Zeitschrift: Asiatische Studien : Zeitschrift der Schweizerischen Asiengesellschaft = Études asiatiques : revue de la Société Suisse-Asie

Herausgeber: Schweizerische Asiengesellschaft

Band: 75 (2021)

Heft: 2

Artikel: Alchemy in an age of disclosure : the case of an Arabic Pseudo-Aristotelian treatise and its Syriac Christian "translator"

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DOI: https://doi.org/10.5169/seals-956727

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Alchemy in an age of disclosure: the case of an Arabic Pseudo-Aristotelian treatise and its Syriac Christian "translator"

https://doi.org/10.1515/asia-2020-0040
Received September 14, 2020; accepted July 26, 2021; published online September 16, 2021

Abstract: This article examines a little-known and unstudied alchemical treatise, *The Epistle on Alchemy* (*al-Risāla fī l-ṣināʿa*) attributed to Aristotle, purportedly translated from Syriac into Arabic by the Nestorian bishop ʿAbdīshōʿ bar Brīkhā (d. 1318). In particular, I investigate the *Epistle*'s discourse on the concealment and revelation of alchemical knowledge. Like other occult sciences, alchemy was characterised by a marked concern for secrecy and frequently employed codes, or *Decknamen*, when discussing the "Noble Art." Yet the author of the *Epistle* consciously avoids such conventions, choosing instead to disclose its mysteries in an open and accessible manner, while making clear that secrecy would otherwise be necessary were the reader deemed unworthy. By engaging with scholarship in Islamic and Jewish occult science and esotericism, I show that the author of the *Epistle* navigates the boundaries between concealment and disclosure by framing his treatise as a private exchange between two foundational figures of philosophy and kingship: Aristotle and Alexander the Great. Based on a study of the *Epistle*'s sources and genre, I consider it possible that the work was not a translation of any Syriac original but a composition by ʿAbdīshōʿ himself and a product of the Arabic-speaking, Islamicate environment in which he lived.

Keywords: ʿAbdīshōʿ bar Brīkhā; alchemy; Christian Arabic literature; esotericism; occult science; Syriac Christianity

1 Introduction

Scholars have long acknowledged that the history of mediaeval Islamic science involved representatives from different faiths. This has been particularly noted in the so-called Translation Movement of the early Abbasid period, during which Christian thinkers such as Ḥunayn ibn Isḥāq (d. 873) distinguished themselves as

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translators of Greek philosophy and medicine.[1] However, so rarely do we think of non-Muslim actors in the history of Arabic science as anything more than "middlemen" whose role was limited to the recovery of older texts.[2] Nor do we tend to think about them as participants in shared modes of intellectual production in later periods of Islamic history. Rather than view Christians as mere brokers, the following attempts to reveal the entangled confessional identities that underlay scientific production in the Islamicate world long after the early Abbasid centuries. My contribution discusses a hitherto unstudied work on alchemy that emerged from an Arabic-speaking yet Syriac Christian milieu in the Middle Ages. In particular, I will examine its approach to intentional secrecy, a central feature of alchemy's esoteric and occult dimensions—"esoteric" because it posits hidden layers of meaning in texts, and "occult" because it was generally considered a hidden art, mastery over which was restricted to a small elite.[3]

In recent years, there has been an efflorescence of interest in occult subjects in the intellectual history of the Islamicate world. Long neglected and marginalised as sub-rational, topics such as astrology, magic, and alchemy have only recently been approached as objects of study in their own right, leading recent historians to rethink their broader significance within the intellectual landscape of the premodern Islamicate world. Matthew Melvin-Koushki has argued for the integration of Islamicate occultism in intellectual-historical discourse,[4] in much the same way as scholars have treated European Christian occultism in recent decades.[5] He has also highlighted the need to go beyond the polarities of material empiricism and religionism by studying the occult sciences on their own terms and appreciating their embeddedness in disciplines that today would be considered "rational." (Indeed, many of the Timurid and Ottoman astronomers and mathematicians

1 For an up-to-date bibliography on Ḥunayn's career as translator, see Strohmaier 2017. For the Syriac background to Ḥunayn's activity's, see Brock 1983 and Watt 2014.

2 Gutas 1998: 20–22 asserts that the role of Syriac Christians in producing Graeco-Arabic translations was secondary to that of Abbasid patronage, which he views as the real driving force behind the Baghdad "Translation Movement." However, Gutas's cursory treatment of Syriac Christian intermediaries greatly understates their contribution to Graeco-Arabic translation. For an important corrective, see doctoral thesis by Tannous 2010: 52–95. Here, Tannous convincingly shows that the Abbasid translation enterprise was the culmination of a Syriac-reading culture steeped in late antique modes of scholarship and pedagogy.

3 For the distinction between these two separate yet interconnected terms, I rely on Gardiner 2014: 57–69, 2017a: 409, and 2017b: 46.

4 Melvin-Kouski 2017: 287–290.

5 In the case of alchemy, see Newman and Principe 2002, who argue that many of the principles associated with the beginnings of modern chemistry can in fact be found in mediaeval alchemical discourse.

studied by Melvin-Koushki were themselves consummate occultists).[6] Meanwhile, Liana Saif has shown that the occult in Islamicate history must be understood along both intellectual and revelatory paradigms. That is to say, where once occult phenomena were understood in terms of natural causation, by the 13th century they had been integrated into Sufi doctrines wherein occult knowledge was "passively received by the human subject in a heightened and active state attentive solely to God."[7] Noah Gardiner has also highlighted the importance of occult knowledge in Sufi milieus, particularly with regard to the circulation of Bunian lettrism in Mamluk Egypt among practitioners who regarded it as a "secret exegetical tradition passed down from the prophets, imams, and saints."[8] Drawing fruitfully from the work of Moshe Halbertal (to whom we shall return), Gardiner reveals an interesting paradox in the dissemination of occult knowledge in the 14th century: Though restricted to elite circles, the conscious unveiling of lettrist magic caused it to be less secretive and more transparent, and thus esotericism, though notionally significant in this period, was no longer integral to the occult sciences in practice.[9]

In my contribution to this special issue, I will discuss similar developments in roughly contemporaneous non-Muslim circles, by introducing a hitherto neglected Christian author who wrote within the discursive framework of Arabo-Islamic alchemy. The author was a Nestorian churchman named ʿAbdīshōʿ bar Brīkhā (d. 1318). Known mostly to scholars of Eastern Christianity for his Syriac-language works, ʿAbdīshōʿ also wrote prolifically in Arabic, though studies on his Arabic works remain in their infancy.[10] The bulk of his writings are ecclesiastical in nature and cover apologetics, religious poetry, and canon law.[11] Few, however, have considered ʿAbdīshōʿ's legacy in light of the occult sciences, while only a handful of scholars have studied these genres as part of a broader history of Syriac

6 Melvin-Koushki 2020: 306–309 problematises two prevailing tendencies in the historiography of the Islamicate occult sciences: "Scientism," which privileges material empiricist approaches and is exemplified by such scholars as George Saliba and Ahmad Dallal; and "Religionism," represented by Henri Corbin, Mircea Eliade, and others who sought to redeem occultism from post-Enlightenment scorn by framing it as religious mysticism.

7 Saif 2017: 345. See also Saif 2015: 28–29 and 2019: 2.

8 Gardiner 2017a: 439. For previous studies on Islamic esotericism in exegetical contexts, particularly in the Twelver Shīʿī context, see Moezzi 1994.

9 Gardiner 2017b: 45–47. Gardiner points out that this unveiling may apply to astrology and lettrism but not Jābirian alchemy, for which esotericism remained an integral part. However, as I discuss below, from the 10th century onwards, many (though not all) Arabic alchemists tended to write in increasingly transparent terms.

10 For ʿAbdīshōʿ's Arabic works of theology, see Graf 1944–1953: vol. 2, 214–216; Landron 1994: ch. 7, 8, and 15; Teule 2012; Rassi 2015.

11 For overviews of these works, see Baumstark 1922: 323–325; Rassi 2015: 10–16.

Christianity.[12] Among ʿAbdīshōʿ's works falling under this category is a Pseudo-Aristotelian epistle on alchemy that he claims to have translated from Syriac into Arabic. The *Epistle on Alchemy* (*al-Risāla fī l-ṣinā ʿa*) is entirely unedited but having worked extensively on its manuscripts, I have encountered several features that shine a light on the history of alchemy and the occult sciences more generally.[13] In bringing these features to light, I wish to engage some of the recent interventions outlined above. As is the case for Muslim writers, aspects of occult science and esotericism can be found in mystical discourses among Syriac Christian writers of the 13th century. This is not to say that alchemy was primarily concerned with symbolic, spiritual transformations as opposed to actual chemical processes (an assumption that recent historians have revealed to be rooted in an occultophobic 19th-century historiography that sought to marginalise alchemy from both scholastic Aristotelianism and modern "science").[14] Rather, I wish to draw attention to the fact that by the 13th century, there was some epistemic overlap between Christian theology, asceticism, and the occult sciences, and thus ʿAbdīshōʿ's interest in alchemy should not be seen as exceptional.

As to the subject of intentional secrecy, this article will take note of past developments in Jewish as well as Islamic intellectual history. Moshe Halbertal has argued that a significant epistemic shift took place within literate Jewish circles in the 12th and 13th centuries. Disciplines that had once fallen outside the purview of the religious sciences—namely Kabbalah, astrology, and magic—were increasingly being brought to bear on theology and scriptural hermeneutics. In the realm of the latter, intellectuals posited that revealed texts possessed a "deep structure" that was not always accessible to the masses. Yet here, Halbertal posits a tension between concealment and disclosure: While practitioners were committed to the idea that precious knowledge must be concealed from the undeserving, they were nevertheless unable to transmit and disseminate such knowledge without some measure of transparency.[15] A similar tension was noted by Leo Strauss, in his controversial essay "The Literary Character of the *Guide for the Perplexed*" (originally published in 1952). Here, he contends that Maimonides (d. 1204) was an

12 See, for example, Berthelot/Duval 1893; Camplani 2000; Martelli 2014.

13 I am currently preparing an article on the *Epistle*'s manuscript tradition (forthcoming in a special issue of *Journal of Islamic Manuscripts*). For now, I cite the work from three manuscripts: Two in Garshūnī (i.e., Arabic written in the Syriac alphabet): CFMM 554, p. 74–156 and USJ 252; and one in the Arabic script: Gotha A 85. For information about USJ 252, see Cheikho 1922: 158–159. For Gotha A 85, see Pertsch 1878: vol. 1, 150. To my knowledge, CFMM 554 has not been catalogued but is digitally available on open access from the Hill Museum & Manuscript Library: https://w3id.org/vhmml/readingRoom/view/124224 (last accessed: 12 March 2020).

14 See Newman/Principe 1998; Newman 2011.

15 Halbertal 2007: 1–5.

esoteric writer because, in his *Guide*, he discusses certain passages of the Torah with Joseph ben Yehuda al-Sabtī, the work's addressee, while announcing that Talmudic Law forbids their explanation to all but the worthiest sages. Thus, by adopting a certain epistolary style, Maimonides, as Strauss would have it, was justifying his transgression by framing his treatise as a private exchange.[16] More recently, Omer Michaelis has convincingly argued that Maimonides's ethos of revelation must be understood against a backdrop of mediaeval Islamic thought, namely from the writings of Avicenna (d. 428/1037) and Abū Ḥāmid al-Ghazālī (d. 505/1111), each of whom conveyed knowledge through epistolary models of disclosure to readers they deemed worthy.[17]

As I will make clear below, it is possible to situate the *Epistle*'s approach to intentional secrecy within a similar paradigm. While the author accepts—and even argues for—the need to conceal alchemy, he nevertheless composes a work that explains its principles and operations in accessible terms. To this end, he engages with the Pseudo-Aristotelian genre of the epistolary romance, that is, letters of advice attributed to Aristotle to his pupil Alexander the Great—a genre that was popular among both Christian and Muslim audiences, in various forms. In other words, the author of the *Epistle* seeks to render the mysteries of the "Art" accessible while observing the literary conventions of the genre by framing his treatise as a secret exchange between Aristotle and Alexander. In doing so, he exhibits what has been previously noted in the mediaeval Jewish and Islamic contexts: That the disclosure of hidden knowledge was frequently (and perhaps paradoxically) embedded in the language and logic of concealment. I will also demonstrate that ʿAbdīshōʿ's "translation" of the *Epistle* serves an apologetic purpose: To refute the accusation that the use of obscure language—often in the form of codes (or *Decknamen*)—served only to deceive the minds of the gullible. By presenting his

16 Collected in Strauss 1988: 38–94, here 49. See also Halbertal 2007: 63–64 and Green 2013: 42–53. Alongside Maimonides, Strauss viewed al-Fārābī and Averroes as Arabic thinkers who presented their philosophy esoterically to avoid persecution, on the one hand, while maintaining public obedience to the law, on the other; on this "instrumental esotericism," see Halbertal 2007 149–155. According to Strauss, esotericism was necessary due to what he perceived as an irreconcilable dialectical tension between philosophy and revelation; see, for example, Strauss 1988: 95–141 regarding Judah Halevi's *Kitāb al-Kuzarī*. More recent studies have shown that in the case of Arabic philosophy, little evidence exists for such a tension. On the contrary, by the 12th century, philosophical demonstration was becoming increasingly naturalised within speculative theology (*kalām*); see Michot 1993; Shihadeh 2005; Endress 2006. Conversely, key concepts in the thought of al-Fārābī and Averroes have been shown to derive from Islamic theology and jurisprudence; see essays in Adamson 2019. For critiques by scholars of Islamic thought aimed specifically at Strauss, see Michaelis 2020: 380, n. 3.

17 Michaelis 2020: 385–393. Cases include Avicenna's *Risāla fī aḥwāl al-nafs* and al-Ghazālī's *Mishkāt al-anwār*.

readers with a work that disambiguates the theories and operations of alchemy, ʿAbdīshōʿ makes an implicit case for its necessity and truthfulness, and in doing so follows in the footsteps of earlier practitioners. A close examination of ʿAbdīshōʿ's legacy will therefore reveal a hitherto unappreciated level of active engagement in the history of Islamicate alchemy by non-Muslim social actors. Moreover, I wish to show that ʿAbdīshōʿ's mediation of the *Epistle* was in no way passive. Both the main text and the preface draw as heavily from Arabo-Islamic alchemical lore as they do from Syriac Christian sources, despite purporting to derive from an ancient Greek original. Based on this evidence, I consider whether the *Epistle* is in fact an original Arabic composition by ʿAbdīshōʿ himself.

2 ʿAbdīshōʿ bar Brīkhā and esotericism in Syriac Christian thought

Before delving into the text of the *Epistle*, it is first necessary to say something about ʿAbdīshōʿ's life, works, and the role of the occult sciences in his thought more generally. By doing so, I wish to demonstrate that his involvement in alchemy should be considered in light of a broader interest in occult subjects that permeated important aspects of the religious sciences.[18] While little is known about his early years, ʿAbdīshōʿ first appears as bishop of Sinjār (in modern day north-eastern Iraq) in 1279/80, and again in 1285/6. It was during his time as bishop that he worked on the *Epistle*.[19] Between 1284/5 and 1290/1, he was promoted to the Metropolitan See of Nisibis and Armenia under the Catholicos-Patriarch Yahbalāhā III, and in February 1318, he was present at the election of Yahbalāhā's successor, Timothy II, and died in November of that year.[20] The entirety of ʿAbdīshōʿ's life was spent under the suzerainty of the Mongol Il-khans, who ruled over much of Iran, Mesopotamia, north-eastern Syria, and southern Anatolia between 1256–1336.[21]

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18 I define the "religious sciences" as subjects pertaining to ecclesiastical instruction such as Biblical exegesis and systematic theology—as opposed to subjects such as philosophy, mathematics, geometry, and, indeed, alchemy. One finds such distinction in mediaeval Syriac writers who make a clear epistemological distinction between the "ecclesial sciences" (*yulpānē ʿedtānāyē*) and the "profane sciences" (*yulpānē barrāyē*). This is outlined in detail by a Syriac contemporary of ʿAbdīshōʿ, Gregory Barhebraeus (on whom more below); see Barhebraeus 1898a: 116–118 and 1898b: 104–106. For earlier authors who employed this distinction, see Rassi 2019: 355–356.

