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### *Cover*

Mašhad, Kitābhāna-i Āsitān-i Quds-i Raḍawī 300, f. 1v  
Paris, Bibliothèque nationale de France, *grec* 1853, f. 186v

# Aristotle's Meteorology in 18<sup>th</sup> Century Egypt

Damanhūrī (1100/1689 or 1690 - 1192/1778), 'Ayn al-ḥayāt fī 'ilm istinbāt al-miyāh

Hans Daiber

## Abstract

The article analyses the sources of *'Ayn al-ḥayāt fī 'ilm istinbāt al-miyāh* ("The Fountain of Life through the Knowledge of Discovering Water") written in 1146/1733 by the Egyptian scholar Damanhūrī. The available edition by Muḥammad Bahḡa al-Aṭārī (Rabat 1989) is collated with a ms. dated 1286/1869 (Daiber's Collection III, nr. 110) and the variants, which in many cases improve the edition, are added in an appendix. The source analysis shows the indebtedness of Damanhūrī to Arabic meteorological texts by Kindī, Iḥwān al-Ṣafā', Ibn Sīnā and above all Qazwīnī, and the meteorological sections in his *'Aḡā'ib al-maḥlūqāt*. They passed on to Damanhūrī meteorological concepts of Aristotle, as they understood them. Damanhūrī ends his treatise with a short chapter on the "merit of knowledge and learned people", which apparently in his mind is tantamount to the knowledge of discovering water as something vital for humanity.

The Egyptian scholar Shaykh Aḥmad ad-Damanhūrī appears to be an interesting figure. He is said to have spent most of his life in studying and writing, and in creating formal legal opinions according to the four legal schools. However, he does not seem to have earned his living with this work and with his writings about "uncommon scientific disciplines" (*funūn ḡarība*). He is reported to have withhold (cf. *buhl*) his knowledge from others before he became rector of Azhar at the age of 78 in the year 1181/1767.<sup>1</sup> As a student of al-Azhar-University he had got the qualification to teach Islamic law, and had become an expert in the four legal schools. Damanhūrī's numerous, but mostly unpublished texts discuss varying topics, including Koranic sciences,<sup>2</sup> *Ḥadīth*,<sup>3</sup> theology,<sup>4</sup> jurisprudence,<sup>5</sup> ethics,<sup>6</sup>

<sup>1</sup> Cf. 'A. Ḡabartī, *at-Tārīḡ al-musammā 'aḡā'ib al-āṭār fī t-tarāḡim wa-l-aḡbār*, II, Bulaq 1297/1880, pp. 25-7, the year 1192H., the entry on Damanhūrī.

<sup>2</sup> M.B. Aṭārī, Introduction to his edition of Damanhūrī, *Kitāb 'Ayn al-ḥayāt fī 'ilm istinbāt al-miyāh*, Rabat 1989, p. 22, n. 1, 2, 3, 4, 5, 6.

<sup>3</sup> Aṭārī, Introduction (above, n. 2), p. 22, n. 7.

<sup>4</sup> Aṭārī, Introduction (above, n. 2), p. 22f., n. 8, 9, 10, 11, 12, 17.

<sup>5</sup> Aṭārī, Introduction (above, n. 2), p. 23, n. 13 (= published Cairo 1995 and Riyad s.a.), 14, 15, 16, 18 (= ed. and transl. by M. Perlman, *Shaykh Damanhuri on the Churches of Cairo (1739)*, Univ. of California Press, Berkeley – Los Angeles 1975).

<sup>6</sup> Aṭārī, Introduction (above, n. 2), p. 23, n. 19. Still unclear is the relation to Damanhūrī's *al-Naf' al-ḡazīr fī ṣalāḡ al-sultān wa-l-wazīr* (Alexandria 1992), to Damanhūrī's *Nahḡ as-sulūk fī naṣiḡat al-mulūk fīmā tafaddal bihi al-Bārī 'alā as-sultān wa-l-wazīr wa-mā waḡaba 'alayhimā li-r-rā'īya min al-ḡifẓ wa-ḡuṣn at-tadbīr* and to Damanhūrī's *Tuḡfat al-mulūk bi-'ilmaẓ at-tawḡīd wa-s-sulūk* (mss. in Cairo), titles mentioned in the thesis by A. Jordan, *Das Saif al-mulūk wa-l-ḡukkām des Muḡyī ad-Dīn Muḡammad b. Sulaimān al-Kafyaḡī (gest. 1474)*, Thesis, Marburg 2015, p. 376, n. 222-224.

language,<sup>7</sup> medicine,<sup>8</sup> sufism,<sup>9</sup> the talisman,<sup>10</sup> logic,<sup>11</sup> mathematics,<sup>12</sup> alchemy,<sup>13</sup> and “indispensable sciences” (*al-‘ulūm al-ḍarūriyya*).<sup>14</sup> To these “indispensable sciences” belongs Damanhūrī’s treatise on “The Fountain of Life through the Knowledge of Discovering Water”, *‘Ayn al-ḥayāt fī ‘ilm istinbāt al-miyāh*, written in 1146/1733.<sup>15</sup> This work is one of the very few texts by Damanhūrī available in print.<sup>16</sup> It is edited in Rabat in 1989, with an introduction and commentary by Muḥammad Baḥḡa al-Aṭārī. The editor used only one manuscript, copied during Damanhūrī’s lifetime. Although it contains corrections by the author, it is not faultless. For this reason, it is worthwhile to compare a carefully written ms. copied in 1286/1869, and until today unknown. It enables us to correct and supplement the edition in many passages.<sup>17</sup> Damanhūrī’s treatise is not as extensive and sophisticated, also in practical details, as the work of a famous forerunner on this topic, the *Inbāt al-miyāh al-ḥafiyya* by the Iranian mathematician Abū Bakr Muḥammad Ibn al-Ḥasan al-Karaḡī from the 4<sup>th</sup>/10<sup>th</sup> - 5<sup>th</sup>/11<sup>th</sup> century.<sup>18</sup> His work is different, but, it too, seems to be inspired by Aristotle’s *Meteorology*, partly in a formulation that resembles the *Rasā’il Iḥwān aṣ-Ṣafā’* from the 4<sup>th</sup>/10<sup>th</sup> century.<sup>19</sup> Damanhūrī wrote his treatise, as he lets us know in his proem, on request of the ruler Yūsuf Ibn Muḥammad az-Zāḡūnī.<sup>20</sup>

<sup>7</sup> Aṭārī, Introduction (above, n. 2), p. 23, n. 21-24.

<sup>8</sup> Aṭārī, Introduction (above, n. 2), p. 24, n. 26-29; moreover, a ms. from the year 1264/1848 in the Library of Congress, Mansuri Collection 5-588, fol. 1v-14v, with the title *al-Kalām al-yasīr fī ‘ilāḡ al-maq’ada wa-l-bawāṣīr*, a treatise on the treatment of stones in the kidney and bladder, of hemorrhoids and hips, composed in the year 1169/1755. On Damanhūrī’s “Clear Statement on Anatomy” (*al-Qawl aṣ-ṣarīḥ fī ‘ilm at-taṣrīḥ* (= Aṭārī, p. 24, n. 26 [wrongly *al-qawl aṣ-ṣaḥīḥ*...]) see A. Ragab, *Medicine and Religion in the Life of an Ottoman Sheikh: Al-Damanhuri’s “Clear Statement” on Anatomy*, Abingdon – New York, Routledge 2019 (Religious Cultures in the Early Modern World).

<sup>9</sup> Aṭārī, Introduction (above, n. 2), p. 24, n. 30.

<sup>10</sup> Aṭārī, Introduction (above, n. 2), p. 24, n. 31.

<sup>11</sup> Aṭārī, Introduction (above, n. 2), p. 24, n. 32, ed. Cairo 1948. Apparently the text published in 1317/1900 in Cairo with the commentary (*ḥāṣiya*) by Maḥlūf al-Minyāwī under the title *Ḥāṣiya ‘alā Al-Ġawhar al-maknūn fī l-mā’ānī wa-l-bayān wa-l-badī’* (= *Ṣarḥ Aḥmad ad-Damanhūrī li-matn al-Aḥḍarī*). The text of Aḥḍarī and the commentary by Damanhūrī, without the *Ḥāṣiya* by Minyawī were published in Cairo in 1888, entitled *Al-Ġawhar al-maknūn fī l-mā’ānī wa-l-bayān wa-l-badī’*.

<sup>12</sup> Aṭārī, Introduction (above, n. 2), p. 24, n. 33-35.

<sup>13</sup> Aṭārī, Introduction (above, n. 2), p. 24, n. 36, 40 (?).

<sup>14</sup> Aṭārī, Introduction (above, n. 2), p. 25, n. 42.

<sup>15</sup> Mentioned in C. Brockelmann, *Geschichte der arabischen Litteratur*, 2., den Supplementbänden angepasste Auflage, Leiden 1937-1949, II, p. 371, nr. 14 and *Supplementband II*, p. 499, nr. 14 (2 mss.). M. El Faiz, *Les maîtres de l’eau. Histoire de l’hydraulique arabe*, Paris 2005, mentioned it in ch. 4: “L’œuvre hydraulique d’Ahmad Damanhuri (1696-1778)”.

<sup>16</sup> S. n. 2 and 6 (jurisprudence), 7 (ethics), and 12 (logic).

