنها لتثبت الصحّة وفيه الكتب المعروفة والكنانيش.

ج وقسم يشتمل على تعريف قوى الأدوية المفردة وصورها، وتمييز جيدها من رديئها، وتركيب المعاجين والمطبوخات والأقراص والحبوب وغير ذلك، وفيه كتب جالينوس ودياسقوريدوس (ت ١٣٧ ظ) وقاطاجينس* وقراباذينات أ.

والثالث الفلاحة وهي ثلاثة أقسام:

آ قسم يشتمل على اختيار الأرضين وإصلاحها وسقيها المياه وتكريبها وتعفينها وما يلائم طبيعة كلّ أرض وغير ذلك.

ب وقسم يشتمل على اختيار البزور والحبوب وحفظها من الآفات وكيفيّة إلقائها في الأرض (ل ٥و) أو تضمينها التراب.

ج وقسم يشتمل على اختيار الأوقات الصالحة لزرع زرعٍ، ولتقديم الأسباب الموطِّئة له وغير ذلك، وفيه كتاب الفلاحة لقسطوس * وفلاحة أخرى للفُرس.

والرّابع الكيمياء عند بعض الأوائل والجمهور ينكره وهو ثلاثة أقسام:

آ قسم منه يشتمل على تعليم كيفيّة السبيل إلى وجدان صِبغ لا تُغيّره النار ولا تطيّره ولا تحلّصه عن الأجساد الذائبة وفي طبعه الغوص في الذائبات.

الدالّة: الذالّة: الذالّة: الميها: المعالجة المعالجة المعالجة المعالجة المين ا

^{*} Galen, Peri suntheseös pharmakön tön <u>kata genē</u> biblia ζ. See G. Fichtner et al., Corpus Galenicum: Bibliographie der galenischen und pseudo-galenischen Werke. Erweiterte und verbesserte Ausgabe 2019/01, at http://cmg.bbaw.de/online-publications/Galen-Bibliographie_2019-01.pdf, p. 64, no. 82.

[†] (sg. قراباذین) = γραφίδιον ("booklet," here: on composition of drugs, cf. *Encyclopaedia of Islam*, 2nd ed., article "Agrābādhīn") = pharmacopoeia(s).

[‡] Cassianus Bassus Scholasticus (ca. 6th cent. CE, cf. F. Sezgin (ed.), Geschichte des Arabischen Schrifttums, vol. 4, "Alchimie, Chemie, Botanik, Agrikultur bis ca. 430," p. 317-18; R. Rashed, R. Morelon (ed.), Encyclopedia of the history of Arabic science, vol. 3, "Technology, alchemy and life," p. 816-17): الفلاحة الرومية.

ب وقسم يشتمل على تهيئة الآلات مثل النواطف والكيران والزِقاق والمستوقدات والأثالات والقَنانيّ والأقداح والأكر والأدراج والمدافئ والأتاتين ونوافخ نفسها وغير ذلك. ج وقسم منه في تدليل العقاقير لِما يدعونه من تمام عملهم بالتصعيد والتشوية والطبخ والغسل والتكليس والتصدئة والتشميع والتعقيد.

والثاني وهو العلم التعاليميّ وهو الّذي ينظر في الموجودات أو الموهومات ذوات الكمّيّة، وما يعرض من جهة ما هي ذوات كمّيّة من الأسباب، وفي الكيفيّات اللاحقة لها من تلك (ت ١٣٨و) الجهة مثل الأشكال المقداريّة والعدديّة والإضافات اللاحقة لها من تلك الجهة وهي النِسَب. وهو قسمان أحدهما العلم النظريّ منه وينقسم ثمانية أقسام:

ا آ قسم منه يشتمل على علم العدد وأنواعه وعوارضه وتراكيبه والخواص الّتي لكلّ صنف منه والنسب الواقعة بينها والبرهانيّ منه في أوقليديس، والإقناعيّ في كتاب أرثماطيقي.

ب وقسم منه يشتمل على أركان الهندسة وينظر في المقادير من جهة ما يتساوى ويتفاضل نسب ذلك، وفي أشكال السطوح والمجسّمات كيف تُعمل، وما خواصّها ولواحقها ونسبها، وهو في كتاب أوقليدس.