19 For more on this crucial point regarding authorship and dating, see Section 2 below.

20 These facts are summarised by Dauvillier 1953: 92–93; Teule 2012: 750; Rassi 2015: 49.

21 For the history of Syriac Christians under Mongol rule, see Fiey 1975.

Flourishing as he did under Il-Khanid rule, it is not wholly surprising that a Syriac Christian churchman like ʿAbdīshōʿ would have been interested in the occult sciences. We know that the Il-khans Hülegü (r. 1256–1265), Abāqā (r. 1265–1282), and Arghūn (r. 1284–1291) valued practitioners of magic, astrology, and alchemy—and it was not uncommon that such practitioners belonged to the religious classes.[22] We learn of one such case from an older contemporary of ʿAbdīshōʿ, the historian and polymath Gregory Abū l-Faraj Barhebraeus (d. 1285/6), maphrian (or eastern prelate) of the Syrian Orthodox Church. In his Syriac *Chronography*, Barhebraeus reports that in 1263, during the Mongol advance on northern Iraq, the inhabitants of Jazīrat ibn ʿUmar (Gāzartā in Syriac) narrowly avoided death after the city's Nestorian bishop Ḥnānīshōʿ professed knowledge of alchemy (*ʾummānūṯā d-ḵīmīya*), promising Hülegü as much gold as he wanted.[23] It was for this reason that the Mongols later appointed Ḥnānīshōʿ as governor of Jazīrat ibn ʿUmar. However, in 1268, Ḥnānīshōʿ was executed by royal decree, his head placed above the gates of the city. The precise reason for his execution is unclear; perhaps hinting at the bishop's alchemical activities and political ambitions, Barhebraeus simply tells us that "this is the wicked end that came to he who thrust himself into worldly affairs" (*hāḏē ḥarṯā bīštā hwāṯ leh d-ʾaʿʿel naṗšeh b-suʿrānē ʿālmānāyē*)."[24] Given that the Ḥnānīshōʿ's political appointment was due to his claiming knowledge of chrysopoeia, such "worldly affairs," in Barhebraeus's mind, may have extended to alchemy. For in his *Ecclesiastical Chronicle*, Barhebraeus records an earlier episode involving Isaac, bishop of Ḥarrān and later Syrian Orthodox patriarch of Antioch. Here we are told that after witnessing a "wandering monk" (*dayrāyā ʾaḵsnāyā*) transmute lead into gold, Isaac was "struck by a desire for the Art" (*blaʿ b-regṯāh d-ʾummānūṯā*) and murdered the monk in order to obtain the secret of the elixir. As a consequence, Isaac grew close (*ʾeṯbaytī*) to Abū Jaʿfar, the governor of al-Jazīra and future Abbasid caliph, al-Manṣūr (r. 754–775) who later elevated Isaac to the office of patriarch.[25] Barhebraeus himself appears to have had little regard for alchemy. In the

22 On the early Il-Khans' enthusiasm for alchemy and astrology, in addition to astronomy and mathematics, see Aydın Sayılı 1988: 203; Rashīd al-Dīn 1998: vol. 2, 513 (cited in Amitai 2013: 15) and vol. 3, 664–669.

23 Barhebraeus 1890: 520 (text) and 1932: 443 (trans.).

24 Barhebraeus 1890: 525 (text) and 1932: 448 (trans.).

25 Barhebraeus 1872: vol. 1, 315–317. Earlier West Syrian sources, on which Barhebraeus relies, add that Isaac was later be put to death by al-Manṣūr for failing to produce the promised gold and silver. See *Chronicle of Zuqnin* (Chabot 1952: 210–211); Michael the Syrian 1899–1910: vol. 2, 523–524 (trans.), vol. 4, 473–475 (trans.). The veracity of this story is uncertain and perhaps arose from the fact that Isaac's elevation to the patriarchate was due solely to his closeness to secular power. It is for this reason that he is remembered as "Isaac the unlawful" (*lā nāmōsāyā*) by Barhebraeus and "Isaac the impious" (*ʿawlā*) by Dionysius of Tel Maḥrē (d. 845) via Michael the Syrian (d. 1199).

meteorological section of his philosophical *summa* entitled the *Cream of Wisdom* (*Ḥēwaṯ ḥeḵmṯā*), he refutes alchemy based on earlier critiques by Avicenna and subsequent Arabic-writing thinkers.[26] Thus, just as we might expect from any linguistic and cultural milieu, attitudes towards the "Art" varied among Syriac Christian thinkers in the 13th century.

Aside from his *Epistle*, ʿAbdīshōʿ's interest in esoteric secrecy—which, as I pointed out above, was an intrinsic part of the occult sciences—is attested to in his theological oeuvre. One such work is his explanation of an enigmatic poem on the divine economy by an earlier Nestorian writer, Simon of Shaqlāwī (fl. early 13th century), in response to a request from a priest named Abraham. At the beginning of this work, ʿAbdīshōʿ explains the value of riddles and enigmas:

> [...] ܡܘܕܥ ܐܢܐ ܠܟ ܘܠܟܠܗܘܢ ܪ̈ܚܡܝ ܝܘܠܦܢܐ ܕܐܘܚ̈ܕܬܐ ܘܦܠܐ̈ܬܐ ܕܐܡܝܪ̈ܢ ܠܚܟܝ̈ܡܐ ܡܛܠ ܬܠܬ ܥܠ̈ܠ ܐܬܥ̈ܒܕܘ. ܚܕܐ ܡܢ ܥܠܬܐ ܕܢܩܦܘܢ ܡܝܬܪܘܬܐ ܠܗܘܢܐ. ܕܒܝܕ ܥܛܠܘܬܗܘܢ ܢܬܥܡܩ ܠܡܕܥ ܩܛܝ̈ܢܬܐ. ܘܠܡܓܠܐ ܣܬܝ̈ܪܬܐ. ܕܬܪ̈ܬܝܢ ܕܝܢ ܕܠܐ ܠܘܬ ܡܢ ܕܠܐ ܫܘܐ ܢܡܛܐ ܣܘܟܠܐ ܡܘܬܪܢܐ. ܕܬܠܬ ܗܘܐ ܕܒܝܕ ܗܠܝܢ ܬܬܒܚܪ ܫܘܒܗܪܬܐ ܕܐܝܠܝܢ ܕܣܒܪܝܢ ܒܢܦ̈ܫܗܘܢ ܕܚܟܝ̈ܡܝܢ ܘܡܣܬܟܠܝܢ. ܘܩܕܡܝܐ ܡܢ ܡܫܟܚܢܐ ܕܡܘܬܪܢܘܬܐ ܗܕܐ ܦܝܠܘܣܘܦܐ ܦܝܬܓܘܪܘܣ ܦܝܠܘܣܘܦܐ. ܘܡܢ ܒܬܪ ܟܪ̈ܘܙܐ ܡܢ ܡܠܦ̈ܢܐ ܥܕ̈ܬܢܝܐ ܐܘܓܪܝܣ ܒܩܢܛܘܪ̈ܝܘܗܝ. ܡܪܩܘܣ ܒܩܦܠܐ̈ܘܗܝ. ܘܬܐܘܕܘܪܘܣ ܒܦܘܫ̈ܩܘܗܝ. ܘܐܚܪ̈ܢܐ ܕܐܝܟܢܐ܀

> [...] I make known to you and all lovers of science that the riddles (*ʾuḥdāṯā*) and allegories (*pellāʾṯā*) said by the sages were composed for three reasons. Firstly, that they might connect virtue with the intellect, so that through their difficulty [the intellect] might delve deeply (*neṯʿammaq*) in order to comprehend subtleties (*l-meddaʿ qaṭṭīnāṯā*) and reveal concealed things (*l-meḡlā sṯīrāṯā*). Secondly, so that the undeserving do not attain profitable knowledge (*d-lā šāwē nemṭē sukkālā mawtrānā*). And thirdly, so that through these things the ostentation of those who regard themselves as wise and intelligent might be tested. The first to make this useful discovery was the philosopher Pythagoras, and, among the learned ecclesiastical authorities [who came] after the Evangelists, Evagrius [Ponticus] in his *Centuries*, Mark [the Monk] in his *Kephalaia*,[27] Theodore [of Mopsuestia] in his commentaries, and others.[28]

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[26] Barhebraeus 2004: 108 (text), 109 (trans). Barhebraeus' argument is a classically Avicennan one, holding that a body's transmutation is possible only with regard to its accidents (e.g., colour, smell, etc.). However, even when it appears to the senses that a body is entirely altered from its previous state, its essence and species nevertheless remain the same. Barhebraeus concludes that contrary to what the alchemists (*pallāḥay kīmīya*) allege, pure transmutation is impossible because while a base metal might have the appearance of gold, its essence remains that of a base metal. On Avicenna's influential refutation of alchemy and its afterlife, see Anawati 1996: 877; Principe 2013: 47–49. On Barhebraeus' post-Avicennan sources for his refutation of alchemy (e.g., Abū l-Barakāt al-Baghdādī's *Muʿtabar*), see Takahashi 2003: 270, n. 60.

[27] Perhaps lesser known than Evagrius, Mark the Monk (aka Marcus Eremita, d. ca. 430) was a Greek ascetic writer whose works had long been available in Syriac translation. See and Kessel/Pinggéra 2011: 172–173.

[28] Vat. sir. 187, fol. 1v–2v. This manuscript is digitally available on open access from the Vatican Apostolic Library website: https://digi.vatlib.it/view/MSS_Vat.sir.187 (last accessed: 12 March 2020).

A number of features in the above passage bear closer examination, particularly where esoteric secrecy is concerned. Firstly, the principle that riddles and enigmas lead the reader to knowledge was also present among mediaeval Muslim writers: For instance, the grammarian and literary theorist Abū Bakr ʿAbd al-Qāhir b. ʿAbd al-Raḥmān al-Jurjānī (d. 471/1078 or 474/1081) favoured the use of riddles (*alghāz*) because they test the reader's knowledge, prompting him/her to connect with the text through careful interpretation (*taʾawwul*) rather than at first sight.[29] Second is the mention of Pythagoras as the originator of secrecy alongside ecclesiastical authorities. Pythagoras had long been known as a master of enigma.[30] In addition to his *Golden Sentences*, a Syriac-reading audience could also access his *Symbola*, which contains several riddles and their explanation.[31] Indeed, ʿAbdīshōʿ himself wrote riddles on theological themes in his poetic *opus magnum*, the *Paradise of Eden* (*Pardaysā da-ʿḏen*).[32] We also know that ʿAbdīshōʿ composed a work entitled *Secrets of the Greek Philosophers* (*[ʾ]Rāzē d-pīlāsōpē yawnāyē*).[33] Although this work is now lost, it is possible that ʿAbdīshōʿ had in mind Greek authorities associated with Hermetic and gnomic traditions that had found their way into the both the Syriac and Arabic tradition through translations and pseudo-epigraphs. Support for this is found in ʿAbdīshōʿ's *Paradise of Eden*, the fourth chapter of which comprises an acrostic poem on wisdom. In the first two stanzas, ʿAbdīshōʿ states that

> In the beloved matter of wisdom,
> There was study and investigation
> By champions of great renown,
> Men of discernment and grace.[34]

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29 Abu Deeb 1971: 66.

30 On the secretiveness attributed to Pythagoras' teachings, see Burket 1972: 178–179, 454. For an opposing view, which believes the secrecy of Pythagoras' circle as a late antique construct, see Zhmud 2012: 150–150. For the secretive nature of Pythagoras' teachings in the Arabic gnomological tradition, see Cottrell 2016a: 484–485. For Pythagoras as an authority in Arabic alchemy, a science concerned with intentional secrecy, see Sezgin 1971: 45–46; Anawati 1996: 199; Principe 2013: 41–44.

31 See Arzhanov 2019: 34, 84–90.

32 ʿAbdīshōʿ bar Brīkhā 1928: 28–31. The poem is entitled *ʾUḥdāṯā ʿedtānyāṯā d-meštaḡnyān ba-hpuḵyā (Ecclesiastical Riddles that Dispel Doubt)*.

33 ʿAbdīshōʿ lists this work among his own at the end of his *Index of Ecclesiastical Authors* (on which more below); see ʿAbdīshōʿ bar Brīkhā 1986: § 1171–1173.

34 ʿAbdīshōʿ bar Brīkhā 1928: 31–32: *b-šarbā d-ḥeḵmṯā rḥīmā/hwā (h)wā hergā wa-ḇʿāṯā/l-ḡa(n) bbārā da-šmāhāṯā/(ʾ)nāšā d-ṭaʿmā w-ṭaybūṯā*. The reference to "champions of great renown" is evocative of the Nephilim of Gen 6:4, whose offspring are described as "mighty men which were of old, men of renown" (Peshitta version of the Syriac Bible: *ga[n]bbārē d-men ʿālam ga[n]bbārē da-šmāhāṯā*). In the later books of Enoch, the Nephalim were born of fallen angels whose co-mingling

In a gloss to these verses that he wrote later in life, our author explains that these "champions" of wisdom are the Biblical prophets, the Apostles, the Greek sages (*ḥakkīmē d-yawnāyē*), and the ascetic Fathers (*ʾaḇāhāṭā ʾīḥīḏāyē*). Of the Greek sages, ʿAbdīshōʿ lists Socrates, Plato, Aristotle, and Agathodaemon—all of whom he notes for their esotericism and ascetic piety:

> They revealed hidden things (*glaw kasyāṭā*), investigated profound matters, followed a chaste and divine way of life (*ʾeṭdabbar[w] naḵpāʾīṭ wa-ḥyaw ʾalāhāʾīṭ*), practiced [ascetic] silence (*wa-nṭar[w] šeṭqā*), and meditated on the afterlife.[35]

The idea that the ancient philosophers—particularly Socrates—were singular in their ascetic virtue had long been present in Greek, Syriac, and Arabic gnomological literature.[36] As to the esoteric character of their teachings, ʿAbdīshōʿ's mention of Agathodaemon—a Graeco-Egyptian authority associated mainly with alchemy[37]—suggests that he viewed these philosophers as bearers of occult scientific wisdom. That these figures are said to have "revealed hidden things" also suggests that ʿAbdīshōʿ was tapping into an Islamicate tradition of esotericism that intersected with the occult sciences. For example, the famous Muslim alchemist Jābir ibn Ḥayyān (fl. 9 or 10th century), whose identity scholars have long debated, counts Socrates among the fathers and masters of the alchemical art.[38] Indeed, like Socrates and Agathodaemon, works attributed to Plato and Aristotle on occult scientific subjects ranging from physiognomy to alchemy were also known throughout the Islamicate world.[39]

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with humans caused iniquity in humankind, while other exegetical traditions associated them with the illicit progeny of the righteous Seth and the wicked Cain (Reed 2005: 221–226 and Reeves 2016: 201–202). By ʿAbdīshōʿ's time, the equation of Enoch with Hermes (via Idrīs), a key occult scientific authority, was already well-established; see Van Bladel 2009a. On the Syriac reception of the *Book of Enoch* (preserved only in Ethiopic and fragmentarily in other languages), see Brock 1968. I am grateful to Nicolas Harris for drawing my attention to these parallels.

35 ʿAbdīshōʿ bar Brīkhā 1928: 35.

36 Pietruschka 2019: 529–531. For Socrates in mediaeval Arabic gnomologia translated—and developed from—Greek models, see Gutas 1975: 84–115.

37 Anawati 1996: 859–860; Strohmaier 2008; Forster 2017: 41–44.

38 Kraus 1942–1943: vol. 2, 52–54; Wakelnig 2019: 563. Further occurrences of Socrates in Arabic alchemical literature will be examined below.