<sup>17</sup> Daiber Collection III, nr. 110. The ms. contains 38 folios; size: 22,5 x 16 cm, with 13 lines. Clearly written *nashī*. Single words and chapter headings are written in bold script. Geometrical drawings in red ink are on fol. 7r and 31 v. Fol. 35r contains a table with latitudes, longitudes, inclinations, and directions of the towns from Morocco to Palestine and Arabia (s. the facsimile below in the Appendix). The text is written within a double-lined red frame of 14,5 x 8 cm. Thick, polished paper, slightly spotted; the first folio is repaired. Watermark on fol. 15: “Andrea Galvani” and “Pordenone”. The same watermark can be found in two 19<sup>th</sup> century mss. in the University Library of Basel (G. Schubert – R. Würsch, *Die Handschriften der Universitätsbibliothek Basel. Arabische Handschriften*, Schwabe, Basel 2001, pp. 39 and 323). The ms. has a modern half-leather binding, perhaps provided by the previous Egyptian owner Sa’d Muḥammad Ḥasan (1335/1917 - 1407/1986), who added on fol. 1r author and title and some biobibliographical notes. The ms. is copied by Muḥammad al-Barbarī on 18 *Raḡab* 1286 / October 24<sup>th</sup>, 1869. On the contribution of this ms. to the correction of the edition see the Appendix below.

<sup>18</sup> Ed. Baḡdād ‘Abd al-Mun‘im, Cairo 1997.

<sup>19</sup> Cf. K. Niazi, “Karaḡī’s *Discourse on Hydrology*”, *Oriens* 44 (2016), pp. 44-68, esp. pp. 60ff.

<sup>20</sup> Damanhūrī, *Kitāb ‘Ayn al-ḥayāt fī ‘ilm istinbāt al-miyāh*, p. 29.10 Aṭārī.

We begin with a survey of the contents. The text is divided into 4 sections.

I. The Introduction (*muqaddima*) discusses the elements and the winds, the valleys and the rivers

II. Chapter 1 (*al-bāb al-awwal*) explains the indications for the existence of water

III. Chapter 2 (*al-bāb at-tānī*) deals with the digging of wells

IV. The Epilogue (*hātama*) discusses in three sections: 1) the “marvels of the creation” (*‘ağāib al-mahlūqāt*), dry smoke and moist vapour, springs of water, salty and sweet water, and mountains. 2) the inhabited part of the earth and its areas. 3) the virtue of knowledge.

I. In the Introduction (*muqaddima*)<sup>21</sup> Damanhūrī starts with the explanation of single words in the title of his treatise, and therewith explains the world's composition. In the footsteps of Qazwīnī, and following Aristotle,<sup>22</sup> Damanhūrī says that its constituents earth, water, air, and fire<sup>23</sup> are interchangeable. One element can change into another. Earth can become water, water can become air under the influence of the heat of the sun, and air can change into water.<sup>24</sup> “It can be observed (*yushāhadu*), that ice (*al-ḡamad*) inside a brass vessel makes the air, surrounding the vessel, cold and changes it into water”.<sup>25</sup> After a digression on fire and its similarity to the soul (*nafs*),<sup>26</sup> taken from Qazwīnī's *‘Ağāib al-mahlūqāt*,<sup>27</sup> follows a section on the winds,<sup>28</sup> which is a summary of a section in Qazwīnī.<sup>29</sup> Winds are said (*za‘amū*) to be a “movement of the air” (*tamawwuḡ al-hawā‘*)<sup>30</sup> and they depend on the “smoke” (pl. *adhīna*) which, under the influence of the sun, arises from the earth or from dry things. Whenever the smoke ceases to be heated, it becomes concentrated and falls down, moving herewith the air and causing winds. Otherwise, the vapours ascend to “the fiery sphere” (*kurat an-nār*), which is moved by the movement of “the celestial sphere” (*al-falak*). “The cyclical movement” (*al-ḥaraka ad-dawliyya*) of this celestial sphere repels the ascending vapors downwards, so that the air is moved and causes winds. Whenever the vapors are dissolved to air, they move from one side to the other and thus cause winds. The explanation of Damanhūrī and his source Qazwīnī differs from Aristotle's, who had rejected the opinion that winds are moving air. The Aristotelian distinction between dry smoke and humid vapour (*ἄνῃθυμίαι*)<sup>31</sup> is neglected, apparently in a simplifying modification of a statement by Kindī (3<sup>rd</sup>/9<sup>th</sup> c.), that vapour rising from the earth is “earthy vapour (*buhār ardī*) called smoke (*duḥān*), because it is hot and dry. It is a body made of earth capable of being heated. Therefore, it tends towards being fiery, and moves upwards as (fire) does”.<sup>32</sup> Kindī declares wind as the “flowing of

<sup>21</sup> Damanhūrī, *Kitāb ‘Ayn al-hayāt fī ‘ilm istinbāt al-miyāh*, pp. 30-35 Aṭārī.

<sup>22</sup> Arist., *Meteor.* I 3, 339 a 36ff.

<sup>23</sup> Damanhūrī, *Kitāb ‘Ayn al-hayāt fī ‘ilm istinbāt al-miyāh*, pp. 30f. Aṭārī.

<sup>24</sup> Damanhūrī, *Kitāb ‘Ayn al-hayāt fī ‘ilm istinbāt al-miyāh*, p. 31.10ff. Aṭārī.

<sup>25</sup> Damanhūrī, *Kitāb ‘Ayn al-hayāt fī ‘ilm istinbāt al-miyāh*, p. 31.14-20 Aṭārī = Qazwīnī, *‘Ağāib al-mahlūqāt*, ed. F. Wüstenfeld, Göttingen 1849, I, pp. 89.23-90.7, with shortenings and rearrangements.

<sup>26</sup> Ed. M.B. Aṭārī, pp. 31.21-32.6. The edition of Aṭārī wrongly has *nafas* “breath”. On this comparison cf. H. Daiber, *Aetius Arabus. Vorsokratiker in arabischer Überlieferung*, Franz Steiner Verlag, Wiesbaden 1980 (Veröffentlichungen der Orientalischen Kommission, 33), p. 462.

<sup>27</sup> Qazwīnī, *‘Ağāib*, ed. F. Wüstenfeld, I, p. 92.15-26.

<sup>28</sup> Damanhūrī, *Kitāb ‘Ayn al-hayāt fī ‘ilm istinbāt al-miyāh*, p. 32, 7ff. Aṭārī.

<sup>29</sup> Qazwīnī, *‘Ağāib*, I, pp. 94.26-95.9 Wüstenfeld.

<sup>30</sup> On this concept cf. H. Daiber, *Ein Kompendium der aristotelischen Meteorologie in der Fassung des Hunain Ibn Ishāq, Prolegomena et parerga* I, Brill, Leiden [etc] 1975 (Aristoteles Semitico-Latinus, 1) Commentary n. 23 = pp. 76-8.

<sup>31</sup> Cf. Daiber, *Kompendium* (above, n. 30), Commentary n. 23.

<sup>32</sup> Kindī, *Risāla fī l-‘illa allatī lahā yabrudu a’lā l-ḡaww wa-yashūnu mā qaruba min al-ard*, in *Rasā’il al-Kindī*

air” (*sayalān al-hawā*),<sup>33</sup> and elsewhere he says, that “the earthy (vapour) pushes the air down, resulting in wind”.<sup>34</sup> Kindī, at least in the available texts,<sup>35</sup> has not all the details of Qazwīnī’s and Damanhūrī’s explanation of the winds. However, his addition of the circular movement of the celestial sphere as a heating factor<sup>36</sup> is shared by Qazwīnī and Damanhūrī. Both add a passage<sup>37</sup> about the “whirlwind” (*zawbā’a*), which differs from Aristotle’s description of *τύφων*<sup>38</sup> and its shortening, partly deviating Arabic version by Ibn al-Bīṭrīq.<sup>39</sup> Qazwīnī and Damanhūrī also differ from Theophrastus’ *Meteorology*<sup>40</sup> and from the Greek commentators, who had an impact on Ibn Sīnā.<sup>41</sup> In addition, Qazwīnī’s and Damanhūrī’s description of the whirlwind as a result of winds, which return from “the cold stratum” (*aṭ-ṭabaqa al-bārīda*) and then “encounter a cloud, which because of their vehement movement is turned around” and moves downwards,<sup>42</sup> differs from Aristotle, his commentators, and their echo in Ibn Sīnā. Qazwīnī’s and Damanhūrī’s explanation appears to be an allusion to Kindī’s concept of the upper cold atmosphere in his *Risāla fi l-‘illa allatī lahā yabrudu ā lā al-ḡauw wa-yashunu mā qaruba min al-ard*.<sup>43</sup> In this treatise Kindī explains that the vapours arising from the earth and being far away from the earth are cooled and condensed; as a result “the earthy vapour pushes the air down, resulting in wind”.<sup>44</sup> The texts by Kindī do not discuss the whirlwind, but it is imaginable that a lost text by Kindī or his “school” consequently has developed on this basis and with elements taken from Aristotle’s *Meteorology*, an explanation of the whirlwind as we find it in Qazwīnī and in his footsteps in Damanhūrī. In what follows, Damanhūrī<sup>45</sup> shortens the text of Qazwīnī<sup>46</sup> and offers a wind rose, accompanied by a description of the origins of the winds. Different from Aristotle’s wind rose, consisting of eight winds,<sup>47</sup> Qazwīnī and Damanhūrī present a wind rose with four winds, blowing from north and south, from east and west. Their quality depends on their nearness or distance to the sun, to water and sea,

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*al-falsafīyya*, ed. M.‘A. Abū Rīda, II, Cairo 1953 (pp. 90-100), p. 91.12f.; Engl. trans. P. Adamson – P.E. Pormann, *The Philosophical Works of Al-Kindī*, Oxford U.P., Oxford 2012 (Studies in Islamic Philosophy), p. 212.