ج وقسم يشتمل على (ل ٥ظ) معرفة الهيئة وتعريف أشكال الأجرام العلويّة، وأعداد الكواكب والأفلاك، وأوضاعها وجهات حركاتها وأزمنة حركاتها وأعظام أجرامها وأبعاد بعضها من بعض، وهي في كتاب المجسطى لبطلميوس.

د وقسم منه يشتمل على النِغَم المؤتلفة والمتنافرة وأنّها كيف ولِمَ يكون كذلك، وأنّ الإيقاع الفاصل كيف يشتمل على متواليتها، وكم قسم هو، وأنّ اللحن كيف يؤلّف، د. وهو في كتاب الموسيقيّ.

وقسم: ل قسم. الآلات: ل آلات. النواطف: مفرد: ناطِفة، يعني قَطّارة؛ ت، ل نواطق. الكيران: ت الكيران. النِقاق: مفرد: رقّ، يعني وِعاء من جِلد. الأثالات: مفرد: أثال؛ ل والايالات، ت والآثالات، القنانيّ: مفرد: قِنِّينة. الأدراج: مفرد: دُرْجٌ. المدافئ: ت، ل والمدافن. والتشوية: ل والنسوبة والتشميع: ل والتسميع، والتحليل. وهو: ل + العلم. ودوات: ت ذات. اجهة: ل جهته. اللاحقة لها: ل اللاحقة لها: ل اللاحقة بها. النسب؛ السبب؟ الوأنواعه: ل أنواعه. التحاطيقي: ل اللاحقة بها. المنسب: ل السبب؟ الوأنواعه: ل أرثماطيقي: ل ارتماطيقي. $^{1-0}$ وقسم منه ل فيه. الوالنسب: ل والسبب. المؤللية وقسم: "ا أوقيلدس. المؤللية وقسم: "ا تعمل: ل ونسب. المؤللية وقسم: المؤللية وقسم: "ا أرثماطيقي: ل التعاطيقي: ل ونسب. المؤللية وقسم: ل والسبب. المؤللية وهو: ل وهي. المؤللية المؤللية وقسم: المؤللية وقسم: المؤللية وقسم: المؤللية وقسم: المؤللية وقسم: المؤللية وقسم: المؤللية وقسم: المؤللية وقسم: المؤللية والمؤلمؤللية والم

ه وقسم يشتمل على المناظر ويعرّف علل اختلاف ما يُرى بالبعد وبالقرب وفي جهات مختلفة ولا على جهة وجوده الحقيقيّ وفيه كتب منها لأوقليدس وشَطْر منه علم مناظر الأشباح، وفيه كتب المرايا منها لأوقليدس.

و وقسم يشتمل على تعريف المجسّمات كيف ينحلّ بعضها إلى بعض، وكيف يتركّب بعضها من (ت ١٣٨ظ) بعض، وكيف أقطاعُها ومَقاطعُها، وكيف نِسب بعضها إلى بعض ونسب نهاياتها، وفيه كتاب المخروطات.

ز وقسم يشتمل على تعريف المجسّمات المتحرّكة، أيّ خواص تعرض لأشكالها ومقاطعها إذا تحرّكت، وفيه كتب الأكر المتحرّكة لأرشميدس وغيره.

ح وقسم يشتمل على تعريف نسب ذوات الوزن بعضها إلى بعض مخلوطةً ومفردةً، ونِسَب الرطوبات ونِسَب الأجسام الطافية والراسبة بعضها إلى بعض في أوزانها، ويسمّى ١٠ علم الأوزان، ولأرشميدس فيه كتاب.

والثاني العلم العمليّ منه وينقسم ثلاثة أقسام:

آ قسم يشتمل على تهيئة آلات تنقل أجسامًا عظامًا وتفعل (ل ٦و) في ذلك حركات خارجةً عن العادة ويسمّى هذا القسم علم الأثقال.

ب وقسم يشتمل على اتّخاذ آلات تظهر منها حركات خارجةً عن العادة في نوعها ١٥ وهيئتها ويكون منها ما يوهم أنّها حركات بلا محرّك، ويسمّى علم الحيل، وفيه كتاب بني موسى بن شاكر وغيره.

ج وقسم يشتمل على مساحة المياه.