39 Aristotle, Plato, and Socrates as pseudo-epigraphic authorities on alchemy will be discussed below. Perhaps the best-known work on physiognomy attributed to Aristotle in the Arabic tradition is the *Sirr al-asrār* (translated into Latin in the 12th century as *Secretum Secretorum*); see Hoyland 2005 and 2006; Forster 2016 and 2019. For the figure of Socrates in the Arabic tradition, where his status as an occult authority may have been due to the Ḥarrānian Sabians' projecting of their Hermetic teachings onto him, see Alon 1991; Wakelnig 2019. Surviving fragments of Agathodaemon's alchemical works in Greek are surveyed by Taylor 1930:118; on his reception in the

Turning our attention back to ʿAbdīshōʿ's explanation of Simon of Shaqlāwī's poem, we should also note the claim that the mystical Fathers and Bible commentators (here Theodore of Mopsuestia, d. 428) were the first among Christians to employ enigma. While interpretations of the Bible since late antique times had long varied between literal and allegorical readings,[40] it was uncommon for Syriac writers to ascribe intentional secrecy to exegetical authorities such as Theodore, the Biblical "Interpreter" *par excellence* of the Nestorians. Yet the claim that the Church Fathers employed this strategy is not entirely unprecedented. In his *Ethicon*, Barhebraeus defines two kinds of ecclesiastical science: One that is restricted to a select few (*dīlānāy ba-ḡbayyā*) and another that is general to all who are called upon (*gawwānāy l-ḳolhōn qrayyā*), the former including books by the ascetic doctors of the Church (*malpānē ʾīḥīḏāyē maḏbrāyē*).[41] Barhebraeus wrote a commentary on one such work: The so-called *Book of the Holy Hierotheos* by the 6th-century ascetic writer Stephen bar Ṣudaylī.[42] In his preface, Bar Ṣudaylī cautions his reader against divulging "hidden and concealed mysteries (*[ʾ]rāzē hānōn daṣṭīrē wa-ḡnīzē*) to those of impure minds (*hawnē hānōn d-lā dḳēn*)," thereby giving what is holy to dogs (Mt 7:6).[43]

Similarly, elsewhere in ʿAbdīshōʿ's theological oeuvre, we encounter the notion that the mystical Church Fathers were proponents of epistemic elitism. In an Arabic *summa theologica* entitled the *Precious Pearl* (*al-Durra al-muthammana*), ʿAbdīshōʿ produces a word-for-word citation of an earlier Christian authority, the Baghdad peripatetic ʿĪsā ibn Isḥāq ibn Zurʿa (d. 1008). Here, Ibn Zurʿa and ʿAbdīshōʿ each seek to explain why Christians refer to the three Persons of the Trinity as "Intellect, Intellecting, and Object of Intellect" as opposed to simply "Father, Son, and Holy Spirit":

> We say that [our terms for the three Persons], in which there are two advantages (*fāʾidatān*), come from the Lord of the [Christian] Law (*rabb al-sharīʿa*). Firstly, He meant them as a code

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Islamicate world, see Anawati 1996: 859–860 and Strohmaier 2008. A similar ancient lineage—this time consisting of Agathodaimon, Hermes, Homer, and Aratus—occurs in the Ikhwān al-ṣafāʾ's epistle (52a) on magic; see Ikhwān al-ṣafā 2011: 45 (text), 117 (trans.).

40 Young 1997; O'Keefe 2000. In the 12th century, the Syrian Orthodox writer Dionysius bar Ṣalībī (d. 1171) systematises both approaches in his commentary of the Old Testament, in which he provides practical (*suʿrānāʾīṯ*) and spiritual (*rūḥānāʾīṯ*) readings. On this method and its late antique antecedences, see introduction to edition and translation of Dionysius' commentaries on Psalms 73–82 by Ryan 2004: 26–52.

41 Barhebraeus 1898a: 317. We should also note that the idea of two sets of teachings, one for the elite and one for the masses, has a long history in the Greek literary tradition; Fraenkel 2001: 30.

42 For extracts of this work and Barhebraeus commentary, see Marsh 1927.

43 Marsh 1927: 1 (text), 1 (trans.).

(*ramz*) for those concepts (*maʿānī*), so that the ignorant and whoever ought to be kept away from the noble and divine sciences do not discover them. Rather, discovering [their meaning] should be by way of a triad of codes (*tathlīth al-rumūz*), not their literal meaning. Thus, the disclosure of mysteries (*kashf al-asrār*) is forbidden to them. Our Lord hinted at this by saying: "Do not give what is holy to the dogs, nor cast your pearls before swine, lest they trample them under their feet, and turn and tear you in pieces" (Mt 7:6). The pure Theologus (*scil.*, Gregory of Nazianzus) composed a treatise on how it is not necessary to speak of divine matters at all times and with every person.

Secondly, the holy Dionysius [the Areopagite] mentioned: "If divine matters are expressed in approximate terms (*al-ʿibārāt al-qarība*), then those searching for truths will be motivated to examine them, their causes, and the way in which it is possible to express them through such metaphors. Due to the intensity of their study, therefore, the knowledge of those investigating these things becomes certain, trustworthy, and free of doubt."[44]

Resting his argument on patristic and scriptural authority (namely, Gregory Nazianzus, Pseudo-Dionysius the Areopagite, and Christ's statement in Mt 7:6), ʿAbdīshōʿ asserts that the function of secrecy is to bring the seeker closer to divine knowledge. Indeed, such terms in Arabic as *ramz* ("symbol"), and *kashf* ("disclosure") were common to both mystical and occult discourses, as has been shown in the contexts of both Sufism and alchemy.[45]

In the 13th century, ʿAbdīshōʿ was not alone in his engagement with such themes in Christian contexts. Ignatius bar Wahīb (d. 1332), a Syrian Orthodox contemporary, wrote two treatises on the alphabet, one in Syriac and one in Arabic. These treatises assign metaphysical and numerical value to each of the twenty-eight letters of the Arabic alphabet and applies several Biblical typologies to them.[46] In the Arabic version, Ignatius cites the famous 10th century fraternity of Muslim philosophers known as the Ikhwān al-ṣafāʾ (Brethren of Purity), while making arguments similar to ʿAbdīshōʿ's regarding the value of hidden knowledge. According to Ignatius, and in line with many Arabic lettrist thinkers, God locked away (*khazana*) mysteries in the letters of the alphabet so that diligent seekers of noetic science (*al-mujāhidūn fī l-ʿulūm al-ʿaqliyya*) might comprehend and reveal them to their trusted followers.[47] Thus, like ʿAbdīshōʿ, Ignatius believed that secretive language has its place in learning and must be studied carefully in

44 Ibn Zurʿa 1929: 10–11; ʿAbdīshōʿ bar Brīkhā 2018: ch. 4, § 103–109. See also Watt 2011: 256.

45 For concepts of *ramz, kitmān*, and *kashf* in Arabic alchemy and their intersection with Islamic mysticism and Imāmī Shīʿism, see Lory 1989. On these terms in Imāmī Shīʿism more generally, see Amir-Moezzi 1994, 81, 129, 254.

46 On this work and information about Bar Wahīb's life, see Barṣawm 1987: § 245. Critical editions and translations of both versions are forthcoming from Samuel Noble.

47 ASOM 63, fol. 61v–62r, digitally available on open access from the Hill Museum & Manuscript Library: https://w3id.org/vhmml/readingRoom/view/136302 (last accessed: 12 March 2020). On the Ikhwān al-ṣafāʾ's lettrism, see Lory 2004: 65–74.

order to unveil precious knowledge. Thus, in the Syriac Christian milieu of ʿAbdīshōʿ's time, as in previous centuries, there existed an intellectual space wherein esotericism could just as easily be applied to theological and mystical discourses as it could to other subjects.

3 Pseudo-Aristotle's *Epistle on Alchemy*: authorship, genre, and the question of translation

Having discussed the place of occult knowledge in mediaeval Syriac Christianity, we now turn to the *Epistle on Alchemy*. Our first indication of ʿAbdīshōʿ's involvement with this work comes from the text itself. In the preface (*muqaddima*) of the *Epistle*, the author refers to himself as "I, the feeble ʿAbdīshōʿ, bishop of Sinjār" (*anā l-ḍaʿīf ʿAbdīshūʿ usquf Sinjār*).[48] The name "ʿAbdīshōʿ" appears elsewhere in the *Epistle*'s manuscript tradition: Following the preface, the beginning of the work opens with "next, the treatise, being the work of the translator of the *Epistle*, ʿAbdīshōʿ, the unworthy (lit. "shallow") of Sinjār" (*thumma l-maqāla wahiya ʿamal mufassir al-Risāla ʿAbdīshūʿ al-ḍaḥl bi-Sinjār*).[49] The first to connect ʿAbdīshōʿ bar Brīkhā with the prefacer of the *Epistle* was Louis Cheikho, in his catalogue entry for USJ 252, one of the text's Garshūnī witnesses.[50] Manfred Ullmann supported this identification in his *Die Natur- und Geheimwissenschaften im Islam*, on the basis of USJ 252 and a further witness, Gotha A 85.[51]

Further support for this identification is provided by ʿAbdīshōʿ bar Brīkhā himself, namely in his *Index of Ecclesiastical Authors* (*Mēʾmrā d-ʾīṯ beh menyānā d-ḳolhōn kṯāḇē ʿedtānāyē*). At the end of the *Index*, ʿAbdīshōʿ enumerates his own works, sixteenth of which he lists as the "Translation of the Epistle of the Great and Admirable Aristotle that He Wrote to Alexander on the Noble Art" (*Puššāq ʾeggarteh d-rabbā ʾĀreṣṭōṭālīs tmīhā hāy d-ʾaḳteḇ l-ʾĀleksandrōs ʿal ʾummānūṯā rabṯā*).[52] Thus, there should be little reason to doubt ʿAbdīshōʿ bar Brīkhā's authorship of the preface to the *Epistle* since (a) ʿAbdīshōʿ himself tells us in his *Index* that he produced such a work; (b) he was bishop of Sinjār prior to his ascension to the See of Nisibis (as mentioned in Section 1 above); and (c) no other

48 CFMM 554, p. 75; USJ 252, fol. 2v; Gotha A 85, fol. 2r.

49 CFMM 554, p. 87; USJ 252, fol. 8r; missing in Gotha A 85.

50 Cheikho 1922: 158–159.

51 Ullmann 1972: 157.

52 See, for example, Assemani 1719–1728: vol. 3/1, 361; Badger 1852: vol. 2, 379; Baumstark 1922: 324; Kaufhold 2005: xx.

bishop of Sinjār named ʿAbdīshōʿ is known to us from the history of Syriac and Christian Arabic literature.[53]

Further internal evidence from the *Epistle* suggests a Nestorian and late mediaeval *Sitz im Leben*. Firstly, ʿAbdīshōʿ tells us of an earlier bishop who translated alchemical works: One Barḥadbshabbā ibn Shimʿūn, bishop of al-Ḥīra, whom he claims translated Pseudo-Aristotle's *Kitāb al-Aḥjār (Book of Stones)* from Greek to Arabic for ʿAlī ibn Abū Ṭālib (d. 40/661), cousin and son-in-law of the prophet Muḥammad and fourth of the "Rightly Guided" caliphs.[54] Now, no bishop by this name is recorded for the city, nor is ʿAlī known to have sponsored Graeco-Arabic translations. Nevertheless, al-Ḥīra was an important Nestorian ecclesiastical centre in Late Antiquity, and its place in the cultural memory of the Church of the East endured well into the Middle Ages.[55] Furthermore, ʿAbdīshōʿ relates a lengthy history of the *Epistle*'s discovery and transmission. Many aspects of this history are surely fictive but nevertheless reveal something about the translator's cultural background. He tells us that the Greek original of the epistle was deposited in the Monastery of Mār Daniel near Mosul (*min aʿmāl Āthūr wa-Mawṣil*), "which used to belong to the Nestorians but these days belongs to the Jacobites" (*wa-kāna li-l-Nasṭūr wa-huwa yawmaʾidhin li-l-Yaʿāqiba*).[56] This Monastery of Mār Daniel—known also as the "Monastery of Beetles" (Syr. *dayrā d-ḥabšušyāṭā*; Ar. *dayr al-khanāfis*)—had indeed been a Church of the East founding but by the 13th century lay firmly in the hands of the Syrian Orthodox (or "Jacobites").[57] ʿAbdīshōʿ further tells us that he translated the *Epistle* into Arabic from a Syriac version by a certain John the Monk (*Yūḥannā al-rāhib*) made in 937 *anno graecorum* (= 625/6 A.D.) from an autograph by Aristotle (*nuskha bi-khaṭṭ Arisṭāṭālīs*).[58] Finally, ʿAbdīshōʿ claims that on the flyleaf of this Syriac translation he discovered a note by Elias bar

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53 For all known bishops of Sinjār, see Fiey 1993: 134. 268–269.

54 CFMM 554, p. 77; USJ 252, fol. 3r; Gotha A 85, fol. 2r–3v: "I then discovered that the learned and holy father Barḥadbshabbā ibn Shimʿūn, bishop of al-Ḥīra, had provided a translation, from Greek to Arabic, of Aristotle's *'Book of Stones'* on the Art for ʿAlī ibn Abī Ṭālib (may God be pleased with him) (*innī wajadtu l-ab al-qiddīs al-ʿālim Barhadbshabbā ibn al-Shimʿūn usquf al-Ḥīra qad iʿtanā wa-htamma bi-naql Kitāb al-Aḥjār li-Arisṭāṭālīs fī l-ṣināʿa li-ʿAlī ibn Abī Ṭālib (raḍiya Llāh ʿanhu) min al-lugha al-yūnāniyya ilā l-ʿarabiyya*).

55 For the names of bishops of al-Ḥīra before and during ʿAlī's caliphate (651–661), see Fiey 1993: 90–91; Toral-Niehoff 2014: 224. On al-Ḥīra's place in the historiography of the Church of the East and in mediaeval Arabic literature more generally, see Rassi 2015: ch. 5. As for Pseudo-Aristotle's *Kitāb al-Aḥjār*, this work is in fact known to have been translated by a certain Lūqā ibn Isrāfiyūn (Serapion); see Pseudo-Aristotle 1912: 93.

56 CFMM 554, p. 85; USJ 252, fol. 7r; Gotha A 85, fol. 4v–5r.

57 For Syriac and Arabic sources on the history of this monastery, see Fiey 1965: vol. 2, 615–620; Snelders 2010: 312–314.

58 CFMM 554, p. 86; USJ 252, fol. 7v; Gotha A 85, fol. 5r.

Shennāyā (d. 1046), Metropolitan of Nisibis, a preeminent polymath of the Church of the East:

> وجدت على ظهرها بخط الاب القديس مار اليا مطران نصيبين المعروف بابن السني قدس الله نفسه ما هذا حكايته وقفت على هذه رسالة وحللت ترجمتها وعملت على قوانينها فوجدتها على[59] غاية الصحة والحق والسلامة من الزائدة والنقصان وكتبه الخاطئ اليا مطران نصيبين وأعمالها في سنة ألف وثلاثمائة وثلثين واثنين[60] للاسكندر

> At the back of it I found in the hand (*bi-khaṭṭ*) of the holy father Mār Elias, Metropolitan of Nisibis, known as Ibn al-Sinnī (may God sanctify his soul), the following report: "I came across this epistle, deciphered its translation (*ḥallaltu tarjamatahu*), worked according to its precepts (*ʿamiltu ʿalā qawānīnihā*), and found it to be of the utmost soundness and truth, free from addition and diminution." The sinful Elias, Metropolitan of Nisibis and its districts, wrote it in the year 1332 of Alexander (= 1020/21 A.D.).[61]

Needless to say, the claim that the *Epistle* derived from a Greek original by Aristotle's own hand stretches credulity, but is nevertheless common across occult scientific works (on which more below). Moreover, Elias of Nisibis was never known to have practiced alchemy. His inclusion in ʿAbdīshōʿ's discovery narrative was likely intended to lend authority to the *Epistle*. But whatever the veracity of these claims, it is clear from various elements in ʿAbdīshōʿ's account—the mention of prominent East Syrian ecclesiarches (real and imagined), the use of Seleucid dating, the occupation of Mār Daniel by the Jacobites—that the "translation" of the *Epistle* was of Christian origin. Furthermore, given the locution *qaddasa Llāhu nafsahu* ("may God sanctify his soul") in the above passage, this "translation" must have taken place after 1046, the year of Elias bar Shennāyā's death.