<sup>33</sup> Kindī, *Risāla fi l-‘illa allatī lahā takūnu ba‘ḍ al-mawāḍī’ lā takādu tumṭar*, p. 71.8 Abū Rīda. On the concept of the wind as flowing or moving air cf. Daiber, *Kompendium* (above, n. 30), pp. 76-8.

<sup>34</sup> Kindī, *Risāla fi l-‘illa allatī lahā yabrudu*, p. 96.17f. Abū Rīda; trans. Adamson-Pormann, *The Philosophical Works of Al-Kindī* (above, n. 32), p. 213.

<sup>35</sup> Cf. P. Lettinck, *Aristotle’s Meteorology and Its Reception in the Arab World*, Brill, Leiden – Boston – Köln 1999 (Aristoteles Semitico-Latinus, 10), p. 176

<sup>36</sup> Kindī, *Risāla fi l-‘illa allatī lahā yabrudu*, p. 96.7 and 98.17 Abū Rīda; trans. Adamson-Pormann, *The Philosophical Works of Al-Kindī* (above, n. 32), pp. 212 and 215. Cf. Lettinck, *Aristotle’s Meteorology* (above, n. 35), pp. 50-3.

<sup>37</sup> Shortened and with some rearrangements in Damanhūrī.

<sup>38</sup> Arist., *Meteor.* III 1, 371 a 1ff. Cf. Lettinck, *Aristotle’s Meteorology* (above, n. 35), p. 226f.

<sup>39</sup> Ed. P.L. Schoonheim, *Aristotle’s Meteorology in the Arabico-Latin Tradition*, Brill, Leiden – Boston – Köln 2000 (Aristoteles Semitico-Latinus, 12), I. 873-879. Cf. Lettinck, *Aristotle’s Meteorology* (above, n. 35), p. 229.

<sup>40</sup> Cf. ed. and transl. H. Daiber, “The *Meteorology* of Theophrastus in Syriac and Arabic Translation”, in W.W. Fortenbaugh – D. Gutas (eds.), *Theophrastus. His Psychological, Doxographical and Scientific Writings*, Transaction, New Brunswick 1992 (*RUSCH*, 5), pp. 166-293, ch. 13, I. 5 and 46ff.

<sup>41</sup> Cf. Lettinck, *Aristotle’s Meteorology* (above, n. 35), pp. 178f., 228 and 231f.

<sup>42</sup> Damanhūrī, *Kitāb ‘Ayn al-ḥayāt fi ‘ilm istinbāt al-miyāh*, p. 32.16-18 Aṭarī; Qazwīnī, *‘Aḡāib*, I, p. 95.10-12 Wüstenfeld.

<sup>43</sup> Kindī, *Risāla fi l-‘illa allatī lahā yabrudu*, pp. 90-100 Abū Rīda; trans. Adamson-Pormann, *The Philosophical Works of Al-Kindī* (above, n. 32), pp. 208-16. Cf. Lettinck, *Aristotle’s Meteorology* (above, n. 35), pp. 50-3.

<sup>44</sup> Kindī, *Risāla fi l-‘illa allatī lahā yabrudu*, p. 96.17 Abū Rīda; trans. Adamson-Pormann, *The Philosophical Works of Al-Kindī* (above, n. 32), p. 213.

<sup>45</sup> Damanhūrī, *Kitāb ‘Ayn al-ḥayāt fi ‘ilm istinbāt al-miyāh*, pp. 32.19-34.19 Aṭarī.

<sup>46</sup> Qazwīnī, *‘Aḡāib*, I, pp. 95.19-97.9 Wüstenfeld.

<sup>47</sup> Arist., *Meteor.* II 4 and 6. Cf. Daiber, *Kompendium* (above, n. 30), pp. 79f. Cf. Lettinck, *Aristotle’s Meteorology* (above, n. 35), pp. 158f.

and to mountains which might keep away the northern wind. These explanations have no parallel in Aristotle.<sup>48</sup> An allusion to the four winds and to their heat and coldness depending on their place of origin, can be found in Theophrastus' *Meteorology*.<sup>49</sup> But the shortness of the Theophrastean text does not allow further conclusions. However, we can find some affinity to Kindī's *Risāla fī l-'illa allatī lahā takūnu ba'd al-mawādi' lā takādu tumṭar*. Kindī assumes the existence of two main winds, coming from the north or from the south, dependent on the air heated by the sun and then flowing to the cold place. Geographical circumstances, like valleys, rivers and mountains, might cause the flow of vapours in different directions and thus give rise to different kinds of winds.<sup>50</sup> This differentiation is echoed in Qazwīnī and Damanhūrī, although their explanation mirrors modifications, presumably due to intermediate adaptations. One of these intermediate adaptations might have been Ibn Sīnā's *Kitāb aš-Šifā', Physics*, the book on *Meteorology*.<sup>51</sup> Because of the dependence of winds on rivers, as mentioned by Kindī, Damanhūrī<sup>52</sup> inserts a discussion about the rivers, similar to what we find in Aristotle's *Meteorology*.<sup>53</sup> From these rivers, as well as from the water coming from the clouds as rain, and from the vapours condensed below the earth, originate the fountains in the earth. The existence of water below the earth can be explained in this manner and its transport can be managed through "digging" (*ḥafṛ*) and with suitable "tools" (*ālāt*).<sup>54</sup>

II. Herewith, Damanhūrī finishes his "Introduction". In the following passage, called First Chapter (*al-bāb al-awwal*),<sup>55</sup> he explains the indications for the existence of water below the earth. Indications are the existence of plants on the mountains and the existence of dew on plants in the morning and in the evening, the rustle of water and the appearance of vapour in moist fissures of the mountain. Moreover, the nearness of water is indicated by the smell and colour of clay.

III. The Second Chapter (*al-bāb at-tānī*) "On digging wells and what belongs to that"<sup>56</sup> is a practical guide to the digging of wells. It gives recommendations, in case the earth is very hard or very loose, when vapour arises from an excavated hole, when certain constellations of the stars exist which are not convenient for digging wells. It gives advices about the best time for digging wells, about food and drinks someone should avoid, and about measures he should take if the well has little water.

<sup>48</sup> Aetius' *Placita philosophorum* III 7.2. The Arabic translation ascribes the existence of four winds, which are "flowing of the air" (*sayalān al-hawā*), to the Stoics. Cf. Daiber, *Kompendium*, p. 81.

<sup>49</sup> Ed. Daiber, "The *Meteorology* of Theophrastus" (above, n. 40), pp. 268f., ch. 13, l. 9f. and 24-32; cf. commentary p. 278.

<sup>50</sup> Kindī, *Risāla fī l-'illa allatī lahā yabrudu*, pp. 71.13-72.3 Abū Rīda. Cf. Lettinck, *Aristotle's Meteorology* (above, n. 35), pp. 107f.

<sup>51</sup> Ibn Sīnā, *aš-Šifā', at-Ṭabī'iyāt* (5): "Meteorology", Ibn Sīnā: *aš-Šifā', at-Ṭabī'iyāt* (5): *al-Ma'ādīn wa-l-ātār al-'ulwīyya*, ed. 'A. Muntaṣir – S. Zāyid – 'A. Ismā'īl, introd. by I. Madkūr, Cairo 1385/1965, pp. 61.17-63.3. On the analysis and the adaptation in Barhebraeus cf. the monograph of H. Takahashi, *Aristotelian Meteorology in Syriac. Barhebraeus, Butyrum Sapientiae, Books of Mineralogy and Meteorology*, Brill, Leiden – Boston 2004 (Aristoteles Semitico-Latinus, 15), pp. 502-8.

<sup>52</sup> Damanhūrī, *Kitāb 'Ayn al-ḥayāt fī 'ilm istinbāt al-miyāh*, pp. 34.20-35.22 Aṭarī. The passage has no exact parallel in Qazwīnī, neither in his discussion of the "origination (*tawallud*) of rivers" *Ağāib*, ed. F. Wüstenfeld I, p. 175, 10ff.), nor in his discussion of the "utilities (*fawā'id*) of the mountains and their wonders" *Ağāib*, I, p. 150.23ff. Wüstenfeld.

<sup>53</sup> Arist., *Meteor.* I 13. Cf. Lettinck, *Aristotle's Meteorology* (above, n. 35), pp. 120f.

<sup>54</sup> Damanhūrī, *Kitāb 'Ayn al-ḥayāt fī 'ilm istinbāt al-miyāh*, p. 35.12f. Aṭarī.

<sup>55</sup> Damanhūrī, *Kitāb 'Ayn al-ḥayāt fī 'ilm istinbāt al-miyāh*, pp. 37f. Aṭarī.

<sup>56</sup> Damanhūrī, *Kitāb 'Ayn al-ḥayāt fī 'ilm istinbāt al-miyāh*, pp. 39-41 Aṭarī.