والثالث وهو العلم الموسوم بما بعد الطبيعة وهو العلم الذي ينظر في الموجود من جهة ما هو موجود على مبادئ جميع العلوم ٢٠ الجزئية وهو ثلاثة أقسام:

آ قسم منه يشتمل على تعريف الموجود، وما يقوم منه مقام الأنواع وإن لم يُجعَل أنواعًا حقيقيّةً كالمقولات العشر وما يطابقها في العموم كالواحد وأنواعه، وما يقابلهما كالمعدوم والكثير (ت ١٣٩و) وأنواعهما، ولواحق الموجود كالقوّة والفعل والعلّة والمعلول

' ويعرّف: ت وتعرّف. ' وبالقرب: ل والقرب. ° نِسب: ل يسبب. ' ونسب: ل ي/نسب. ' تعرض: ل يرنسب. ' أوزانها: ل يعرض. ^ وغيره: ل ولغيره. ^٩ مخلوطة ومفردة : ل مخلوطه ومفرده. ^{١٠} ونِسَب: ل وتسب. ^{١٠} أوزانها: ل أورايها. ^{١٠} والثاني: ل والياتي. ^{١٠} منه: ل – منه. ^{١٠} تهيئة: ل هيهٍ. ^{١٠} تنقل: ل ينقل. ^{١٠} وتفعل: ل ويفعل. ^{١٠} وقسم: ل قسم. ^{١٠} اتّخاذ: ل اتحاد. ^{١٠} تظهر: ل يظهر. ^{١٠} الحيل: ل الجبل. ^{١٣} يطابقها: ل يطابقه. ^٣ يقابلهما: ل يقابلهما.

والتام والناقص والكلّي والجزئي وغير ذلك، وعوارض الواحد ولواحقه مثل المجانسة والموافقة والمشاكلة والمشابهة والمساواة والموازاة والهويّة وما يقابل جميع ذلك.

ب وقسم يشتمل على إثبات الأصول الّتي هي مبادئ للعلوم الجزئيّة ومقلَّدة لهم، مثل المبادئ الّتي يقلّدها المنطقيّ والمهندس والحسّاب والطبيعيّ وسائرهم، ويحال تحقيقه على الإلهيّ وما بعد الطبيعيّ، ومخاصمة من يرى فيه غير الحقّ إليه.

ج وقسم يشتمل على إثبات المبدأ الأوّل للوجود كلّه ومُبدِع الكلّ وإثبات وحدانيّته وبراءته عن التغيّر والتكثّر والوضع والتمكّن، وتعريف (ل ٢ظ) ما ينبغي أن يُفهم من صفاته ويدلّ عليه من أسمائه، والإبانة عن تعلّق قوام الكلّ به، وأنّ أيّ الموجودات ينال الوجود منه أوّلًا، وأيّها ينال الوجود منه ثانيًا وثالثًا إلى آخر الموجودات، وتعريف الملائكة المقرّبين وكم عدّة طبقاتهم وتعريف سكّان السموات منهم، وأنّهم كيف تعبّدوا في تدبيرها حتّى سُمّوا المدبّرات أمرًا، وتعريف تعلّق الأجسام السفليّة بالعُلُوّيّة، وكيفيّة تعلّق الكلّ بتوكيل الملائكة المقرّبين به بالأمر الإلهيّ الواحد، وفي تعريف الثواب والعقاب في الآخرة. والأقسام كلّها في كتاب مابعدالطبيعة وهذا القسم خاصّةً في كتاب أثولوجيا.

وقد تمّت الرسالة والحمد لله ربّ العالمين.

^٢ والهويّة: ل والهو، (ه) ه. ^٤ الّتي: ل الذى. ° وما بعد الطبيعيّ: ت وما بعد الطبيعة. '' تعبّدوا: ل يعبدو. ^{١١} وتعريف: ت وتدبير. ^{١٤} وقد تمّت الرسالة وبه الحول والقوّة وعليه التُكلان. فرغت ضحوة نهار الجمعة الثاني ربيع الأوّل سنة خمسة عشر(؟) سبعة مائة بشهر اسكندرية؛ ت (ه) نقل هذه الرسالة من نسخة كُتب في آخرها نقل هذه الرسالة من خطّ المصنّف أعلى الله درجته.