Until now, Syriacists have assumed the *Epistle* to be no more than ʿAbdīshōʿ's explanation of an otherwise unknown pseudo-epigraph on alchemy, since he uses the term *puššāqā*, which would normally imply "explanation" or "commentary." However, now that manuscripts of the work have come to light, the *Epistle* should in fact be considered a translation. For "translation" is one of the many meanings encapsulated by the term *puššāqā*, according to the the 10th century lexicographer Ḥasan bar Bahlūl, who glosses the word with the Arabic *naql*.[62] Further confusion comes from the full Arabic title of the *Epistle*, *Tafsīr risālat Arisṭū fī l-ṣināʿa*. The term *tafsīr*, though commonly understood as "explanation" or "commentary," can also mean "translation" in mediaeval Christian Arabic usage. Although this

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59 على missing in Gotha A 85.

60 اربعمائة وثلثين واثنين in Gotha A 85.

61 CFMM 554, p. 86–87; USJ 252, fol. 5v–6r; Gotha A 85, fol. 5r–5v.

62 See Payne Smith 1879–1901: vol. 2, 3,323 and Sokoloff 2009: 1176.

meaning is less common in Arabic,[63] we find it in a treatise on the Nicene Creed by an earlier Nestorian author, Elias of Nisibis (d. 1043), who, like ʿAbdīshōʿ, wrote in both Syriac and Arabic. Here, Elias employs two Arabic terms throughout: *tafsīr* for his translation of each line of the Syriac Creed and *taʾwīl* for his explanation of it.[64] By contrast, the Muslim lexicographer Ibn Manẓūr (d. 711/1311), on the authority of Ibn al-Aʿrābī (d. 231/846), asserts that *taʾwīl* and *tafsīr* are of one meaning (*wa-l-maʿnā wāḥid*).[65] Thus, it is likely that Elias had in mind the Syriac *puššāqā*—a term with a semantic range covering both "translation" and "explanation"—as did ʿAbdīshōʿ some two centuries later.

Indeed, in his preface to the *Epistle*, ʿAbdīshōʿ himself informs us that he translated the *Epistle* from Syriac to Arabic, this time employing the terms *naqala* and *istakhraja*. While the latter more commonly means "to extract," it is clearly employed by ʿAbdīshōʿ to denote translation:[66]

اضطرني الامر الى استخراج رسالة العالم ارسطاطاليس الى الاسكندر في الصناعة من اللسان السرياني الى العربي وقد استقضيت في النقل والتفسير بقدر قوتي الواهية

I was compelled to translate (*istikhrāj*) the epistle of the learned Aristotle to Alexander on the Art, from Syriac into Arabic, and was required to translate (*ustuqḍītu fī l-naql wa-l-tafsīr*) [it] according to my feeble ability.[67]

As to its contents, the *Epistle* consists of three principal parts:

1. ʿAbdīshōʿ's lengthy preface (*muqaddima*), in which he explains his reasons for translating the work and provides a lengthy account of the text's discovery. As mentioned previously, ʿAbdīshōʿ alleges that the work was translated from Greek to Syriac by a certain "John the Monk" who worked from Aristotle's autograph.[68]
2. Alexander's epistle to Aristotle, which the former purportedly sent whilst in India and in which he relates his discovery of two mysterious chemicals with transmutative powers.[69]
3. Aristotle's response to Alexander, in which the former explains the workings of these two elixirs and then systematically elucidates the composition of the Philosophers' Stone in three parts: The universal principles of the "Art"

63 One example of the verb *fassara* used as "translation" comes from an alchemical dialogue text; see Forster 2017: 99 and Müller 2012: 94.

64 See, for example, Elias's explication of the first line of the Creed; Elias 2018: 84 (text); 85 (trans.).

65 Ibn Manẓūr 1994: vol. 7, 3,412.

66 See definition in Hava 2001: 153.

67 CFMM 554, p. 82–83; USJ 252, fol. 5v–6r; Gotha A 85, fol. 4r.

68 CFMM 554, p. 74–87; USJ 252, fol. 1v–8r; Gotha A 85, fol. 1v–5v.

69 CFMM 554, p. 87–95; USJ 252, fol. 8v–12r; Gotha A 85, fol. 6v–8v.

(*kulliyyāt hādhihi l-ṣināʿa*); its operations (*tadābīr*); and, finally, the making of the elixir (*ṣināʿat al-iksīr*).[70]

In effect, ʿAbdīshōʿ presents his reader with a comprehensive treatise on the making of the elixir, combining both theory and practice, framed as an epistolary exchange between a foundational philosopher and his most illustrious student.

At this point we might ask: Is the *Epistle* really a translation from a Greek original via a Late Antique Syriac version, or is the claim part of a broader literary *topos*? Broadly speaking, the *Epistle* that ʿAbdīshōʿ alleges to have translated belongs to a genre of Arabic epistolary cycles that has been variously described as "Graeco-Arabic novels" and "Pseudo-Aristotelian hermetica." Letters attributed to Aristotle were known to have circulated in antiquity.[71] However, of the several pseudo-Aristotelian epistolary cycles preserved in Arabic, hardly any can be traced to a Greek original with any degree of certainty. One possible exception is a series of fictitious exchanges between Aristotle, Philip of Macedon, and Alexander, edited with the title *Aḥwāl al-ḥukamāʾ fī ayyām al-Iskandar* and commonly referred to as the *Epistolary Novel*.[72] This work comprises several letters of advice on statecraft, serving as a prominent example of an Arabic "mirror for princes." While the precise dating and conditions of its composition remain a subject of debate, most scholars believe the *Epistolary Novel* to be a composite work that is at least partially based on Greek sources.[73] Yet this cannot be said of other examples of the epistolary genre in Arabic literature. Such is the case of letters of advice from Aristotle to Alexander on occult topics, none of which have been successfully traced to Greek *Vorlagen*. These pseudo-Aristotelian hermetica include the *Kitāb Isṭimāṭis* (*Book of Isṭimāṭis*) and the *Dhakhīrat al-Iskandar* (*Treasury of Alexander*), each of which discuss talismans and astral magic (though the latter contains a small section on alchemy).[74] Perhaps the most famous representative of this genre is the *Sirr al-asrār* (*Secret of Secrets*), or *Secretum Secretorum* as it became known in

70 CFMM 554, p. 96–156; USJ 252, fol. 12v–46v; Gotha A 85, fol. 8v–22v.

71 Gutas 2009: 64.

72 Edition by Maróth 2006. See also Gutas 2009 for further background on the genre and its antecedents, together with a useful summary of the contents.

73 For these debates, see Grignaschi 1967; Stern 1968: 11–24; Doufikar-Aarts 2010: 102–105; Swain 2013: 108–122; Cottrell 2016b.

74 On these, see Burnett 1981 and 1989; Van Bladel 2009b: 101–102, 114; Alfonso-Goldfarb/Abou Chahla Jubran 1999. For a study and translation of the alchemical section of the *Dhakhīrat al-Iskandar*, see Alfonso-Goldfarb/Abou Chahla Jubran 2008. Strictly speaking, the term "hermetica" applies to texts attributed to the legendary Hermes Trismegistus but may also refer to works attributed to Aristotle that transmit the purported teachings of Hermes. As we shall see further in this study, the *Epistle* attributes many of its theories to Hermes.

Latin translation, a text that consists of advice on kingship but also includes sections on physiognomy, astrology, magic, medicine divination, and astrology.[75] Although the Greek attributions of the *Sirr al-asrār* are certainly spurious, many of its sources are traceable to late antique Middle Persian as well as Islamic traditions.[76]

Whatever the origins of the genre, the framing of treatises as exchanges between Aristotle and Alexander—two paradigmatic figures of philosophy and kingship—was a long-established phenomenon before and during ʿAbdīshōʿ's lifetime. Indeed, the intersection between kingly advice and occult science is hardly surprising when we consider that the latter was of great interest to rulers. Physiognomy, for example, was considered a form of prognostication, on the one hand, and a rhetorical tool used for discrediting political adversaries, on the other, and thus tended to attract royal patronage.[77] Traces of this motif are discoverable in what survives of the Graeco-Egyptian alchemical corpus. A Syriac treatise by Zosimus of Panopolis (fl. 300), translated from a lost Greek original, speaks of the so-called electrum mirror, an alloy of gold and silver said to have been favoured by Alexander. Here, Zosimus tells us that kings keep such mirrors in their palaces "as a talisman" to gaze upon as a reminder to examine themselves.[78] However, it is in the mediaeval Islamicate tradition that Alexander's attachment to the occult sciences features most prominently.[79] The royal character of these sciences is often made explicit in master-disciple exchanges between Alexander and Aristotle. Such is the case in the *Sirr al-asrār*'s discussion of the "King's Talisman," a ring purported to grant its wearer great power (Pseudo-Aristotle also mentions a talisman made by the legendary Balīnūs for the Persian King Darius[80]). ʿAbdīshōʿ himself, in his preface to the *Epistle*, conceives of alchemy as among the many wise arts sought after by earthly sovereigns:

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75 See Manzalaoui 1974: 148 and Grignaschi 1976 on the "Short Form" and "Long Form" of the *Sirr al-asrār*; see also discussion by Forster 2006: 11–19.

76 On the *Sirr al-asrār*'s Middle Persian sources, see Van Bladel 2004. For the tradition of Polemon in the *Sirr al-asrār*, see Hoyland 2007; Forster 2019: 324.

77 Ghersetti 2018: 86–88; Forster 2019: 324–326.

78 Berthelot/Duval 1893: 261–262 (trans.) and discussed by Camplani 2000: 74. On the Delphic maxim "know thyself" and its influence on Zosimus and other late ancient pagan thinkers, see Dufault 2019: 126–127. Interestingly, the electrum mirror is mentioned in one unedited Arabic alchemical work of uncertain authorship, known variously as *Miftāḥ al-ḥikma*, *Miftāḥ jannāt al-khuld*, *Sirr al-asrār*, and *Sirr al-sārr wa-sirr al-asrār*. Here, the mirror is associated with Aristotle, not Alexander (*wa-sammāhā Arisṭāṭālīs mirʾāt al-aqṭīrūn*); Carusi 2016: 315.

79 I am aware of no other Greek occult scientific text—alchemical or otherwise—featuring Alexander or framed as a letter of advice from Aristotle to the Macedonian king. For excellent overviews of the Graeco-Egyptian and Byzantine alchemical corpus, see Merianos 2017 and Roberts 2019.

80 Pseudo-Aristotle 1954: 159–164. Forster 2006: 98–100; Porter et al. 2017: 522–523.

فلأن السلطان اله الارض وعن مرسومه تتوزع النعم على الاخيار والنقم على الاشرار ومع حفظ اوامره الحياة ومع تجاوز سننه الممات واليه ترفع الرغبات ومنه تستمد المنائح والصلاة فلذلك وجب على كل من كان تحت سلطنته ان يكون بكلما يمكن محسنا في طاعته ولذلك وجدنا الحكماء المتقدمين والفلاسفة المتألهين انهم بكل المعارف الشريفة وبكل العلوم العجيبة وبكل الصناعات اللطيفة خدموا ملوك ازمنتهم ومثل هذه الهدايا الغير مائتة كانت تحف خدمتهم مثل صناعة المنطق والطب والحساب والهندسة والموسيقى والنجامة والطلسمات وباقي العلوم والصناعات ولهذا رأيت انا الضعيف عبديشوع[81] أسقف سنجار ان افسر رسالة ارسطاطاليس الفيلسوف الى الاسكندر الملك في الصناعة الشريفة الكيمياء ... وكالخدمة الحكمية اقدمها بين يدي التخت العالي لمملكة سيّدنا ومولانا ملك الملوك ...

Because the secular ruler (*al-sulṭān*) is god on earth (*ilāh al-arḍ*); and by his decree is grace apportioned to the chosen and vengeance to the evil; life [to those who] keep his commands and death to those who transgress them; and [because] supplications are offered to him and from him blessings are derived—it is therefore necessary for all under his power to act as charitably as possible in obedience to him. Thus, we find that the ancient sages and divine philosophers served the kings of their age with all the noble knowledge, marvellous sciences, and subtle arts. The likeness of their service's immortal gifts (*mathal hādhihi hadāyā l-ghayr mā'ita*) is like the art of logic, medicine, mathematics, geometry, music, astrology (*nijāma*), talismans (*tilişmāt*), and the other sciences and arts. Therefore, I the feeble ʿAbdīshōʿ, bishop of Sinjār, decided to translate Aristotle the philosopher's epistle to Alexander the king on the noble art of alchemy [...] and as an act of wise service (*ka-l-khidma al-ḥikmiyya*) present it before the high throne of our lord and master, the King of Kings [...][82]

It is unclear from the above whether ʿAbdīshōʿ had a specific "King of Kings" in mind.[83] Nor do we know whether he himself practiced alchemy under royal patronage (as did his older contemporary, Ḥnānīshōʿ, bishop of Gāzartā,). Nevertheless, his mention of "wise service" to kings suggests an awareness of an Arabic genre that imparted occult knowledge in the form of a master's instruction to a royal pupil. Alchemy enjoyed similar associations with vested power and could often find expression in texts framed as exchanges or dialogues between a sage and his kingly disciple.[84] In addition to amassing wealth through mastery over nature, the ideal king was also expected to acknowledge that his power was ultimately granted by God. This attempt to reconcile human intervention in nature with divine agency is discoverable in the *Sirr al-asrār*. Immediately before discussing the sublimation of spirits, Pseudo-Aristotle relates a legend about the

81 انا الضعيف عند يسوع in Gotha A 85.

82 CFMM 554, p. 74–75; USJ 252, fol. 1v–2r; Gotha A 85, fol. 2r.

83 CFMM 554, p. 76; USJ 252, fol. 2r; Gotha A 85, fol. 2r. Here, the rest of ʿAbdīshōʿ's dedication reads: *al-ʿālim al-ʿādil al-muʾayyad al-jāʾid al-raḥīm al-manṣūr mālik al-ʿālam wa-malik al-maskūna al-sulṭān al-aʿẓam māsik al-kull*. Here, we encounter a curious mix of royal and divine titulature: for instance, *māsik al-kull* translates into Syriac as *ʾaḥḥīḏ kol*, in turn a calque of the Greek divine epithet παντοκράτωρ ("Ruler of the Universe"); Payne Smith 1879–1901: vol. 1, 60. In his Syriac-Arabic lexicon, Elias of Nisibis (d. 1046) classifies the expression *ʾaḥḥīḏ kol* under "names of God and His attributes" (*fī asmāʾ Allāh wa-ṣifātihi*) and defines it as "governor of the universe" (*ḍābiṭ al-kull*); Elias 2007: 31. However, the passive forms *manṣūr* ("victorious") and *muʾayyad* ("supported [by God]") suggest that the dedicatee is in fact an earthly sovereign.

84 Forster 2012 and 2017: 43–44.

discovery inside a pyramid of a coffin made from pure gold. In the coffin lay a splendidly regaled king said to have lived 1,000 years after mastering the "secret of nature" (*sirr al-ṭabīʿa*). Yet, beyond the grave, on an inscribed emerald tablet, the king cautions that "No one rules except the One who does not perish, and there is no power except the One who is unique in great wisdom, blessed and sublime be His name."[85] In other words, however long a king's reign is prolonged by his mastery over nature (be it through astrology, talismans, or alchemy), he is ultimately destined to depart this world and reckon with God in the hereafter. It is possible that ʿAbdīshōʿ had this motif in mind when he speaks of the necessity of placing occult arts at the disposal of kings while stressing that the ultimate cause in nature is God, perhaps in anticipation of critics who attacked alchemists for presuming to intervene in the created order. Indeed, such criticisms were to be found in the 13 and 14th centuries: in a collection of anecdotes about alchemists and their trickeries, the 13th-century Damascene writer al-Jawbarī cautions that "only God and those of whom He approves are able [to perform this craft]" (*la yaqdaru ʿalayhā illā Allāh ʿazza wa-jalla wa-man irtaḍāhu*).[86] Similarly, ʿAbdīshōʿ reminds his readers that "it is God [...] who, by His will, shall bring everything contained in this epistle from potentiality to actuality."[87]

In addition to being an established genre of mediaeval Arabic literature, imagined exchanges between Aristotle and Alexander represented something of a literary common ground between Christians and Muslims throughout the Greek-, Syriac- and Arabic-speaking milieus. The *Alexander Romance* of Pseudo-Callisthenes—translated into Syriac in the 6th century from a now lost *delta* recension—features an imagined letter by Alexander to Aristotle detailing his voyages and the many natural marvels he witnessed during his campaigns.[88] Another early text, the Greek *De Mundo* (*Περὶ Κόσμου*), known to Syriac Christians from a translation by Sergius of Reshaina (d. 536), is similarly framed as part of an epistolary exchange between the two figures.[89] Moreover, collections of wise sayings by sages

85 Pseudo-Aristotle 1954: 165. Cf. the famous story of the emerald tablet in the *Sirr al-khalīqa* of Balīnūs, in which he discovers a cryptic text containing the secret of *prima materia* inscribed on an emerald tablet; Balīnūs 1979: 524.