Even a young girl playing on a single-pipe wood-wind instrument (*mizmār*) and another girl beating a “drum” (*ṭabl*) in front of the fountain might help to increase the quantity of water!<sup>57</sup>

#### IV. The Epilogue (*ḥātima*)<sup>58</sup> consists of three “topics”:

“The first topic” (*al-mabḥaṭ al-auwāl*) is an “illustration of the preceding (chapter) in accordance with what is mentioned in the *Wonders of the Creation*” (by Qazwīnī). The chapter gives some more details on cosmology and meteorology, reproducing – mostly literally – passages from Qazwīnī:

1. Damanhūrī, *Kitāb ‘Ayn al-ḥayāt*, p. 45.3f. Aṭarī ~ Qazwīnī, *‘Ağāib*, I, p. 143.14f. Wüstenfeld
2. Damanhūrī, *Kitāb ‘Ayn al-ḥayāt*, p. 45.4-8 Aṭarī ~ Qazwīnī, *‘Ağāib*, I, p. 143.17-21 Wüstenfeld
3. Damanhūrī, *Kitāb ‘Ayn al-ḥayāt*, p. 45.8f. Aṭarī has no parallel in Qazwīnī.
4. Damanhūrī, *Kitāb ‘Ayn al-ḥayāt*, p. 45.9-19 Aṭarī ~ Qazwīnī, *‘Ağāib*, I, pp. 143.24-144.6 Wüstenfeld
5. Damanhūrī, *Kitāb ‘Ayn al-ḥayāt*, p. 46.1-20 Aṭarī ~ Qazwīnī, *‘Ağāib*, I, p. 175.10-38 Wüstenfeld
6. Damanhūrī, *Kitāb ‘Ayn al-ḥayāt*, pp. 46.21-47, 4 Aṭarī ~ Qazwīnī, *‘Ağāib*, I, p. 149.4-15 Wüstenfeld
7. Damanhūrī, *Kitāb ‘Ayn al-ḥayāt*, p. 47.5-9 Aṭarī ~ Qazwīnī, *‘Ağāib*, I, p. 188.19-23 Wüstenfeld
8. Damanhūrī, *Kitāb ‘Ayn al-ḥayāt*, p. 47.9-19 Aṭarī ~ Qazwīnī, *‘Ağāib*, I, pp. 188.27-189.6 Wüstenfeld
9. Damanhūrī, *Kitāb ‘Ayn al-ḥayāt*, p. 47.19-23 has no parallel in Qazwīnī
10. Damanhūrī, *Kitāb ‘Ayn al-ḥayāt*, pp. 47.24-48.9 Aṭarī ~ Qazwīnī, *‘Ağāib*, I, p. 101.15-30 Wüstenfeld
11. Damanhūrī, *Kitāb ‘Ayn al-ḥayāt*, p. 48.10-19 Aṭarī ~ Qazwīnī, *‘Ağāib*, I, pp. 101 ult.-102.7 Wüstenfeld
12. Damanhūrī, *Kitāb ‘Ayn al-ḥayāt*, p. 48.20-23 Aṭarī ~ Qazwīnī, *‘Ağāib*, I, p. 102.11-14 Wüstenfeld
13. Damanhūrī, *Kitāb ‘Ayn al-ḥayāt*, pp. 48.24-49.3 Aṭarī ~ Qazwīnī, *‘Ağāib*, I, p. 102.15-20 Wüstenfeld
14. Damanhūrī, *Kitāb ‘Ayn al-ḥayāt*, p. 49.3f. Aṭarī ~ Qazwīnī, *‘Ağāib*, I, p. 102.24f. Wüstenfeld
15. Damanhūrī, *Kitāb ‘Ayn al-ḥayāt*, p. 49.5-8 Aṭarī ~ Qazwīnī, *‘Ağāib*, I, p. 103.8-12 Wüstenfeld
16. Damanhūrī, *Kitāb ‘Ayn al-ḥayāt*, p. 49.9f.<sup>59</sup> Aṭarī ~ Qazwīnī, *‘Ağāib*, I, p. 103.13f. Wüstenfeld
17. Damanhūrī, *Kitāb ‘Ayn al-ḥayāt*, p. 49.11-16 Aṭarī ~ Qazwīnī, *‘Ağāib*, I, pp. 150.28-151.5 Wüstenfeld
18. Damanhūrī, *Kitāb ‘Ayn al-ḥayāt*, p. 49.17f. Aṭarī ~ Qazwīnī, *‘Ağāib*, I, p. 151.7-9 Wüstenfeld
19. Damanhūrī, *Kitāb ‘Ayn al-ḥayāt*, p. 49.19-24 Aṭarī ~ Qazwīnī, *‘Ağāib*, I, p. 151.10-15 Wüstenfeld

With the exception of two passages, the whole chapter is a stringing together of passages from different places in Qazwīnī, *‘Ağāib al-maḥlūqāt*, with the intention to clarify details of the preceding chapter, by concentrating on the following topics:

- (I) The earth surrounded by water (excerpt nr. 1-4).
- (II) The mountains as recipient of rain and snow and as starting point of rivers, lakes and seas (excerpt nr. 5).
- (III) The evaporation of water, which becomes vapour and smoke (excerpt nr. 5).
- (IV) The emergence of water from the earth, when its surface has fissures (excerpts nr. 6 and 7).
- (V) The diversity of fountains, with regard to their “saltiness” (*mulūḥa*), “acridity” (*al-‘ufūṣa*),<sup>60</sup> “sulfurousness” (*kibrīṭiyya*), “oiliness” (*naftiyya*) and its reason (excerpts nr. 8 and 9).

<sup>57</sup> Damanhūrī, *Kitāb ‘Ayn al-ḥayāt fi ‘ilm istinbāt al-miyāh*, p. 41.12-15 Aṭarī; cf. I. 16-22.

<sup>58</sup> Damanhūrī, *Kitāb ‘Ayn al-ḥayāt fi ‘ilm istinbāt al-miyāh*, pp. 43-60 Aṭarī.

<sup>59</sup> Damanhūrī (*Kitāb ‘Ayn al-ḥayāt fi ‘ilm istinbāt al-miyāh*, p. 49.10 Aṭarī) adds: *mā lā yuḥṣī ‘iddatabū illā alladī awjadabū min al-‘adam*.

<sup>60</sup> Damanhūrī, *Kitāb ‘Ayn al-ḥayāt fi ‘ilm istinbāt al-miyāh*, p. 47.14 Aṭarī. – Qazwīnī, *‘Ağāib*, I, p. 189.1 Wüstenfeld has the better reading *al-‘udūba* “sweetness”.



(VI) Sweet water and its utility. Salty water, mixed with earthy parts that are heated und burnt by the sun. Salty water of the sea is evaporated by the heat of the sun, the rising vapours become clouds and from these clouds rain falls on the earth (excerpts nr. 10-15).

(VII) Mountains retain – as “determined by the divine guidance”<sup>61</sup> – because of their height the vapours, which become clouds and then produce rain. In addition, they collect water inside their caves and become a reservoir for water (excerpts nr. 16-19).

Damanhūrī's selection of passages from Qazwīnī's *ʿAğāib al-mahlūqāt* throws light on the Aristotelian background of his explanations. Aristotle, in his *Meteorology*,<sup>62</sup> had emphasized the role of evaporation and condensation of vapour under the influence of the sun, leading to the formation of clouds and to rain;<sup>63</sup> the role of the mountains and the origin of rivers and fountains from the mountains;<sup>64</sup> the role of the sea, which is surrounding the earth,<sup>65</sup> for the generation of vapour, which is condensed in the upper region and returns to the earth as rain;<sup>66</sup> the explanation of the saltiness of the sea water as a result of the mixture of water and earthy parts.<sup>67</sup> Damanhūrī and his source Qazwīnī did not get acquainted with the Aristotelian meteorology from the Arabic translation of Aristotle's *Meteorology* by Ibn al-Bīṭrīq, or from the compendium by Ḥunayn Ibn Ishāq. As we have seen in other cases, both knew Aristotle's *Meteorology* through the adaptation by Kindī in his works on meteorology. However, with regard to the excerpts from Qazwīnī's *ʿAğāib al-mahlūqāt*, we must take into consideration another adaptation: Ibn Sīnā's discussion of meteorology in his *Kitāb aṣ-Ṣifāʾ*. In this book<sup>68</sup> we find Qazwīnī's and Damanhūrī's notion that the clouds, the result of condensation of vapours in the air, “are concentrated (*munḥaṣir*) between high mountains until the winterly cold reaches them, so that they become rain and snow”.<sup>69</sup> The nearly identical terminology confirm the similarity of Qazwīnī and Damanhūrī to Ibn Sīnā. Another example is the notion that hard ground does not enable the water below the earth to evade through fissures and therefore requires a “treatment” (*al-ilāğ*).<sup>70</sup> Partly different terms in Qazwīnī and Damanhūrī might perhaps be caused by unknown intermediate sources. This is obvious in view of the differences, of which I will mention a passage that has no parallel in Ibn Sīnā.<sup>71</sup> Qazwīnī and Damanhūrī have a passage on varying qualities of water, due to its heating, to its admixture of earthy parts making water salty, and to its passing along places with “sulfur” (*kibrīt*) or “oil” (*naft*) “or other (elements)”.<sup>72</sup> Here, some allusions can be

<sup>61</sup> Damanhūrī, *Kitāb ʿAyn al-ḥayāt fī ʿilm istinbāt al-miyāh*, p. 49.17 Aṭarī.

<sup>62</sup> A survey of the contents is given by Lettinck, *Aristotle's Meteorology* (above, n. 35), pp. 120-7.

<sup>63</sup> Arist., *Meteor.* I 10.

<sup>64</sup> Arist., *Meteor.* I 13.

<sup>65</sup> Arist., *Meteor.* II 2, 354 b 23f.

<sup>66</sup> Arist., *Meteor.* II 2.

<sup>67</sup> Arist., *Meteor.* II 3, esp. 357 b 6ff.

<sup>68</sup> Ibn Sīnā, *al-Ṣifāʾ, al-Ṭabīʾiyāt* (5): *Meteorology*, pp. 11.13-12.7 Munṭaṣir-Zāyid-Ismāʿīl; cf. the analysis of this passage in Takahashi, *Aristotelian Meteorology in Syriac* (above, n. 51), pp. 228f., with a comparison with the adaptation of this passage in Barhebraeus, *Butyrum sapientiae*.