86 al-Jawbarī 2014: 173. Further aspects of these criticisms will be examined below.

87 CFMM 554, p. 76–77; USJ, fol. 2v–3r; Gotha A 85, fol. 2r: *wa-Llāh alladhī lahu al-mulk wa-l-sulṭān wa-minhu al-ḥikma wa-l-maʿrifa huwa yukhriju ʿan idhnihi min al-quwwa ilā l-fiʿl jamīʿ mā huwa mawḍūʿ fī hādhihi l-risāla*. Interestingly, there is a book in the Jābirian corpus entitled *Kitāb ikhrāj mā fi l-quwwa ilā l-fiʿl* (*The Book of the Passage of Potentiality to Actuality*); Kraus 1942–1943: vol. 1, 84–85.

88 Pseudo-Callisthenes 1889: book 1, ch. 7.

89 De Lagarde 1858: 134–158 (text); Land 1874: 1–30 (trans.). The work's title in the unique manuscript on which De Lagarde bases his edition is *The Letter that Aristotle sent to Alexander the*

were in frequent circulation in the Greek-speaking world as early as the 4th century and throughout Late Antiquity and the Middle Ages.[90] The genre was also popular among Syriac Christians who, from late antique times, had compiled several anthologies of maxims, one of which transmits the gnomic statements of the philosophers during their lament over Alexander's body.[91] These sayings, along with many others by Aristotle and other philosophers, were also transmitted in Arabic collections, among them the the work known variously as the *Ādāb al-falāsifa* and *Nawādir al-falāsifa* by the Christian Ḥunayn ibn Isḥāq.[92] Notable among such collections by Muslim authors was the *Mukhtār al-ḥikam wa-maḥāsin al-kilam* of al-Mubashshir ibn Fātik (fl. 11th century),[93] a work that owes some measure of debt to the Syriac gnomological tradition.[94] Another Arabic gnomologium based on Greek prototypes is the *Mukhtār kalām al-ḥukamāʾ al-arbaʿa*, which preserves a number aphorisms communicated by Aristotle to Alexander.[95] As Sidney Griffith has observed, such texts appealed to both Muslims and Christians who believed that philosophy modelled on Aristotle's advice to Alexander would lead to wisdom and a more just society.[96] In ʿAbdīshōʿ's own lifetime, this genre continued to find relevance within Muslim and Christian literate circles. For example, a younger Nestorian contemporary named Ṣalībā ibn Yūḥannā al-Mawṣilī (active in Cyprus in the first half of the 14th century) incorporates into his theological compendium a letter from Alexander to Aristotle detailing his debates with the sages of Mesopotamia and Persia.[97] As for the popularity of the genre in Il-Khanid Iran, it is worth noting that a Persian letter of Alexander and Aristotle on wisdom is preserved in a literary anthology known as *Safīna-yi Tabrīz*, composed in Tabriz between 1321 and 1323.[98] Given the broad appeal of the genre, it is easy to see how such epistolary exchanges could inspire a treatise on alchemy.

King Concerning Knowledge of Created Things (*ʾEggartā d-šaddar ʾArestōṭālīs l-ʾAleksandrōs malkā ʿal ʾīḏaʿṯā da-hwayyā*).

90 For an exhaustive list of Greek gnomologia (printed and unedited), see Gutas 1975: 9–35.

91 See Brock 1970; Arzhanov 2019: 113–114.

92 Ḥunayn ibn Isḥāq 1985: 83–87. The work survives in a later redaction by Muḥammad ibn ʿAlī al-Anṣārī (fl. before 1198).

93 al-Mubashshir ibn Fātik 1980: 175–222.

94 Arzhanov 2017. On the other hand, there appears to be no direct relationship between al-Mubashshir ibn Fātik's work and the *Alexander Romance* of Pseudo-Callisthenes; see Brock 1970 and Cottrell 2012.

95 Gutas 1975: 178–183.

96 Griffith 2010: 143–144.

97 al-Mawṣilī 2018: 323–353.

98 See Doufikar-Aerts 2007.

We have so far observed the popularity of the epistolary genre in both its Christian and Islamic iterations. To which, then, was the author of the *Epistle* most indebted? The reality is that such Greek-inspired epistolary fictions cut across Syriac Christian and Islamo-Arabic settings. As we shall see further in this study, the alchemical contents of the *Epistle* are based mainly on Arabo-Islamic sources. However, the literary backdrop of the *Epistle* was common to both Syriac Christian and Arabo-Islamic contexts.[99] Several versions of the Alexander epistolary cycle take place within the literary frame of his campaigns in the East. The earliest text in which this motif appears is the *Alexander Romance* of Pseudo-Callisthenes, where Alexander is purported to have sent letters to Aristotle with accounts of his travels to Egypt, Iran, India, and China.[100] In one instance from the Syriac version of the *Alexander Romance*, Alexander tells his teacher of the strange things he witnessed in an Indian city named Prasiake, namely men with "faces like horses" (*parṣōpayhōn ʾa[y]ḵ d-raḵšē*).[101] In the Arabic translation of this work, Alexander frames these reports as fantastical occurrences, informing Aristotle that he desired to inform him of the wonders he saw in Prasiake (*aḥbabtu iʿlāmaka bi-mā raʾaynā min al-ʿajāʾib*).[102] This literary frame seems to have provided a template for later fictionalised exchanges between the two figures in the Arabic tradition. In particular, the witnessing of natural wonders (*ʿajāʾib*) became something of a leitmotif. For example, in Mubashshir ibn al-Fātik's gnomologium, Alexander writes to Aristotle "about the strange events that happened to him (*ʿajāʾib mā jarā lahu*) and the wondrous things he had seen (*ʿajāʾib mā raʾā*) in the land of India."[103] Likewise, in an Arabic version of *De Mundo* embedded in the *Epistolary Novel*, Alexander encounters a golden palace (*bayt al-dhahab*) during his campaign in India and writes to Aristotle about it. The latter responds that true marvels are not

99 For Alexander narratives in Syriac and Arabic in literature, see Van Bladel 2007: 56–57 and Monferrer-Sala 2011.

100 For example, the *Sirr al-asrār* was purportedly written during Alexander's campaign in Iran (*lammā ftataḥa bilād al-furs*) (Pseudo-Aristotle 1954. 68). The Arabic versions of the *De Mundo* mention Alexander's voyages to India and Sind (see below); and the *Epistolary Novel* contains information about Alexander's conquest of the Persians, Khurasanians, Soghdians, Turks, Arabs, and Indians (Maróth 2006: 25).

101 Pseudo-Callisthenes 1889: 94 (trans.), 168 (text).

102 Doufikar-Aerts 2013: 96–115. The Arabic version of Alexander's letter concerning his travels in India derives from an Arabic translation of the Syriac but was often transmitted separately, dispersed throughout various narratives and related "wonders of creation" (*ʿajāʾib al-makhlūqāt*) genres. The complete Arabic translation of Pseudo-Callisthenes's *Alexander Romance* (thought to date to the 9th century) is preserved across four manuscripts, on which see Doufikar-Aerts 2010, 58–73.

103 al-Mubashshir ibn Fātik 1980: 236, discussed in Cottrell 2012: 237.

to be sought in manmade objects but in nature.[104] This recurring theme is of especial importance in the *Epistle*, serving as the backdrop to Alexander's account of two wondrous chemicals that he discovered during his conquest of India:

من الاسكندر ملك المسكونة ووارث العظماء الى ارسطاطاليس عظيم الفلاسفة والحكماء سلام في الكتاب الصادر منا اليك قبل هذا ايها العظيم وصفنا لك ما شاهدنا من العجائب الطبيعية في ناحيتي الشمال والمشرق ونحن واصفون لك في كتابنا هذا غريب ما وقفنا عليه من افعال الطبيعة الكلية وذلك انا فلما دخلنا الى بلاد الهند وجدنا في خزانة عظيم ملوكهم سفطين[105] بلور الابيض الصافي احدهما فيه دواء احمر كبدي الحمرة ناعم الملمس شمعي المجس[106] قريب في الشكل واللون[107] من الطين المختوم وعليه كتابة هندية هذا الكبريت الاحمر اذا[108] طرح واحده على اثني عشر الف[109] من الفضة انقلبت[110] ذهبا احمر وعلى خمسمائة من البلور الابيض انقلب ياقوتا احمر[111] وفي الاخر دواء اغبر هو في نعومة ولين المجس[112] كالأول شبيه مرهم الاسفيداج الكثير الشمع قوي الجامد وعليه ايضا مكتوب هذا الزرنيخ الابيض اذا طرح واحده[113] على اثني عشر الف من النحاس الاحمر انقلب فضة بيضاء وعلى خمسمائة من الزجاج الطاهر انقلب بلور صافيا[114]

Greetings from Alexander, king of the inhabited world and inheritor of the greats, to Aristotle, great among philosophers and wisemen. In the letter sent before this one, O great one, we described to you the natural wonders (*al-ʿajāʾib al-ṭabīʿiyya*) in the regions of the north and east (*nāḥiyatay al-shimāl wa-l-mashriq*). In this our letter we describe to you a curious working of universal nature that we discovered (*gharīb mā waqafnā ʿalayhi min afʿāl al-ṭabīʿa al-kulliya*).

When we entered the land of India, we found in a treasure trove of one of their great kings two caskets of clear white crystal. In one of them was a red medicine,[115] liver red (*kibdī al-ḥumra*), soft and waxy to touch, close in shape and colour to sealed clay. On it was written in Indian writing (*kitāba hindiyya*): "This red sulphur (*al-kibrīt al-aḥmar*), if one [unit] of it is thrown on 12,000 [units] of silver, it turns into red gold, [and if thrown on] 500 [units] of white crystal, it turns into red hyacinth." In the other [casket], there was a dust-coloured (*aghbar*) medicine,

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104 Maróth 2006: 108–130; Brafman 1985: 79 (text), 168 (trans.). In another Arabic version of the *De Mundo*, Aristotle begins his letter with the words: "Your letter has reached me, in which you were mentioning your surprise at what you have seen of the golden temple in Sind (*fa-qad waṣala kitābuka tadhkuru bihi taʿajjubaka mimmā raʾayta min bayt al-dhahab*); cited and translated by Cottrell 2012: 238.

105 ܣܦܛܝܢ in USJ 252 and CFMM 554.

106 ܐܠܡܓܣܣܗ (*al-mijassa*?) in USJ 252 and CFMM 554.

107 الملوّن in Goth A 85.

108 اذ in Gotha A 85.

109 ܐܬܢܥܫܪ ܐܠܦ (i.e. *ithnaʿshar alf*) in CFMM 554 and USJ 252; اثني عشر الفا in Gotha A 85.

110 انقلبه in Goth A 85.

111 احمر in Gotha A 85.

112 ܐܠܡܓܣܣܗ/المجسه in CFMM 554, USJ 252, and Gotha A 85.

113 واحد منه in Gotha A 85.

114 CFMM 554, p. 87–89, USJ 252, fol. 8v–9r; Gotha A 85, fol. 6v–7r.

115 The Arabic term used here is *dawāʾ*, literally "medicine," a common term for the elixir (the term "elixir" is itself derived from the Greek ξηρίον, a powder used for desiccation and curing eye diseases; see Carusi 2013). I have opted for "medicine" to convey alchemy's connection with medicine and pharmacology, in addition to its frequent use of medical theory and imagery (on which see Carusi 2003).

> like the first one in softness and fineness of touch, akin to a very waxy ceruse, and very frigid. Written on it also was: "This is white arsenic (*al-zirnīkh al-abyaḍ*). If one [unit] of it is thrown on 12,000 [units] of red copper, it turns into white silver, [and if thrown on] 500 [units] of pure glass, it turns into clear white crystal."

The two chemicals described in the above passage are none other than the red and white elixirs, the former of which transmutes metals into gold and the latter into silver. The *Epistle* portrays them not only as wonders of artifice but also wonders of nature. The framing of their discovery in the land of India suggests the author's awareness of other Alexandrian cycles involving natural wonders in distant lands. Indeed, the *Epistle* appears to intentionally frame its narrative as a kind of sequel to other letters attributed to Alexander known to both Christian and Muslim readerships.

What is the likelihood, then, that ʿAbdīshōʿ was translating an actual Greek text that had come down to him in Syriac? As mentioned already, epistolary fictions involving Alexander and Aristotle were certainly known in antiquity, and there is no denying that the literary genre was inspired by Greek models. However, entire Greek works comprised of exchanges between Alexander and Aristotle are exceedingly rare, the epistles themselves existing in fragments and secondary references.[116] It is in the mediaeval Arabic literary tradition that such exchanges were frequently reimagined and supplied with new meaning, particularly in the domains of astrology, talisman-making, and alchemy. This Alexandrian and pseudo-Aristotelian *mise en scène* appears to be largely absent from extant Greek occult scientific works.[117] Of course, this does not prove that the *Epistle* was an Arabic forgery; after all, the absence of evidence for a Greek *Vorlage* is not necessarily evidence of absence. Moreover, one might reasonably consider whether the *Epistle* was derived from an ancient Syriac version since

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116 For citations of correspondence between Alexander and Aristotle littered throughout Hellenistic and Roman literature, see Holzberg 1996: 648, n. 15. For longer fragments, see edition by Plezia 1977: 16–18 (testimonia from Eratosthanes [d. ca. 195/194 B.C.] Cicero [d. 63 B.C.] Strabo [d. ca. 24 A.D.], Plutarch [d. 119 A.D.], and Aelian [d. ca. 235 A.D.]), cited in Gutas 2009: 64, n. 35. Grignaschi 1967: 114 and Maróth 2006: 75–76 attempted to show that the *Epistolary Romance* was translated from Greek into Syriac in the 6th century. However, as Gutas 2009: 64–65 observes, the surviving Greek fragments of similar works date to Hellenistic times and the first Christian centuries, with little evidence of the genre's continuance in late antique Greek literature. As Gutas remarks, "[i]t is therefore astounding that there is nothing from later times and late antiquity to indicate that the epistolary cycle, in whatever form and for whatever purpose, was a text well known and in wide circulation among Greek speakers so that there would be interest in the composition of yet another cycle [...] in the 6th century, as Grignaschi and Maróth suggest."