<sup>69</sup> Damanhūrī, *Kitāb ʿAyn al-ḥayāt fī ʿilm istinbāt al-miyāh*, p. 49.12f. Aṭarī.

<sup>70</sup> Damanhūrī, *Kitāb ʿAyn al-ḥayāt fī ʿilm istinbāt al-miyāh*, p. 47.7-9 Aṭarī. Cf. Ibn Sīnā, *aṣ-Ṣifāʾ, al-Ṭabīʾiyāt* (5): *Meteorology*, p. 13.11-15 Munṭaṣir-Zāyid-Ismāʿīl and the analysis of this passage in Takahashi, *Aristotelian Meteorology in Syriac* (above, n. 51), p. 237.

<sup>71</sup> Ibn Sīnā, *aṣ-Ṣifāʾ, al-Ṭabīʾiyāt* (4): *Fī l-afʿāl wa-l-infiʿālāt*, ed. M. Qāsim, introd. by I. Maḍkūr, Cairo 1969, pp. 205.4-208.1. Survey in Lettinck, *Aristotle's Meteorology* (above, n. 35), pp. 143f.

<sup>72</sup> Cf. Damanhūrī, *Kitāb ʿAyn al-ḥayāt fī ʿilm istinbāt al-miyāh*, p. 47.13-23 Aṭarī (the lines 20-23 do not seem to have a corresponding passage in Qazwīnī).

found in Aristotle, *Meteorology* IV 7, where the mixture of water and earth and the role of heat and oil are discussed. However, neither Aristotle nor a passage in the *Kitāb al-Mu'tabar fī l-ḥikma* by Abū l-Barakāt al-Baġdādī from the school of Ibn Sīnā<sup>73</sup> offer an exact parallel. However, the passages in Qazwīnī and Damanhūrī appear to be inspired by the *Rasā'il Ihwān aṣ-Ṣafā'*<sup>74</sup> and their terminology. Here, we become aware that Aristotle's *Meteorology* was discussed and further developed by Kindī and after him by the *Ihwān aṣ-Ṣafā'*. In addition, a source of inspiration is represented by Ibn Sīnā and his "school". This becomes evident in the "second topic" (*al-mabḥaṭ at-tānī*) "On the explanation of what is inhabitable of the world, its length, its breadth, of the length and breadth of a (single) country (of the inhabitable world), and of the division (of the inhabitable world) into seven climes (*aqālim*)".<sup>75</sup> Actually, this chapter is not much related to meteorology. Aristotle had discussed the inhabitable world solely in a very short digression in the chapter on winds.<sup>76</sup> Ibn Sīnā, however, and his "school" paid more attention to it by taking up Ptolemy's doctrines in his *Almagest*.<sup>77</sup> Although Damanhūrī shared with Ibn Sīnā his great interest in the inhabitable world by dedicating a whole chapter to it, here, he did not use Ibn Sīnā's work *aṣ-Ṣifā'*. Damanhūrī's chapter on the inhabitable world appears to be a conglomerate from different sources. He quotes – without mentioning the name of the author – Qazwīnī's *ʿAğā'ib al-mahlūqāt*,<sup>78</sup> the commentary by al-Šarīf al-Ġurġānī, called "al-Sayyid" (d. 826/1423), on Maḥmūd Ibn Muḥammad Ibn ʿUmar al-Ġaġmīnī's (14<sup>th</sup> c. AD) astronomical work *al-Mulabḥaṣ fī l-hay'a*,<sup>79</sup> the commentary by Qāḍizādeh ar-Rūmī (d. 839/1436) on Ġaġmīnī,<sup>80</sup> and the astronomical handbook (*Ziğ*) by Ibn aṣ-Šāṭir (d. ca 777/1375),<sup>81</sup> either the text which is lost or his *Ziğ al-ğadīd*, which is available in manuscripts.<sup>82</sup> In one case<sup>83</sup> Damanhūrī mentions *al-Miğīṣṭī*, the *Almagest* by Ptolemy. Noteworthy is Damanhūrī's characterization of the seven climes as "hypothetical lines" (*ḥuṭūt wahmiyya*) invented by former kings to "inform about the borders of the countries, kingdoms and roads".<sup>84</sup> This remark is part of a longer excerpt from

<sup>73</sup> Abū l-Barakāt al-Baġdādī, *Kitāb al-Mu'tabar fī l-ḥikma*, II, Hyderabad 1939, p. 212.8-21. Survey in Lettinck, *Aristotle's Meteorology* (above, n. 35), p. 148.

<sup>74</sup> *Epistle 19*, Ch. 6, *Epistles of the Brethren of Purity. On the Natural Sciences. An Arabic Critical Edition and English Translation of Epistles 15-21*, ed. C. Baffioni, foreword by N. El-Bizri, Oxford 2013, p. 273.10ff.; trans. p. 239.

<sup>75</sup> Damanhūrī, *Kitāb ʿAyn al-hayāt fī ʿilm istinbāt al-miyāh*, pp. 5-58 Aṭarī.

<sup>76</sup> Arist., *Meteor.* II 5, 362 a 31-362 b 30.

<sup>77</sup> Ibn Sīnā, *aṣ-Ṣifā', at-Ṭabīʾiyyāt* (5): *Meteorology*, pp. 24-32. Cf. Takahashi's commentary on the sources of Barhebraeus' *Butyrum, Book on Mineralogy* (above, n. 51), Ch. 4, pp. 321ff. and 330-3. F. de Blois, "Aristotle and Avicenna on the Habitability of the Southern Hemisphere", in S. Schmidtke (ed.), *Studying the Near and Middle East at the Institute for Advanced Study, Princeton 1935-2018*, Piscataway, New Jersey 2018, pp. 188-93.

<sup>78</sup> Damanhūrī, *Kitāb ʿAyn al-hayāt fī ʿilm istinbāt al-miyāh*, pp. 54.11-55.1 Aṭarī = (slightly shortening) Qazwīnī, *ʿAğā'ib*, I, p. 147.21-26 Wüstenfeld = *Rasā'il Ihwān aṣ-Ṣafā'*, pp. 115.20-116.3 ed. Ḥ. Zirikli. Damanhūrī, *Kitāb ʿAyn al-hayāt fī ʿilm istinbāt al-miyāh*, p. 55.2-17 ~ Qazwīnī, *ʿAğā'ib*, I, pp. 148.1-149.2 Wüstenfeld = *Rasā'il Ihwān aṣ-Ṣafā'*, ed. Ḥ. Zirikli, I, Cairo 1347/1928 [reprint Frankfurt a.M. 1999. = Publications of the Institute for the History of Arabic-Islamic Science. Islamic Philosophy, 26], pp. 116.17-117.6 (s.n. 87). Damanhūrī's quotation from the *Rasā'il Ihwān aṣ-Ṣafā'* is based on Qazwīnī, because it is slightly shortening and because he has mentioned explicitly the *ʿAğā'ib al-mahlūqāt* as his source (ed. M.B. Aṭarī, p. 54.11).

<sup>79</sup> Damanhūrī, *Kitāb ʿAyn al-hayāt fī ʿilm istinbāt al-miyāh*, pp. 54.4-10 and 56.5-8 Aṭarī. On Ġaġmīnī's *Mulabḥaṣ fī l-hay'a* and the mentioned commentaries s. *EP* II, 1965, p. 378; *GAL* I, p. 473 and *SI*, p. 865.

<sup>80</sup> Damanhūrī, *Kitāb ʿAyn al-hayāt fī ʿilm istinbāt al-miyāh*, p. 56.11-13 Aṭarī.

<sup>81</sup> Damanhūrī, *Kitāb ʿAyn al-hayāt fī ʿilm istinbāt al-miyāh*, pp. 56.16-58 Aṭarī.

<sup>82</sup> Cf. D.A. King, "Ibn ash-Shatir", in *The Biographical Encyclopedia of Astronomers*, New York 2007, pp. 569f.

<sup>83</sup> Damanhūrī, *Kitāb ʿAyn al-hayāt fī ʿilm istinbāt al-miyāh*, p. 51.11 Aṭarī.

<sup>84</sup> Damanhūrī, *Kitāb ʿAyn al-hayāt fī ʿilm istinbāt al-miyāh*, p. 55.2-4 Aṭarī.

Qazwīnī,<sup>85</sup> which nearly literally can be found in the encyclopaedia of the “Sincere Brethren” from the 4<sup>th</sup>/10<sup>th</sup> century, the *Rasā'il Ihwān aṣ-Ṣafā'*.<sup>86</sup> This is a rare case of a literal quotation, which clearly proves that Qazwīnī as well as another forerunner of Damanhūrī, the Iranian Karaḡī, used the *Rasā'il Ihwān aṣ-Ṣafā'*. This book might have formed the base for other sections on Aristotelian meteorology, despite the fact that Qazwīnī, and after him Damanhūrī, followed traditions which we can trace back to Kindī, to Ibn Sīnā and his “school”. Here, we should be aware of the possibility that Qazwīnī had direct access to the mentioned sources and/or could have used texts, which were based on the mentioned sources. Moreover, a comparison of Damanhūrī's text with the *Rasā'il Ihwān aṣ-Ṣafā'* shows that Damanhūrī too has consulted the *Rasā'il Ihwān aṣ-Ṣafā'*: His excerpt is more complete than the excerpt in Qazwīnī.<sup>87</sup> Damanhūrī had labelled his treatise “The Fountain of Life through the Knowledge of Discovering Water”. Water is vital for humanity and the knowledge of discovering water as well. Apparently, for this reason, Damanhūrī ended his treatise with a short chapter on “The explanation of the merit (*faḍl*) of knowledge and learned people”.<sup>88</sup> The chapter is a gnomological collection of sayings about the “virtue” (*faḍīla*) of knowledge. It quotes the Coran, traditions of the Prophet and his companions, moreover 'Alī and (Pseudo-)Plato,<sup>89</sup> followed by a reference to the four Platonic cardinal virtues, of which knowledge is a virtue of the rational soul.<sup>90</sup>

Damanhūrī appears to be a many-sided scholar and a man of practice. From his numerous writings only a few are available in print. Only one treatise is translated into English and was published in 1975 together with the Arabic text:<sup>91</sup> His “legal opinion” (*fatwā*) on the Christian churches in old and new Cairo from the year 1739. According to Damanhūrī, these churches were illegally built and should be destructed.