117 One rare occurrence of Alexander in Greek alchemical literature (preserved in Syriac) is in a chapter by Zosimus on the so-called electrum mirror, discussed above.

genuine works of Greek alchemy did in fact indeed into Syriac and eventually into Arabic,[118] though the time and place of their translation remains largely unknown to us.[119]

With that said, certain aspects of the *Epistle*'s preface raise serious doubts about this work's alleged Greek origins. We have already noted the rather implausible claim by ʿAbdīshōʿ that the *Epistle* was translated from Aristotle's autograph. Earlier in his preface, ʿAbdīshōʿ tells us that he "had discovered it in strange writing and unusual letters" (*wajadtuhā bi-kitāba gharība wa-ḥurūf ghayr muʿtāda*).[120] He later says that John the Monk, the *Epistle*'s alleged Graeco-Syriac translator, rendered the work into a script "that did not follow the customary order of Syriac letters" (*bi-tarjama suryāniyya laysat bi-niẓām al-ḥurūf al-maʾlūf fī l-suryānī*).[121] What lies behind these opaque claims? Is ʿAbdīshōʿ suggesting that John employed a cryptographic substitute for the Syriac alphabet in his translation of the *Epistle*? Examples of secret alphabets and symbols are attested in alchemical writing. Yet this form of cryptography was more often restricted to key words and odd passages rather than entire treatises.[122]

We should also bear in mind that Arabic occult texts with forged Greek attributions often made the claim of having been translated from "older" languages written in exotic scripts. This was often done to emphasise the secretive nature of

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118 For directly authenticated Arabic translations of Zosimus, see Hallum 2008: ch. 4. On the Syriac versions of Zosimus and Pseudo-Democritus, see Martelli 2013 and 2014. In the tenth chapter of his *Fihrist*, Ibn al-Nadīm (d. 385/995 or 388/998) lists several works attributed to other Greek authorities such as Hermes, Agathodaimon, Stephanus, Heraclius, Maria, Cleopatra, and Ostanes, though it is still unclear how many of these derived from Greek originals and which were original Arabic pseudepigraphs; see Hallum 2008: 25–26. For unedited Arabic works attributed to these authors, see Sezgin 1971: 31–44, 47–48, 51–54, 70–73, 107–110.

119 This stands in contrast to the numerous Greek texts from other disciplines (e.g., medicine and logic) whose translation into Arabic is well-documented. It is possible that Greek alchemical works were among those translated into Arabic in the 8 and 9th centuries, particularly as the Abbasid caliph al-Manṣūr was said in later sources to have been interested in the "Art"; Gutas 1998: 115–116; Strohmaier 1989 and 1991. However, such secondary accounts tell us little about the actual date and circumstances of these translations. On this issue, see Ullmann 1972: 148.

120 CFMM 554, 76, USJ 252, fol. 2v; Gotha A 85, fol. 2r.

121 CFMM 554, 86v, USJ 252, fol. 7v; Gotha A 85, fol. 5r.

122 In his *Fihrist*, Ibn al-Nadīm mentions that Ibn Waḥshiyya (d. 318/930–931) wrote on cryptographs used in sorcery (*siḥr*) and alchemy; Ibn al-Nadīm 2014: vol. 1, 460–461 (text); Fück 1951 (trans.): 106 (trans.). These are not to be confused with a work erroneously attributed to Ibn Waḥshiyya entitled *Shawq al-mustahām fī maʿrifat rumūz al-aqlām*, which attempts to decipher Egyptian hieroglyphs. Furthermore, the Mamluk-era alchemist ʿIzz al-Dīn Aydamir al-Jildakī devised alphabets he variously (and spuriously) called "Syriac," "Greek," "Hebrew," "Frankish," "Himyaritic," "Babylonian," and "Magian"; see Ullmann 1972: 2–4.

these texts and to lend them an air of venerability and authoritativeness.[123] Most notably, the *Sirr al-asrār* purports to have been translated from Byzantine Greek (*rūmiyya*) to Arabic by Yūḥannā ibn Biṭrīq (d. 806) for the Abbasid caliph al-Manṣūr[124]—a claim that is widely accepted as a literary fiction.[125] Similarly, the *Dhakhīrat al-Iskandar* is said to have been translated from an original written in Ancient and Byzantine Greek (*baʿḍuhā bi-l-yūnāniyya wa-baʿḍuhā bi-l-rūmiyya*) under the caliph al-Muʿtaṣim bi-Llāh (r. 218/833–227/842), who is said to have discovered it in a monastery in Amorium[126]—an attribution that is once again understood to be fictive.[127] We encounter the same pastiche in pseudo-epigraphic works on non-occult subjects. For instance, a treatise on warcraft attributed to Alexander the Great is said to have been translated from Greek into Arabic after being discovered in a catacomb in Alexandria but was in fact authored by the Mamluk general and tactician Muḥammad ibn Manjlī (d. 784/1382).[128]

Thus, by asserting the *Epistle*'s ancient Greek and Syriac origins, ʿAbdīshōʿ may have been employing a commonplace in Arabic pseudoepigraphy. Far more work remains to be done to test this hypothesis. However, since so many of ʿAbdīshōʿ's claims discussed so far stretch credulity, they must necessarily be considered in light of *topoi* common to the genre. To be sure, pseudoepigraphy and pseudonymity were also features of late antique Greek alchemical literature. As in the Arabic tradition, the Greek alchemical corpus contains works attributed to historical and legendary figures such as Democritus, Hermes, Ostanes, Agathodaimon, Cleopatra, and Mary the Jewess.[129] However, ʿAbdīshōʿ's attribution of Greek origins to the *Epistle*, together with his peculiar claim that the text was written in a cryptic Syriac script, seem more in keeping with Arabic conventions of occult scientific writing. As we shall see in the following section, the alchemical content of the *Epistle* is further suggestive of an Islamicate rather than Greek background.

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123 On this motif in Arabic alchemical writing, see Ruska 1926: 68–79; Ullmann 1972: 166–167; Forster 2006: 52 and 2016: 16–17.

124 Pseudo-Aristotle 1954: 69.

125 Forster 2006: 50–54.

126 N.Y., Ms Or 276, fol. 3v–4r, available online at https://archive.org/details/ldpd_14230896_000/mode/2up (last accessed: 12 March 2020). See also Pseudo-Aristotle 1999 for a facsimile edition and Portuguese translation of a manuscript from the El Escorial collection.

127 On the dating and fictional character of *Dhakhīrat al-Iskandar*, see Ruska 1926: 67–68; Ullmann 1972: 376–377; Alfonso-Goldfarb and Abou Chahla Jubran 2008: 100–102.

128 Ibn Manjlī 2000: 16: *wujida fi dīmās bi-l-Iskandariyya bayna ḥajarayn muṭbaqayn aḥaduhumā ʿalā l-ākhar maktūb bi-l-yunāniyya fa-turjima bi-l-ʿarabiyya.*

129 Merianos 2017: 235. As far as I am aware, no surviving Greek work of alchemy purports to have been authored by Aristotle.

4 Disclosing the art: the alchemy of the *Epistle* and its Islamicate background

Many of the theories and procedures laid out in the *Epistle* derive from mediaeval Arabic rather than late antique Graeco-Syriac forms of alchemy, thereby suggesting that the author was working from a current knowledge of the discipline, despite presenting his work as an ancient translation. More importantly to this study, the *Epistle* expounds these principles in a clear and concise manner, without recourse to encoded language. As such, the *Epistle* marks itself out as a comprehensive and accessible primer on the making of the Philosophers' Stone. Indeed, the narrative form of the text lends itself well to the task. As observed above, Alexander's letter to Aristotle begins with the former's discovery in India of two "medicines," each with the power of transmuting base metals into gold and silver.[130] Wishing to learn more about the inner workings of these transmuting agents, Alexander requests information about their composition. The Stagirite responds with a comprehensive treatise expounding the basic principles of alchemy, its instruments, operations, and the making of the elixir. What marks this treatise out, however, is the fact that Aristotle makes clear that he will avoid the customary practice of using encoded language (*kharajtu fī dhālika ʿan taʿāmul al-falāsifa*), since he is unable to instruct Alexander in person (*idh kunta baʿīdan ʿannī*).[131] We shall examine the significance of this narrative frame in the following section, particularly where issues of concealment and disclosure are concerned. For now, it is necessary to take note of the ways in which the *Epistle* makes its disclosure of some key alchemical doctrines and their unmistakably Islamo-Arabic context. In particular, I will examine the *Epistle*'s theory of metals; its discourse on animal substances; its section on distillation; and its recipe for a sealing lute known as the "Clay of Wisdom."

The *Epistle*'s discourse on the making of the elixir begins in earnest in a discussion of mineral generation. The nucleus of this theory comes from Aristotle's *Meteorologica*, which holds that the heat of the sun causes the earth to give off exhalations of two kinds: vaporous exhalation derived from the earth's moistness, and a dry, smoky exhalation derived from the earth's heat and dryness. The interactions of these two exhalations with heat or cold leads to the composition of

130 CFMM 554, p. 86–89; USJ 252, fol. 8v–12r; Gotha A 85, fol. 6v–8r.

131 CFMM 554, p. 105; USJ 252, fol. 16r; Gotha A 85, fol. 10v.

minerals, each of which has water-like and earth-like qualities, the former resulting in the fusibility of substances and the latter giving substances their solidity.[132] It was not uncommon for late antique Greek alchemists to liken the reactive vapours to the exhalations described by Aristotle. Olympiodorus (6th century) compares humid vapours produced by sublimation to those in subterranean caverns, though he does not explicitly reference Aristotle's doctrine.[133] Stephanus of Alexandria (6/7th century), in his sixth "lecture" (πρᾶξις), writes that the moist and dry exhalations produced beneath the earth are the material cause of all things (ὑλικὰ καὶ αἴτια πάντων), the former producing an airy substance (ὕλη ἀέρος), the latter a fiery substance (ὕλη πυρός).[134] It is important to note here that Aristotle never conceived of his theory of metalogenesis as an explanation for transmutation. The Stagirite merely states that exhalations generate metals of various active and passive qualities according to certain proportions. He does *not* state that these processes can be recreated through artifice in order to bring about changes in the very substance of metals.[135] Rather, alchemists sought to ground their laboratory practices in cosmological schemes derived from the *Meteorologica*, often with recourse to theories of micro- and macrocosm.[136]

Similarly inspired by Aristotle's *Meteorologica*, the *Epistle* begins its theory of metalogenesis with an account of exhalations beneath the earth. But unlike the Greek alchemists discussed above, the author of the *Epistle* places this theory directly into the mouth of Aristotle himself:

> حركة الفلك سبب وعلة لوجود التركيب في عالم العناصر والتركيب واقع فيها بحسب فاعلاتها ومنفعلاتها وقد بينا ذلك في كتابنا الموسوم بالسماع الطبيعي فعلى قدر الحركة وكمية المتأثر من العناصر يكون التركيب للمتكون ولهذا السبب تنوعت اجناس المركبات وكما ان من اختلاف الازمان واختلاف الحركات وزيادة بعض العناصر ونقصانه تنوع جنس الحيوان كذلك لهذا السبب بعينه تنوع ايضا جنس المعدنيات لأن ضوء الشمس يفعل الحرارة بسبب انعكاس الشعاع والحرارة شأنه ان تثير من الرطب بخارا ومن اليابس دخانا فاذا امتزج البخار والدخان في بطون الارض على ضروب[137] من الاختلاطات مختلفة في الكمية والكيفية تولدت الاجسام المعدينة فان كان الغالب هو البخار تولد الزيبق والرصاص والبلور وغيرها من الجواهر المشفة وان كان الغالب هو الدخان تولد الملح والزاج والكبريت ومن اختلاط هذه وامتزاج بعضها ببعض باختلاف من الازمان والاعيان والاوزان تولدت الجواهر الارضية مثل الذهب والفضة والنحاس والرصاص والحديد واول ما يتعلق من البخار والدخان في سقوف المعادن شيء شبيه بالدهن ثم ينعقد على حسب الفاعل فيه من الحر والبرد والمنفعل منه من الرطوبة واليبس

132 For succinct summaries, see Eichholtz 1949; Multhauf 1966; Norris 2006: 44–46; Principe 2013: 35–37.

133 *On the Sacred Art* (Berthelot/Ruelle 1887–1888: part 2, 84–85 [text], 91 [trans.]. See also Viano 1996: 197; Fraser 2018: 729.

134 Stephanus of Alexandria 2013: 187, VI, 17–19. See also Viano 1996: 197.

135 Eichholz 1949: 142, n. 1.

136 See Papathanassiou 1990: 126, who considers Stephanus of Alexandria's theory of exhalations in light of correspondences between operational alchemy and naturally occurring phenomena in the cosmos.

137 ܕܘܪܘܒܐ (i.e., *ḍurūban*) in CFMM 554.

> The movement of the sphere is the reason and cause for the existence of composition in the elemental world. Composition occurs to them (*scil.* the elements) in accordance with their active and passive qualities (*bi-ḥasab fāʿilātihā wa-munfaʿilātihā*), which we have explained in our book, the *Physics*.[138] Thus, composition occurs to a generable (*mutakawwan*) according to the measure of movement and quantity of the elements' effect. For this reason, composite genera are divided into species. Just as the genus of animal is divided into species through variations in time and movement and the addition of some elements and the subtraction of others—so too, for this same reason, are minerals divided into species. For the light of the sun creates heat by the reflection of its rays, and heat's nature produces vapour (*bukhār*) from moistness and smoke (*dukhān*) from dryness. When the vapour and smoke mix inside the earth according to various mixtures differing in quantity and quality, mineral bodies are generated. If vapour is dominant, then mercury, *raṣāṣ*,[139] crystal, and other translucent substances are generated. If smoke is dominant, then salt, vitriol, and sulphur is generated. From the mixture and co-mingling of these with one another through different times, essences (*aʿyān*), and measures, earth substances are generated like gold, silver, copper, lead, and iron. The first that is connected to the vapour and smoke on the surface of subterranean caverns (*maʿādin*) is an oily substance (*shayʾ shabīh bi-l-duhn*). Subsequently, it coagulates according to the active quality of the heat and cold within it and the passive quality of moistness and dryness from it.[140]

The above passage, though purporting to be a summary of Aristotle's minerology, differs from the *Meteorologica* in important respects. According to the authentic Aristotle, metals (τὰ μεταλλευόμενα) such as gold—along with iron and copper—are formed from moist exhalations in the earth. Meanwhile, dry exhalations are the cause of "fossiles" (τὰ ὀρυκτά), that is, stones that cannot be melted, such as realgar, ochre, ruddle, sulphur, and cinnabar.[141] The above passage, however,

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138 The term used here is *al-samāʿ al-ṭabīʿī*, literally "natural audition," from the Greek Φυσικὴ ἀκρόασις, reflecting the commonly held idea that Aristotle's *Meteorologica* was a continuation of his *Physics*.

139 The word *raṣāṣ* can often mean "lead". However, further on in this passage, the author informs us that lead (also *raṣāṣ*) is one of the fusible bodies produced through the mixing of fine and dry substances (which in turn are produced by smoky and vaporous exhalations). Moreover, in some mediaeval Arabic alchemical texts, *raṣāṣ* is synonymous with *ānuk*, meaning "tin", along with the term *abār* (El-Eswed 2002: 141). However, later in the *Epistle*, tin (*ānuk*) is treated as a separate kind of fusible. It is likely that *raṣāṣ* here denotes a kind of pre-mined substance that is plumbous in nature but not necessarily lead. One possibility is litharge (more commonly referred to as *martak* or *murdarsanj*), a lead oxide that is lighter in colour and more diaphanous than pure lead (El-Eswed 2002: 148–149).

140 CFMM 554, p. 106–108; USJ 252, fol. 18r–19r; Gotha A 85, fol. 11v–12r.

141 Eichholz 1949: 143–144.

attributes to vapour the formation of "translucent" (*mushaffa*) substances such as mercury, whereas sulphur, among others, is the result of smoke. Missing from the *Meteorologica*'s account, but very much present in the above passage, is the idea that when these two types of substances mix, they form "earth substances" (*al-ajsām al-arḍiyya*), such as gold and silver.

What is arguably alluded to in the *Epistle* is the mercury-sulphur theory of metals—a theory advanced by mediaeval alchemists working within the context of Islamicate science. Arabic alchemists identified moist exhalations with the production of mercury and dry exhalations with the production of sulphur, each of which coagulate to produce various metals according to various measures. We encounter this scheme in the *Sirr al-khalīqa* ("Secret of Creation") attributed to Apollonius of Tyana but most likely an 8th or 9th century composition. In this work, fusible bodies (*al-ajsād al-dhā'iba*) are said to begin their formation when mercury meets sulphur beneath the earth.[142] Variations in the quality and proportion of their mixture lead to the emergence of the seven principal metals, namely lead, tin, copper, iron, quicksilver, gold, and silver.[143] The earliest systematic adaptation of this theory of metallogenesis to alchemy is in the *Kitāb al-Īḍāḥ* (*Book of Elucidation*) of the Jābirian corpus. Here, the author states that pre-mined metals are composed of various degrees of mercury and sulphur which intermingle and coagulate to produce various metals according to alterations of cold moisture and dry heat during their generation. Those metals produced from the most refined and balanced combinations of sulphur produce gold and those of mercury produce silver, while the wrong ratio of each produces baser metals.[144]

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142 Balīnūs 1979: 246–269.