<sup>85</sup> Qazwīnī, *Ağā'ib*, I, p. 148.1-3 Wüstenfeld.

<sup>86</sup> *Rasā'il Ihwān aṣ-Ṣafā'*, pp. 116.17-117.6 Ziriklī.

<sup>87</sup> Cf. the comments by Aṭarī, pp. 90f.

<sup>88</sup> Damanhūrī, *Kitāb 'Ayn al-hayāt fī 'ilm istinbāt al-miyāh*, pp. 59f. Aṭarī.

<sup>89</sup> Damanhūrī, *Kitāb 'Ayn al-hayāt fī 'ilm istinbāt al-miyāh*, p. 60.8-9 Aṭarī quotes the saying attributed to Plato: *uṭlubi l-'ilma yu'azzimka l-hāṣṣatu wa-ṭlubi l-māla yu'azzimka l-'āmmatu wa-ṭlubi z-zubda yu'azzimka l-ḡamī'* (“Seek knowledge and the educated will praise you; seek wealth and the people will praise you; seek an ascetic life and everybody will praise you!”).

<sup>90</sup> Damanhūrī, *Kitāb 'Ayn al-hayāt fī 'ilm istinbāt al-miyāh*, p. 60.11 Aṭarī. Cf. Plat., *Resp.* 435 B ff. and H. Daiber, “Griechische Ethik in islamischem Gewande. Das Beispiel von Rāḡib al-Isfahānī (11. Jh.)”, in B. Mojsisch – O. Pluta (eds.), *Historia philosophiae medii aevi: Studien zur Geschichte der Philosophie des Mittelalters. Festschrift für Kurt Flasch zu seinem 60. Geburtstag*, vols. I-II, Amsterdam – Philadelphia 1991 [1992] (pp. 181-92), pp. 182f.

<sup>91</sup> Perlman, *Shaykh Damanhuri on the Churches of Cairo* (above, n. 5). – The Arabic title is *Iqāmat al-ḥuḡḡa al-bāhira 'alā ḥadm kanā'is Miṣr wa-l-Qāhira*.

## Appendix

### *The contribution of a newly discovered manuscript Daiber Collection III, no. 110 (= s = D), dated 1286/1869 to the edition Rabat 1989*

We present here a collation of the edition by Muḥammad Bahġa al-Aṭarī with a carefully written manuscript (D), which enables us to correct and supplement the available edition in more than 30 cases. At the end of the chapter (*al-mabḥaṭ at-tānī*) on the inhabitable world (p. 56.16 Aṭarī) ms. D has a long additional passage. It precedes the “table” (*ġadwal*) with important oriental towns, their longitude, latitude, inclination, and direction. This table considerably differs from the print and is more complete. We have added a facsimile of this table at the end of our collation. Although ms. D has omissions, it can contribute to the reconstruction of the original in an essential manner. Ms. D shares several readings with the ms. used in the printed text. Its editor “corrected” them, although they are possibly original readings. Here, we should be aware that the author not always strictly kept to the wording of the sources he excerpted, and that he or the copyist were not always consequent in the application of the rules of the so-called classical Arabic. The manuscript used by the editor, ms. *Taymūriyya* 108 *aṭ-Ṭabīʿiyāt* in the Dār al-Kutub al-miṣriyya, was copied in 1146/1733 during the lifetime of Damanhūrī. It was checked and sporadically corrected by Damanhūrī. As the editor of this ms., Muḥammad Bahġa al-Aṭarī, informs us, “he forgot to correct many things”.<sup>92</sup> The edition by M.B. Aṭarī, together with his introduction and notes, is meritorious in providing the scholars with a basis for further research. An English translation is desirable; this will profit from a critical edition based on all manuscripts<sup>93</sup> and that will take into account the manifold sources and traditions, as analyzed in our contribution.

#### Concordance of the edition Aṭarī (A) and manuscript D (Daiber)

A p. 29.1-10 = D fol. 1 v / A 29.10-17 = D 2 r / A 29.17-30.4 = D 2 v / A 30.4-13 = D 3 r / A 30.13-31.1 = D 3 v / A 31.1-9 = D 4 r / A 31.9-17 = D 4 v / A 31.17-25 = D 5 r / A 31.25-32.7 = D 5 v / A 32.7-15 = D 6 r / A 32.15-23 = D 6 v / 33 (drawing)-4 = D 7 r / A 33.4-12 = D 7 v / A 33.12-34.2 = D 8 r / A 34.2-9 = D 8 v / A 34.10-18 = D 9 r / A 34.18-26 = D 9 v / A 34.26-35.8 = D 10 r / A 35.8-17 = D 10 v / A 35.18-25 = D 11 r / A 35.25-37.9 = D 11 v / A 37.9-17 = D 12 r / A 37.18-38.7 = D 12 v / A 38.7-17 = D 13 r / A 38.17-25 = D 13 v / A 38.25-39.9 = D 14 r / A 39.9-16 = D 14 v / A 39.16-40.8 = D 15 r / A 40.8-18 = D 15 v / A 40.18-27 = D 16 r / A 40.27-41.9 = D 16 v / A 41.9-17 = D 17 r / A 41.17-45.4 = D 17 v / A 45.4-12 = D 18 r / A 45.12-46.2 = D 18 v / A 46.2-11 = D 19 r / A 46.11-18 = D 19 v / A 46.19-27 = D 20 r / A 46.27-47.7 = D 20 v / A 47.8-16 = D 21 r / A 47.16-25 = D 21 v / A 47.25-48.5 = D 22 r / A 48.5-15 = D 22 v / A 48.16-25 = D 23 r / A 48.25-49.5 = D 23 v / A 49.5-14 = D 24 r / A 49.14-22 = D 24 v / A 49.22-50.7 = D 25 r / A 50.7-15 = D 25 v / A 50.16-51.4 = D 26 r / A 51.4-14 = D 26 v / A 51.15-21 = D 27 r / A 51.21-52.3 = D 27 v / A 52.3-12 = D 28 r / A 52.12-21 = D 28 v / A 52.21-53.2 = D 29 r / A 53.2-10 = D 29 v / A 53.10-17 = D 30 r / A 53.17-26 = D 30 v / A 53.26-54.7 = D 31 r / A 54.8-12 = D 31 v / A 54.12-55.4 = D 32 r / A 55.4-12 = D 32 v / A 55.12-24 = D 33 r / A 55.24-56.10 = D 33 v / A 56.10-16 = D 34 r-v (longer version) / A 56.17 (table)-58 (table) = D 35 r / A 59.1-10 = D 35 v / A 59.10-60.2 = D 36 r / A 60.2-9 = D 36 v / A 60.9-28 (end) = D 37 r (end).

<sup>92</sup> Aṭarī in the introduction to his edition, p. 13 below.

<sup>93</sup> Aṭarī, p. 13, mentions two more manuscripts in Cairo, among them a draft (*musawwada*) by Damanhūrī himself, in which the end and the two drawings of the wind rose, respectively of the seven climates, are missing.

Collation of the edition Aṭarī (A) with manuscript D (د)

اللهم اعانة ٢٩،٢: - د | العلماء ٢٩،٩: - د | الزاغوني ٢٩،١٠: الزعواني، د || وفرائد ٢٩،١٥: وفوائد، د (افضل قراءة) | الحال ٢٩،١٧: البال | ينبط ٣٠،٣: تينط (!) د | تتعرف ٣٠،١٠: يتعرف، اصل المطبوع ود | ثقيلًا ٣٠،١٧: ثقيلًا، د | لنشوءه ٣١،١: لنشوه، اصل المطبوع ود | وغاية ٣١،١: ونمائه، د (افضل قراءة) | معهما ٣١،٢: معهما، د (افضل قراءة) | دخل ٣١،٨: حل، د (افضل قراءة) | القاسر ٣١،٨: الغلس، د | فانه اذا نزل ٣١،١٦: فاذا ترك، د | يرى ٣١،١٦: - د | يخمد ٣١،٢٣: يحمل، د | لا تنطفئ ٣١،٢٥: يحيي، اصل المطبوع ود | حيث تنطفئ: حيث ينطفئ، اصل المطبوع ود | انطفأت ٣٢،١: انطفئت، اصل المطبوع ود | انطفأ ٣٢،٢: انطفئ، اصل المطبوع ود | انطفائه، المطبوع ٣٢،٤ ود: انطفائية، اصل المطبوع | وتدوره ٣٢،١٧: وتدّوه (!) د | الهيئة ٣٢،١٨: الهيئة (د) (افضل قراءة) | نعيش ٣٢،٢٠: - د | كما ترى ٣٢،٢٣: - د | المشرق .. المغرب، المطبوع في صورة الرياح ٣٣ ود: غير معرفين اصل المطبوع | وتكون ٣٣،٢: ويكون، اصل المطبوع ود | الماء ٣٣،٥: الاناء، د (افضل قراءة) | على ٣٣،٦: - د | نتائجها ذكورا والجنوبية تجعل اكثر ٣٣،١٠-٣٣،١١: - د | فجارّه ٣٣،١٢: فحارة (د) (افضل قراءة) | راكدا والجنوب تجعل الهواء كدرا وسطح البحر ٣٣،١٨: ٣٣،١٨: بالهامش د | ترى ٣٤،٣ و ٣٤،٥: يرى، اصل المطبوع ود | نفسه ٣٤،٧: + باردا فخرجت الحرارة من داخل الماء عند هبوب الجنوب والماء في نفسه، د (= ٣٤،٦ - ٣٤،٧) | وضياؤها ٣٤،١٢ المطبوع ود: وضيايها، اصل المطبوع | هذه ٣٤،١٤: هذا، اصل المطبوع ود | [ب] الاسحار ٣٤،١٥: الاسحار، اصل المطبوع ود | وهى ٣٤،١٦: لا هى، د | وكذلك ٣٤،١٧: ولذلك، اصل المطبوع ود | فتكون ٣٤،٢٢: فيكون، اصل المطبوع ود | [ف] اصلها ٣٥،١: اصلها، اصل المطبوع ود | متكاثفا ٣٥،٢: متكاشفا، د | فينقلب ٣٥،٣: فتنقلب، د | وانفجر [ت] ٣٥،٤: وانفجر، اصل المطبوع ود | حدث [ت] ٣٥،٥: حدث اصل المطبوع ود | غلظ [ت] ٣٥،٦: غلظ، اصل المطبوع ود | بمحاولة ٣٥،٨: بمجاولة، د | فتحدث ٣٥،٩: فيحدث، اصل المطبوع ود | احتيج ٣٥،١٥: فاحتيج، اصل المطبوع ود | تتخللها ٣٥،٢٣: يتخللها، اصل المطبوع ود | الهواء ٣٥،٢٤: الهوى، اصل المطبوع ود | ابرد ٣٥،٢٤: البرد، د (افضل القراءة) | الهواء ٣٥،٢٦: الهوى، اصل المطبوع ود | فيقبض ٣٥،٢٦: فينقلب، د (افضل قراءة؟) | الحكمية ٣٥،٢٨: + والله اعلم، د | ندى ٣٧،٧: نداء، اصل المطبوع ود (غلط مشترك) | الندى ٣٧،١٠: النداء، د (غلط) | وقد يستدل ٣٧،١٢: ومما يستدل، د (قارن ٣٨،١) | الهواء ٣٧،١٦: الهوى، اصل المطبوع ود | الماء ٣٧،١٧: الهوى (د) (غلط) | تارة ٣٧،١٩: - د | عنه ٣٨،٣: عنها (يعني عن الأرض)، اصل المطبوع ود | درية ٣٨،١٠: دراية (د) (افضل قراءة) | في الفلاحة النبطية ٣٨،١٣ (قال المحقق محمد بهجة الاثري ص ٧٤، تعليقة ٩٥ «كتبت هذه الجملة في حاشية الأصل بخط مغاير، وهو خط المؤلف») : - د | ويجعل ٣٨،١٥: ويجعله،

د (افضل قراءة) | داخل ٣٨،١٥ : داخله، د (افضل قراءة) | تحفر ٣٨،١٦ : يحفر، اصل المطبوع  
 ود | اسفنجة ٣٨،٢٤ : سفنجة، اصل المطبوع ود | الاسفنجة ٣٨،٢٥ : السفنجة، اصل المطبوع  
 ود | عدمه ٣٨،٢٧ : + والله اعلم، د | يمكن ٣٩،٤ : يكن، د (غلط) | توقد ٣٩،٤ : يوقد،  
 اصل المطبوع ود | لتفتقهها ٣٩،٥ : لتفتتها، د (افضل قراءة) | وتسهل ٣٩،٥ : ويسهل، اصل  
 المطبوع ود | يمسك ٣٩،٦ : يميل، د | وسموا ٣٩،٨ : رسموا، اصل المطبوع (انظر المحقق محمد  
 بهجة الاثري ص ٧٦، تعليقة ١٠٥) : وسعوا، د (افضل قراءة) | طالعا ٣٩،١١ : بعد « رديئا  
 » د | رديئا ٣٩،١١ : رديا، اصل المطبوع | منها ٣٩،١٨ : عنها، د | فيعمل ٣٩،١٨ : فيكمل،  
 د (افضل قراءة) | ويبتدأ ٤٠،١ : ويبتدي، اصل المطبوع ود | [في وقت الحفر] ٤٠،١ - ٤٠،٢ :  
 (في الهامش من اصل المطبوع) : - د | وليبتدأ ٤٠،٦ : وليبتدي، اصل المطبوع ود | شيئا ٤٠،  
 ٩ : شيئا، اصل المطبوع ود | مما ٤٠،١٠ : ما، اصل المطبوع | نفسه ٤٠،١٠ : + « ره » فوق  
 « نفسه »، د | رديئا ٤٠،١١ : رديا، اصل المطبوع ود | الرديء ٤٠،١٢ : الردي، اصل المطبوع ود  
 (مرات) | البئر، د والمطبوع ٤٠،١٢ : البير، اصل المطبوع | تدلى ٤٠،١٤ : يدلى، اصل المطبوع  
 ود | فيها ٤٠،١٥ (مرتين) : فيه، اصل المطبوع ود (غلط) | تحفر ٤٠،٢٧ : يحفر، يصل المطبوع  
 ود | وتملأ ٤١،٣ : وتملئ، اصل المطبوع ود | وتضرم ٤١،٣ : وتضطرم ، د | يلقي ٤١،٣ :  
 فيلقى، اصل المطبوع ود | وتغطي ٤١،٤ : وتغطا، اصل المطبوع | جار ٤١،٩ : جارئ،  
 اصل المطبوع ود | اليمنى ٤١،١٠ : اليمين، اصل المطبوع ود (غلط) | المعروف ٤١،١٢ : الاول،  
 د | تؤخذ ٤١،١٢ : يؤخذ، اصل المطبوع : يأخذ، د | توفر ٤١،١٦ : يؤمر، اصل المطبوع ود  
 (افضل قراءة) | تلبس ٤١،١٦ : يلبس، اصل المطبوع : بلبس، د (افضل قراءة) | منهنّ  
 ٤١،١٧ : معهن، د (افضل قراءة) | سرنايا ٤١،١٨ : شرتاي، اصل المطبوع : سرناي، د | منها  
 ٤١،١٩ : منه، اصل المطبوع | دراعا ٤١،٢٠ : ذراعاً، د (افضل قراءة) | المبحث ٤٥،١ :  
 - د | ذكر ٤٥،٢ : ذكره، د | كروي ٤٥،٤ (كذلك مرّات) : كرى، اصل المطبوع ود (أيضا  
 صحيح) | باردة ٤٥،٤ : بإرادة، د (غلط) | والتماسك ٤٥،٥ : والتماسل، د (غلط) | وبخارات  
 ٤٥،١٧ : وبخورات، د (غلط) | دهنية ٤٥،١٧ : وهنية، د (غلط) | تنعقد ٤٥،١٧ : ينعقد،  
 اصل المطبوع ود | فتحصل ٤٦،٤ (مرتين) : فيحصل، د | اودية وانهار ٤٦،٥ : الاودية والانهار،  
 د | فاذا ٤٦،٦ : فان، د (افضل قراءة) | مياهما ٤٦،٦ : مياها (غلط) | المسكون ٤٦،١١ :  
 المسكوت، د (غلط) | ما يجري، المطبوع ٤٦،١٢ ود والمقزويني «عجائب المخلوقات» : - اصل  
 المطبوع | تسقى ٤٦،١٥ (زيادة من المقزويني «عجائب المخلوقات») : - اصل المطبوع ود |  
 وتتراكم ٤٦،١٧ : ويتراكم، د | وينزل ٤٦،١٨ : ويترك، د (تحريف!) | وأنّ ٤٦،٢١ : واما، د  
 (افضل قراءة) | ولا ٤٦،٢٤ (قارن المقزويني «عجائب المخلوقات») : لا، اصل المطبوع ود | تهتزّ  
 ٤٦،٢٤ : فتهتزّ، اصل المطبوع ود | أجزاء ٤٦،٢٦ (قارن المقزويني «عجائب المخلوقات») : -  
 اصل المطبوع ود | البدن (بعد « ذلك ») ٤٦،٢٧ (قارن المقزويني «عجائب المخلوقات») : -