143 Balīnūs 1979: 249: "I say also of lead, tin, iron, copper, silver, and gold that, that they are formed in their mines from mercury and sulphur. Thus, these bodies are formed by measure of their place and accidents according to their variation" (*aqūlu ayḍan ʿalā l-abār wa-l-ānuk wa-l-ḥadīd wa-l-nuḥās wa-l-fiḍḍa wa-l-dhahab innamā kānat fī maʿādinihā min al-ziʾbaq wa-l-kibrīt fa-bi-qadr al-makān wa-l-ʿāriḍ kānat hādhihi l-ajsād ʿalā khtilāfihā*). Earlier in this work, the seven fusible bodies are associated with the seven planets (Saturn, Jupiter, Mars, Venus, the Moon, the Sun, and Mercury); Balīnūs 1979: 228–242. For echoes of Aristotle's *Meteorologica* in this work, see Kraus 1942–1943: vol. 2, 270–303; Travaglia 2002. The *Sirr al-khalīqa* incorporates an Arabic translation of Nemesius' *De Natura hominis* (composed ca. 400 CE), though this section does not include theories of metal formation. On the dating of the *Sirr al-khalīqa*, see Haq 1994: 29–30.

144 *Kitāb al-Īḍāḥ* (Jābir 1928: 54), translated and discussed in Holmyard 1923: 56 and Principe 2013: 35. For a useful summary of this theory in the Jābirian corpus, see Norris 2006: 46–49. Holmyard notes that Jābir did not understand the mercury-sulphur theory in a literal sense, since he knew that mercury combined with sulphur produces cinnabar (i.e., mercury sulphide). Rather, "[t]he sulphur and mercury composing metals were [...] not the substances known by those names,

Of further importance is that the *Epistle*'s account of metal formation seems to derive from later mediaeval discussions. In the meteorological section of his influential *Kitāb al-Shifāʾ*, Avicenna accepted earlier accounts of the sulphur-mercury theory.[145] Several later Arabic and Syriac philosophical compendia also took up some form of this theory. Many of these were intended as summaries of—as well as developments on—Avicenna's philosophy and include works by Muslim authors such as Fakhr al-Dīn al-Rāzī (d. 606/1210), Abū l-Barakāt al-Baghdādī (d. 560/1165), Athīr al-Dīn al-Abharī (d. between 660/1263 and 663/1265), and Christian authors such as Barhebraeus.[146] The theory even occurs in the *ʿAjāʾib al-makhlūqāt wa-gharāʾib al-mawjūdāt*, a famous work on natural wonders by Zakariyyāʾ al-Qazwīnī (d. d. 682/1283).[147] However, many of these works make an important addition to Avicenna's account of mineral formation: Prior to describing mercury's mixing with sulphur, moist and dry vapours are said to give rise to mercury and sulphur (among other related substances).[148] It is in the context of these later expositions that the *Epistle* outlines its cosmology. This can be observed from striking correspondences between the *Epistle*'s discussion of mineral formation and that of two philosophical compendia by al-Abharī:

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but hypothetical substances to which ordinary sulphur and mercury formed the closest available approximations" (Holmyard 1957: 73; see also Holmyard 1923: 56).

145 *Kitāb al-Shifāʾ: al-Fann al-khāmis min al-ṭabīʿiyyāt fī al-āthār al-ʿulwiyya* (Avicenna 1927: 38–40 [trans.], 84–85 [text]. However, as mentioned above, Avicenna expressly rejects the possibility of artificially recreating such processes.

146 Al-Rāzī 1411/1990–1991: "These [fusible] bodies emerge from the mixing of mercury with sulphur" (*hādhihi l-ajsād innamā takūnu ʿinda khtilāṭ al-zīʾbaq bi-l-kibrīt*); al-Baghdādī 1415/1996: vol 3, 230: "Mercury is the element of fusible bodies, which they say are generated from it and differ according to the difference in the mercury itself and that of [the sulphur] mixing with it that sets it" (*al-zīʾbaq huwa l-ʿunṣur li-l-munṭariqāt yaqūlūna innahā tatakawwanu ʿanhu wa-takhtalifu bi-ḥasab ikhtilāf al-zīʾbaq fī nafsihi wa-khtilāf mā yukhāliṭuhu mimmā yuʿaqqiduhu*); al-Abharī 1998: 446: "The seven [fusible] bodies are generated from the mixing of mercury and sulphur" (*al-ajsām al-sabʿa innamā yatawalladu min ikhtilāṭ al-zīʾbaq wa-l-kibrīt*). At the end of his minerology, Barhebraeus 2004: 104 (text), 105 (trans) states: "The parents of fusible metals, therefore, are mercury and sulphur" (*ʾaḇāhay maḥṭāʾlīqū meṭparšānē ʾārā zīwaḡ w-ḵeḇrīṭā ʾennōn*).

147 Qazwīnī 2000: 173 repeats verbatim al-Abharī's statement that all fusible bodies are formed of mercury and sulphur, with the addition: "according to difference[s] in quantity and quality" (*ʿalā khtilāf fī l-kamm wa-l-kayf*).

148 See Lettinck 1999: 304–309 for examples from al-Baghdādī and Fakhr al-Dīn al-Rāzī.

al-Abharī, *Hidāyat al-ḥikma* (al-Abharī 2008: 179)	al-Abharī, *Zubdat al-Asrār* (Pococke 107, 212v–213r)	Ps.-Aristotle, *al-Risāla fī l-ṣināʿa (see previously cited passage)*
الابخرة والادخنة المحتسبة في الارض اذا لم تكن كثيرة اختلط على ضروب من الاختلاطات مختلفة في الكم والكيف فتكون منها الاجسام المعدنية فان غلب البخار تولد اليشب والبلور والزيبق والرصاص وغيرها من الجواهر المشفة وان غلب دخان تولد الملح والزاج والنوشادر ثم من اختلاط بعض هذه مع بعض تولد الاجسام الأرضية مثل الذهب والفضة	الابخرة والادخنة المحتسبة في الارض اذا لم تكن كثيرة اختلط على ضروب من الاختلاطات مختلفة في الكيف والكم فيكون منها الاجسام المعدنية فان غلب البخار تولد اليشب والبلور والزيبق والرصاص وغيرها من الجواهر المشفة وان غلب دخان تولد الملح والزاج والكبريت والنوشادر ثم من اختلاط بعض هذه مع بعض تولد غيرها من الاجسام الأرضية مثل الذهب والفضة والانك والنحاس والحديد	فاذا امتزج البخار والدخان في بطون الارض على ضروب من الاختلاطات مختلفة في الكمية والكيفية تولدت الاجسام المعدينة فان كان الغالب هو البخار تولد الزيبق والرصاص والبلور وغيرها من الجواهر مشفة وان كان الغالب هو الدخان تولد الملح والزاج والكبريت ومن اختلاط هذه وامتزاج بعضها ببعض باختلاف من الازمان والاعيان والاوزان تولدت الجواهر الارضية مثل الذهب والفضة والنحاس والرصاص والحديد
The vapour and smoke in the earth, if they are not much, mix according to various mixtures differing in quantity and quality, and so earth bodies are generated from them. If vapor overcomes [smoke], then jade, crystal, mercury, *raṣāṣ*, and other translucent substances are generated. If smoke dominates [vapour], then salt, vitriol, and sal ammoniac are generated. Then, from the mixture of these with one another, earth bodies are generated like gold and silver.	The vapour and smoke in the earth, if they are not much, mix according to various mixtures differing in quality and quantity, and so mineral bodies are generated from them. If vapor overcomes [smoke], then jade, crystal, mercury, *raṣāṣ* and other translucent substances are generated. If smoke dominates [vapour], then salt, vitriol, sulphur, and sal ammoniac are generated. Then, from the mixture of these with one another, earth bodies are generated like gold, silver, tin, copper, and iron.	If vapour and smoke mix in the bottom of the earth according to various mixtures differing in quantity and quality, mineral bodies are generated. If the smoke is dominant, mercury, *raṣāṣ*, crystal, and other translucent substances are generated. If smoke is dominant, salt, vitriol, and sulphur are generated. From the mixture and co-mingling of these with one another through different times, essences, and measures, earth substances are generated like gold, silver, copper, lead, and iron.

Thus, in line with the Arabic minerological tradition, the *Epistle* takes its starting point from a theory of mineral formation inspired by Aristotle's *Meteorologica*, extrapolating from it the notion that all metals are formed from the admixture of translucent and dry substances. As we shall see in the following chapter, the author of the *Epistle* conceives of these two constituent substances in metals (and in the elixir) as approximating mercury and sulphur. Of course, one might consider whether the *Epistle* was the older source from which later authors like al-Abharī derived their accounts of mineral formation. However, as we have already observed, ʿAbdīshōʿ suggests that he was the first to translate the *Epistle* into Arabic. Whether or not we choose to believe his claim, we should note that

ʿAbdīshōʿ's floruit was much later than that of al-Abharī. As such, it is rather unlikely that al-Abharī, or any other post-Avicennan Muslim thinker, derived their minerology from an untranslated Syriac work. Instead, we should see the *Epistle*'s theory of metal formation as part of a long tradition of invoking a modified Aristotelianism in support of alchemy, though the author appears to do this through a later mediaeval textual tradition.

Further indicative of the *Epistle*'s Arabo-Islamic context is its discussion of "animal," or organic, substances used in the preparation of the elixir. The use of organic (rather than mineral) substances was a feature of the earliest Graeco-Egyptian alchemy. For example, one 3rd century papyrus contains a recipe for a tincturing substance known as "water of sulphur" which involves adding vinegar or the urine of a youth with lime and sulphur.[149] Similarly, Zosimus of Panopolis mentions that "water of sulphur" is known by many names such as castor oil, radish oil, balsam oil, and milk produced by a woman bearing male children.[150] Moreover, the *Chemistry of Moses* contains three recipes for distilling water from eggs.[151] However, one also encounters a certain ambivalence towards the use of non-mineral substances in late antique Greek alchemical discourse. The author of the *Chemistry of Moses*, for instance, mentions the scepticism of certain practitioners towards organic liquid washes, though he himself recommends their use.[152] Much of this scepticism arose from questions about how to interpret the writings of older authorities. In his discussion of plant juices mentioned by Pseudo-Democritus, Zosimus considers the possibility that these were in fact references to the solutions of mineral substances.[153] Similarly, Synesius (4th century) believed Pseudo-Democritus's references to plant matter were little more than riddles signifying mineral products.[154]

In mediaeval Arabic alchemical discourse, one encounters a much less equivocal attitude towards the use of non-mineral substances. Historians of science often credit to Arabic alchemy the realisation that animal and vegetal rather than mineral substances were best suited to the making of the Philosophers' Stone.[155] The earliest and clearest articulation of this comes from the

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149 P. Leid. X. 87, cited and discussed in Martell 2009: 8.

150 *On Divine Water* (Berthelot/Ruelle 1887–1888: part 3, 184 [text], 182 [trans.]). See also discussion in Martelli 2009: 9–10.

151 *The Chemistry of Moses* (Berthelot/Ruelle 1887–1888: part 4, 303 [text], 290–291 [trans.]).

152 *The Chemistry of Moses* (Berthelot/Ruelle 1887–1888: part 4, 305 [text], 293 [trans.]).

153 *On Divine Water* (Berthelot/Ruelle 1887–1888: part 3, 184–185 [text], 181–182 [trans.). See also discussion in Martelli 2013: 238, n. 2.

154 *The Philosopher Synesius to Dioscorus: Notes on Democritus' Book* (Martelli 2013: 124–125).

155 See, for example, Haq 1994: 228: "[H]istorians of alchemy are united in their observation that, notwithstanding ancient China, it was the Arabs who introduced plant and animal substances into

Jābirian corpus. Although the author usually alludes to the precise animal substances through *Decknamen*,[156] he nevertheless insists that it is these rather than mineral substances that are crucial to the preparation of the "Great Work."[157] Elsewhere in the Jābirian corpus, the author explains why exactly animal substances are preferable. Resting his authority on words attributed to Socrates, he states that animal and vegetal plant bodies cannot be ground or stretched and are thus easier to separate from their moisture or spirits when exposed to fire (*idhā ghaṣabathu al-nār iftaraqat arwāḥuhā ʿan ajsādihā*), in much the same way that earth mixed with water is separated (*bi-manzilat al-turāb qad jamaʿa ilā māʾ*). The spirits of minerals, on the other hand, are far harder to extract because their moistness and dryness are more widely spread throughout their bodies; therefore, when a mineral body is liquified, its spirits form part of its liquified mass.[158]

Later Arabic alchemists continued to emphasise the importance of animal stones but, unlike Jābir ibn Ḥayyān, were not averse to clearly indicating their names. Abū Bakr al-Rāzī (d. 313/925 or 323/932) and the encyclopaedist Muḥammad ibn Aḥmad al-Khwārizmī (fl. late 10th century) mention that, according to the sages (*al-ḥukamāʾ*), the animal "stones" used in the making of the elixir are hair, crania, brains, gall, blood, milk, urine, eggs, mother-of-pearl, and horn.[159] The same ten animal substances listed by al-Rāzī and al-Khwārizmī also occur in the *Epistle*, which mentions them in ways that suggests a reliance on earlier Arabic works:

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the repertoire of alchemy"; Principe 2013: 39–40: "Jābir's theory of elixirs is novel and original. Because his elixirs are simply combinations of the four qualities in the right proportions, they can be prepared from virtually anything, because hot, cold, wet, and dry exist in all material substances. This idea stands in stark contrast to the Greek authors who claim that the greatest secret in alchemy is discovering the correct substance from which the transmuting agent is to be made, and who generally stipulate that it is something in the mineral realm." These statements require some modification. While earlier Greek chemists certainly did employ animal and plant substances, there was a considerable amount of discussion regarding their efficacy (as mentioned above). Nevertheless, the near unanimous insistence on their efficacy does not become a feature of alchemy until the Abbasid period.

156 See, for example, Jābir's first ten treatises which deal with the use of animal substances (referred to as "stones," *aḥjār*) in the preparation of the elixir. In the first of these, entitled *Kitāb al-Lāhūt* (*Book of Divinity*), Jābir states that he will only "allude to the animal "stone" with what is proximate according to man" (*narmuzuhu bi-mā yaqrubu ʿalā l-insān*); Jābir 1988: 10 (text); Jābir 1983: 102 (trans.).

157 On the prime importance of animal substances, see *Kitāb al-Usṭuqus al-uss al-awwal* (Jābir 1928): 64–69.

158 *Kitāb al-tajrīd* (Jābir 1928: 129–130).