اصل المطبوع ود | بقاع ٤٧،١ : قبل « حركات » د ( غلط ) | وتخرج ٤٧،٢ : ويخرج، اصل المطبوع ود | تكون ٤٧،٣ : يكون، اصل المطبوع ود | يصير ٤٧،٦ : يصير، اصل المطبوع ود و المقزويني « عجائب المخلوقات » | وكانت ٤٧،٨ : او كانت، د | والقنوات ٤٧،١٠ : القفرات، د ( غلط ) | القوة ٤٧،١١ : النز، د ( افضل قراءة ) | تنصب ٤٧،١٨ : ينصب، اصل المطبوع ود | اختلطت ٤٧،١٩ : اختلط، اصل المطبوع ود | يصير ٤٧،٢٢ : فيصير، اصل المطبوع ود ( افضل قراءة ) | شفا ٤٧،٢٨ : شفا، اصل المطبوع : مشفا، د | كروي ٤٧،٣٠ : كري، د | [له] ٤٧،٣٠ : - اصل المطبوع ود | تكن ٤٧،٣٢ : يكن، اصل المطبوع ود | حدة ٤٧،٣٢ : حدية، د ( غلط ) | [تمنع من ذلك] ٤٧،٣٢ ( قارن المقزويني « عجائب المخلوقات » ) : - اصل المطبوع ود | [او شكل الارض] ٤٨،٥ ( من المقزويني « عجائب المخلوقات » ) : - اصل المطبوع ود | التضاريس ٤٨،٦ : النضار ليس، د ( غلط ) | العناية ٤٨،٨ : بالهامش د | [فيه] ٤٨،١٥ ( من المقزويني « عجائب المخلوقات » ) : - اصل المطبوع ود | [ذلك] ٤٨،١٧ ( من المقزويني « عجائب المخلوقات » ) : - اصل المطبوع ود | لفساد ٤٨،١٧ : لهلاك، المقزويني « عجائب المخلوقات » | نعت ٤٨،٢١ : نقع، اصل المطبوع ود | اعلى ٤٨،٢٧ : اعلا، اصل المطبوع ود | فينزل ٤٨،٢٨ : فنزل، اصل المطبوع | ماء ملح ٤٩،٩ : ما ملح، د | كرة ٤٩،١٤ : - د | فتقع ٤٩،١٩ : فيقع، اصل المطبوع ود | فيها ٤٩،٢٠ : فيه، اصل المطبوع ود | وتخرج ٤٩،٢١ : ويخرج، اصل المطبوع ود | فتسيح ٤٩،٢١ : فساحت، اصل المطبوع ود | فتحيا ٤٩،٢٢ : فتحيي، اصل المطبوع ود | العباد ٤٩،٢٢ : + والبلا، د ( اتم قراءة ) | فيها ٤٩،٢٣ : + من د ( اتم قراءة ) | لحقتها ٤٩،٢٣ : لحقها، اصل المطبوع ود | المبحث ٥٠،١ : - د | المعمور ٥٠،٢ : المغمور، اصل المطبوع | وطول البلد وعرضه ٥٠،٢ : - د | حدث ٥٠،٥ : حدث، اصل المطبوع ود | تقسم ٥٠،٦ : يقسم، د | لها ٥٠،٧ : له، د | رؤوس ٥٠،٩ : روس، اصل المطبوع : رؤس، د | توهمننا ٥٠،١١ : + أيضا، د | بقطبي ٥٠،١١ : بقطبي ٥٠،١١ : نقطتي، د ( غلط ) | حدث ٥٠،١٢ : حدث، اصل المطبوع ود | بنصفين ٥٠،١٣ : بقسمين، د | وتقطع ٥٠،١٦ : ويقطع، د | حدث ٥٠،١٧ : حدث، اصل المطبوع ود | دائمة ٥٠،١٧ : قائمة، د ( افضل قراءة ) | النقطة ٥١،٨ : المنطقة، د ( غلط ) | وثمانين ٥١،٩ : = جزء، د | وبضيق ٥١،٩ : ونصف، د | بمنزلة ٥١،١٩ : + ساقى، د ( افضل قراءة ) | يتقوس ٥١،٢٣ : قوس، د ( افضل قراءة ) | فيما بين نقطة التقاطع بين دائرة المعدل النهار ٥١،٢٣ - ٥١،٢٤ : - د | رؤوس ٥١،٢٥ : روس، اصل المطبوع ( مرات ) : رؤس ( مرات )، د | ينقسم ٥٢،٤ : منقسم، د | الاقليم ٥٢،١٢ : + الاول، د ( اتم قراءة ) | هنا ٥٢،١٥ : هناك، د | فلا ٥٢،١٦ : لا، د | والعرض عشرون درجة وسبع وعشرون دقيقة ٥٢،٢١ : - د | واثنان ٥٣،٢ : واثنان، اصل المطبوع ود | احدى ٥٣،٥ : احد، اصل المطبوع ود | واثنان ٥٣،٧ : واثنان، اصل المطبوع ود | واحد ٥٣،٩ : واحد، اصل المطبوع ود | واثنان ٥٣،١١ : واثنان، اصل المطبوع ود

| واثنان ٥٣،١٢ : واثنان، اصل المطبوع ود | لتندرج ٥٣،٢٠ : ليندرج، اصل المطبوع ود | ولا  
 ٥٣،٢٢ : ولا ما، د (اتم قراءة) | ستة ٥٣،٢٥ : عدة، د (افصل قراءة) | الملازمة ٥٣،٢٦ :  
 اللازمة، د | والاولى ٥٤،٦ : + وبين الاوسط، د (اتم قراءة) | فإنهما ٥٤،٧ : فانه، اصل المطبوع  
 ود | تحققه ٥٤،٧ : يحققه، د | «الأقاليم السبعة» في رسم الدائرة ص ٥٤ : - د | المسكون  
 ٥٥،٣ : + من الأرض، د (و القزويني «عجائب المخلوقات» و «رسائل اخوان الصفاء»، انظر  
 الاثري ص ٩٠) | النبطي ٥٥،٤ : القبطي، د (غلط) | وبابك ٥٥،٤ : وازدشير بن نابك د :  
 الاصح هو «واردشير بن بابك»، قارن «رسائل اخوان الصفاء»! انظر الاثري ص ٩٠) | ومن الأرض  
 مثلهن و(من) - هاهنا - للتعبض، يعني : خلق سبع سماوات ٥٥،١٩-٥٥،٢٠ : - د | واللوان  
 ٥٥،٢٤ : ولوان، اصل المطبوع : ولون، د | سماجة ٥٦،٩ : سماحة، د (غلط) | عليه ٥٦،١٢ :  
 : على اهله، د | التعرض ٥٦،١٢ : التعريض، د | في جدول ٥٦،١٦ : + وطريق اخذ المطلوب  
 منه إن تصنع سبابة اليسرى على الطول او العرض او الانحراف او الجهة في عرض الجدول وسبابة  
 اليمنى على بلد شئت في جدول أسماء البلاد وتمر بسبابتين هابطا بالاولى ومتياسرا بالثانية فما  
 التقيا عليه من الخانات ففيه المطلوب، مثاله اردنا طول تونس وعرضها وانحرافها وجهته ففعلنا ما  
 تقدم، فظهر ان طولها تسع وعشرون درجة وعرضها ست وثلاثون درجة وثلاثون دقيقة وانحرافها  
 مائة درجة وواحدة وثلاثون دقيقة وجهته شرقي جنوبي، وقس الباقي ومعلوم ان وسط الأرض لا  
 عرض له فيكون في الملتقى صفوان، د (ص ١١، ٣٤ - ٣٤ ب، ١٢) | ترى ٥٦،١٧ : + في  
 الصفحة الثانية، د (يتبع الجدول في ص ١٣٥، كذلك في المطبوع ص ٥٧) | جدول د هو اكمل  
 من جدول المطبوع، انظر صورة المخطوط في نهاية مقارنة المطبوع بالمخطوط د | [المبحث]  
 ٥٩،١ : الباب، د | مدحهم ٥٩،٨ : مدحتهم، د | تعالى ٥٩،١٥ : - د | ستين ٥٩،١٦ : - د  
 | الله ٥٩،١٧ : + تعالى، د | تنقصه (؟) ٦٠،٢ : تنقصه، د | انبياء ٦٠،٣ : انبياء، اصل  
 المطبوع ود | اولياءه ٦٠،٣ : اولياءه، اصل المطبوع | ربه ٦٠،٥ : بربه، د | والعفة  
 والعدل ٦٠،١١ : والعدل والعفة، د | قال مؤلفه . . . وعلى آله وصحبه وسلم ٦٠،٢٠-٦٠،٢٨ :  
 (النهاية) : تمت هذه الرسالة الساعة أربعة من ليلة الاحد الموافقة لثامن (؟) عشر رجب الفرد  
 الذي هو من شهور سنة ١٢٨٦ ست وثمانون ومائتين والف، وكاتبها محمد البربري غفر الله له  
 ولوالديه ولمشايقه ولجميع المسلمين امين، والحمد لله رب العالمين.



٤٦

البلاد	الطور	البحر	الانوار	السموات	البلاد	الطور	البحر	الانوار	السموات
وسط الاولى	ص ج	ج ج	قتر	شمال	مكة	س ج	كاك	قبلة	العالم
فاس	يه ج	ل ج	عدك	طيبه	سول	كدمه	ح م	شرق جنوب	
سوس اقصى	ه ل	كبج	صطم	طائف	سر	كامر	خط الزوال	شمال	
قسنطون ثنية	نظن	مه ج	لوع	انجيم	نل	كرل	ع ج		
تونس	كطج	لول	قال	مصر	نل	ل ج	ع ع		
قيروان	لاو	لام	فان	منية خصيب	نل	كر	ع بط		
طرابلس غرب	لبك	بل	ع ع	اسيوط	ندج	كوج	ع نظ		
برقه	صم	لج	سح م	فيوم	ندت	كح ل	سج		
دمشق	سج	لح ل	لاك	اسكندرية	فان	ل ع	ع ع		
طرابلس شام	نطج	لد	كح ل	دمياط	نخ	لاكه	نك		
صيدا	نطك	لحمه	كطمه	محله	ندل	لاو	يب م		
حمص	ساق	لح م	كدم	غزة	ندن	لبج	ع ج		
انطاكية	سال	لد	كامه	عسقلان	نك	لح ج	مدل		
حلب	سحج	لن	لوم	رمله	نهم	لب م	مه ج		
حماه	سل	لدك	كدلط	القدس	نوج	لبج	مزل		

Image 1. Facsimile edition of ms. Daiber Collection III, no. 110, fol. 35 r





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