159 al-Rāzī 1964: 7 (text), Ruska 1937: 92 (trans.); al-Khwārizmī 1984: 284.

al-Rāzī, *Kitāb al-Asrār* (al-Rāzī 1964: 7)	al-Khwārizmī, *Mafātīḥ al-ʿulūm* (al-Khwārizmī 1984: 284)	Pseudo-Aristotle, *Epistle on Alchemy* (CFMM 540, p. 133–134; USJ 252, fol. 32r–32v; missing in Gotha A 85)
واما العقاقير الحيوانية فمنها عملت الحكماء اكاسير واليها اشاروا ورمزوا بها وهي عشرة احجار الشعر والقحف والدماغ والمرارة والدم واللبن والبول والبيض والصدف والقرن وهو اجلها	الحجر، عندهم، هو الشيء الذي يكون منه الصنعة أعني الذي يعمل منه الإكسير وهو صنفان حيواني ومعدني وأفضلهما الحيواني وأصنافه الشعر والدم، والبول والبيض والمرارات والأدمغة والأقحاف والصدف والقرن وأجود هذه كلها شعر الإنسان ثم البيض	قد علمت ان الاحجار الحيوانية المتخذ منها الاكسير عند الحكماء الفلاسفة عشرة وهو الشعر والدماغ والبيض والمرار والجمجمة والقرن والدم واللبن والبول والصدف
As for animal medicaments, the philosophers worked elixirs from them and alluded to them and referred to them by codes. They are ten stones: Hair, crania, brains, gall, blood, milk, urine, eggs, mother-of-pearl, and horns, which is the greatest of them.	The stone, according to them, is the thing from which the art comes, I mean that the elixir is made from it. It is of two types: animal and mineral, the most excellent being the animal. Its types are: Hair, blood, urine, eggs, gall, brains, crania, mother-of-pearl and horn. The best of all of these is human hair, then eggs.	You already know that animal stones from which the elixir is made are, according to the wise philosophers, ten: Hair, brains, eggs, gall, crania, horns, blood, milk, urine, and mother-of-pearl.

It is important to stress once again that Arabic alchemists were not the first to employ organic materials in metallurgic and alchemical practices. However, I am aware of no earlier, late antique Greek text in which all ten of the above products are stipulated for the making of elixirs. Nor were earlier Graeco-Egyptian and Byzantine alchemists in the habit of referring to these products as "animal stones." The occurrence of these ten in the *Epistle*, therefore, suggest a much later composition.

Connected to the enumeration of "animal stones" is the *Epistle*'s discussion of distillation. In its section on this procedure, the author of the *Epistle* relates that

ان الاحجار الحيوانية جميعها هي افضل من سائر المعدنيات ولا يمكن اتخاذ[160] الاكسير منها الا بالتقطير وهو صناعة مشهورة اشهرها صناع الماورد

animal stones in their entirety are preferable to all other mineral substances (*maʿdiniyyāt*). Extracting (*ittikhādh*) the elixir from them is only possible through distillation, which is a famous craft (*ṣināʿa mashhūra*) popularised by manufacturers of rosewater (*ṣināʿa mashhūra ashharahā ṣunnāʿ al-māward*).[161]

160 ܐܬܚܐܕ (i.e. *ittiḥād*) in CFFM 554 and USJ 252.

161 CFMM 554, p. 133–134; USJ 252, fol. 32r–32v (omitted in Gotha A 85).

Once again, it is possible to connect this statement with earlier Arabic discussions. To my knowledge, no late antique alchemist makes the connection between distillation and rosewater-making. However, the association is common in mediaeval Arabic writings on the topic. For example, Abū Bakr al-Rāzī states that the cucurbit and alembic are instruments used in the making of rosewater (*al-qarʿa wa-l-anbīq mā yuʿmalu fīhi l-māward*),[162] while Khwārizmī tells us that distillation is like the making of rosewater (*al-taqṭīr huwa mithlu ṣanʿat māʾ al-ward*).[163] The earliest known recipe for rose distillation was composed by the Baghdad Aristotelian al-Kindī (d. c. 256/870).[164] Indeed, it was during the first two Abbasid centuries that the manufacture and trade in rose distillates first became widespread.[165] Prior to that, aromatic and medicinal substances extracted from roses tended to be by decoction rather than distillation. It was not until the Middle Ages that Byzantine writers began speaking of rosewater as a distillate used in medicinal and ceremonial contexts, often with the Arabo-Persian variety in mind.[166] Rose distillation is not explicitly mentioned in Byzantine alchemical contexts until the Middle Ages, such as we find in one treatise on chrysopoeia by Nicephorus

162 al-Rāzī 1927: 414 (text), 362 (trans.).

163 al-Khwārizmī 1984: 283.

164 See Inoue 2017: 89–90. Al-Kindī is said in later sources to have been a critic of alchemy, thus making it unlikely that he considered distillation as alchemical *per se*. On this point, see Inoue 2017: 80.

165 Iṣtakhrī (fl. c. 340/951), Ibn Ḥawqal (d. after 367/978), al-Muqaddasī (d. d. c. 380/990), and al-Thaʿālibī (d. 429/1038) report that the province of Fārs sent an annual *kharāj* of 27 million dirhams to the court of al-Maʾmūn (r. 197–198/813–218/833), a portion of which consisted of 30,000 phials of distilled rose extract; see Holmyard 1957: 49; Aʿlam 2001: 58–59.

166 Regarding perfume-making practices in the Hellenistic and Roman world, Brun 2000: 277 points out: "[A]lthough the ancients empirically understood distillation principles, they had not yet discovered distilled alcohol and mainly used glycerides to fix fragrances." For an example of an undistilled rose oil (ῥόδινος) used in 6th-century ophthalmology, see Aëtius of Amida 2000: 31, 33, 57, 91, 119. I am grateful to Matteo Martelli for this reference. As for the term ῥοδόσταγμα, Forbes 1948: 28 observes: "The manufacturing of perfumes was continued in the old way. When the texts speak of 'oil of roses', they mean decoctions but not distillates. Only in Byzantine texts of the tenth century and later a 'rodostagma' (oil of roses) is mentioned which is distilled from rose leaves in cucurbits. Such is the oil of roses of Constantine Porphyrogenetes and Theophanes Nonnus and Nicephorus [Blemmydes] (thirteenth century). This distilled oil was probably a product the manufacture of which was learned from the Arabs, from which was meant Persia." Another term for rosewater in Byzantine Greek was ζουλάπιν, from the Persian *golāb*/Arabic *julāb*; see Hemmerdinger 1969: 26, citing the *Oneirocritikon of Achmet* (ca. 843–1075) and Parisinus gr. 2,239 (13th-century).

Blemmydes, a 13th-century author and thus an unlikely source of inspiration for the *Epistle*.[167]

Further suggestive of the *Epistle*'s Islamicate background is its method of distillation. Another advance made by the Jābirian corpus was the process of fractional distillation. Central here is the premise that each of the four elements are subject to separation (*tafṣīl*). This is done by first distilling an organic body's water, air, earth, and fire. According to this scheme, the water corresponds to an organic product's liquid; the air corresponds to its grease (*duhn*); the fire corresponds to its red residue (*ḥumra*) and tincture (*ṣibgh*); and its earth corresponds to its black sediment (*sawād*) and body (*jasad*).[168] To my knowledge, no late antique Greek source speaks of this method of elemental (or fractional) distillation.[169] Rather, the concept emerges in Byzantine alchemy some centuries after the formation of the Jābirian corpus. One mediaeval Byzantine treatise known as the *Work of the Four Elements* (ca. 12th century) has been shown by Andrée Colinet to draw on Jābirian notions fractional distillation.[170] A work similarly inspired by Arabic alchemy (possibly via Latin translations) appears in a later Byzantine text known as the *Anonymous Zuretti* (c. 1300), which outlines a procedure for elemental separation.[171] It is against this background of Jābirian alchemy that the *Epistle* sets out its method of distillation. The author begins by reiterating the principle that organic substances, or "animal stones," are better suited because only water can be distilled from "mineral stones" (*al-aḥjār al-maʿdiniyya lā yuqṭaru minhā siwā l-māʾ*).[172] But with an "animal stone," one can first separate its liquid and then the grease (*al-duhn*), because the latter is more resistant to fire (*li-annahu aṣbar wa-athbat*). After repeated distillations, the water is purified, or "whitened" (*ibyaḍḍa*),

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167 For example, Nicephorus instructs his reader to draw out the contents of the alembic like rosewater (ἀνάσπα τοῦτο ὡς ῥοδόσταγμα); *On Gold-Making with Eggs* (Berthelot/Ruelle 1887–1888: part 6, 453 [text], 424 [trans]). See also previous note. Prior to this, in the 7th century, Stephanus of Alexandria mentions the use of ῥόδινος in the treatment of copper. As Taylor 1938: 47, n. 94 observes, "[t]his is presumably olive-oil scented with roses, not a distilled product."

168 *Kitāb al-Thalāthīn kalima* (Jābir 1988: 41); *Tafsīr Kitāb al-Usṭuqus* (Jābir 1928: 108–109). For other examples from the Jābirian corpus, see Kraus 1943–1943: vol. 2, 5.

169 Although one finds instances of egg distillation in early alchemy, there is no indication that such processes were fractional; see examples in *The Chemistry of Moses* (Berthelot/Ruelle 1887–1888: part 4, 303 [text], 290–291 [trans.]) and a 7/8th-century alchemist known as Christianus (Berthelot 1887–1888: part 6, 406 [text], 391 [trans.]). In both cases, the water is the object of separation rather than all four of the elements. On this point, see Colinet 2000: 171.

170 Colinet 2000: 169–172. For the *Work of the Four Elements*, see Berthelot/Ruelle 1887–1888: part 5, 337–342 (text), 322–327 (trans.). For other contacts between Byzantine and Islamicate alchemy, see Mavroudi 2002: 400–403.

171 Colinet 2002: 9, 243, no. 40.

172 CFMM 554, p. 134; USJ 252, 32v–33r; Gotha A, 17v.

until its tincture (*ṣibghuhu*) is extracted. First its black residue (*sawād*) is said to come out, followed by the separation of its red residue (*ḥumratuhu*) or tincture.[173] Note here that the four parts of the "stone" are not referred to by their elements but by their specific names (i.e., "liquid," "grease," "black sediment," and "red residue"). Nevertheless, the fractional sequence of this process makes clear that the four elements are implied.

In addition to theory, the *Epistle* also appears indebted to various chemical operations developed by previous generations of Arabic alchemists. One of these is the process of lutation, a method of coating pots to protect them from fire, sealing vessels, and joining parts of apparatuses.[174] The earliest recipe for this occurs in the Greek works of Zosimus.[175] According to Zosimus, the lute is made from flour, water, oil mixed with gypsum, propolis, or boiled lime. The same author recommends coating a terracotta vessel with a clay called a 'refractory.'[176] However, a very a different method of lutation emerges among Arabic writers. In his recipe for "Clay of Wisdom" (*ṭīn al-ḥikma*) or "Philosophers' Clay" (*ṭīn al-ḥukamā'*), al-Rāzī stipulates the use of "free clay" (*al-ṭīn al-ḥurr*, i.e., clay free from sand and stones), flour, rice bran, goat's hair, and manure, in a process involving repeatedly straining the clay through hair sieves and pulverising it.[177] The same recipe occurs in a Garshūnī text preserved in two mediaeval manuscripts published by Marcellin Berthelot and Rubens Duval in 1893.[178] In another recipe, al-Rāzī prescribes a similar set of ingredients, though instead of manure we find salt, charcoal, and ash.[179] A very similar recipe for "Clay of Wisdom" (σοφιστικός πηλός) occurs in the in the late Byzantine treatise known as the *Anonymous Zuretti*—a work which, as noted earlier, owes no small debt to Arabo-Latin sources.[180] The *Epistle*'s account of "Philosophers' Clay" can also be situated within similar currents of alchemical practice:

طين الحكماء يؤخذ من الطين الاحمر الناعم المعلك او الابيض النقي من الحصاة فيسحق ناعما وينخل بمنخل شعر ضيق ويعجن بما قد نقع فيه نخالة الارز ويخمر يوما وليلة ثم يؤخذ لكل رطل منه اوقية من خزف مدقوق المنخول ومثله ملح المشوي ومثله رماد خشب البلوط ومثله دقاق التبن ومثله فحم مسحق ومثله الشعر الماعز المقطع ويلت الجميع لتا جدا محكما قويا فهذا هو طين الحكمة تطينه به ما يراد تطيينه من القدور والقوارير والبراني الفخار

173 CFMM 554, p. 134–135; USJ 252, 32v–33r; Gotha A, 17v–18r.

174 For this definition, see Thomas 2013: 249–250.

175 Thomas 2013: 250–251. In some instances, Zosimus credits the invention of luting to an earlier Egyptian alchemist known as Mary the Jew; see Patai 1982: 178.

176 Thomas 2013: 251.

177 al-Rāzī 1964: 10 (text), Ruska 1937: 96 (trans.).

178 Berthelot/Duval 1893: 68 (text), 152 (trans.). See also a similar, though briefer, description of "Clay of Wisdom" by al-Khwārizmī 1984: 284.

179 al-Rāzī 1927: 414–415 (text), 356 (trans.).

180 Colinet 2002: 65–66. Here, the author prescribes red or white clay, salt, hair, ash, and coals.

> The Clay of Wisdom is taken from viscous, fatty red clay, or white clay, that is free of stones. It is ground into a paste, sifted, and kneaded in a sieve of fine hair in which rice brans have been soaked. It is fermented for a day and night, then for every *raṭl* an ounce of broken and sifted potshards is added, along with the same amount of assated salt (*al-milḥ al-mashwī*), oak ashes, pulverised straw, ground charcoal, and chopped goat's hair. The whole thing is then beaten thoroughly. This is the Clay of Wisdom with which you lute the intended pots, vials, and clay vessels.[181]

Thus, it is clear is that the *Epistle* actively engages with principles rooted in Jābirian and Rāzian traditions of alchemy. As such, we might consider two possibilities regarding the authorship and *Sitz im Leben* of this work. Firstly, if we accept ʿAbdīshōʿ's claim that he translated the *Epistle* from a Syriac version, then it would likely be the case that this Syriac work was a mediaeval composition influenced by Arabo-Islamic models. If so, then we would have to discard the possibility of a Greek *Vorlage*. Alternatively, ʿAbdīshōʿ's claim to have translated the work from an ancient Syriac original could simply be a common literary topos (discussed in the previous session). Also noteworthy is the fact that none of the *Epistle*'s theories and operations examined above rely on encoded language. Nevertheless, secrecy does serve some function in the *Epistle*. As we shall see in the following section, Arabic alchemists who flourished after Jābir ibn Ḥayyān were increasingly prepared to discuss alchemy more openly while acknowledging the need for secrecy in certain cases.

5 The limits of disclosure: the *Epistle*'s approach on concealment

Although the *Epistle* does not make frequent use of *Decknamen*, it does not do away with encoded language entirely. Herein lies a paradox that has been noted by past historians of esotericism. Most notably, Halbertal observed that in the 13th century Jewish milieu "the boundaries of the esoteric began to be tested and cracked" as intellectuals "felt it important to guard the esoteric while announcing its existence, consequently revealing an unresolved tension between concealment and exposure."[182] Indeed, some three centuries earlier, Islamic authors were already beginning to interrogate the boundaries of the esoteric while gesturing to its importance.

We should first note that the boundaries of secrecy and disclosure were the subject of much discussion among earlier alchemists. In one Pseudo-Democritan

181 CFMM 554, p. 128–129; USJ 252, 29v–30r; missing in Gotha A 85.

182 Halbertal 2007: 5.

work, the author criticises contemporary practitioners who dismiss the cryptic statements of the ancients as mere fables instead of dedicating themselves to careful study.[183] Elsewhere in this work, Pseudo-Democritus relates how his teacher, Ostanes the Persian, died before his initiation. Wishing to know the secret of "harmonising the natures," Pseudo-Democritus summons the shade of his former master, only to be told that the "*daimon* does not permit it." The only revelation that he receives is the enigmatic statement "nature delights in nature, nature conquers nature, and nature rules over nature." As a result, Pseudo-Democritus and his fellow initiates are nudged towards independent study.[184] Similar concerns about *daimonic* intervention are expressed by Zosimus. In a treatise addressed to Theosebeia, the Panopolitan attacks lazy alchemists for seeking direct inspiration from *daimonēs* and astrology instead of studying the mysteries of the ancients.[185] Yet one also finds in Zosimus certain misgivings about encrypted language. Elsewhere in his oeuvre, he complains about the obscurity of the ancients, which enables him to propose his own interpretations of older authorities.[186] Moreover, in a work preserved in Syriac, Zosimus expresses his frustration at Egyptian priests who jealously guard the secret of ceration and the treatment of plasters. Their use of symbols, he claims, has more to do with vanity than a concern for proper technique.[187] One encounters similar tensions in non-occult contexts in ancient literature. For example, Plutarch (d. after 119) relates that Alexander wrote to Aristotle during his campaign in Asia, castigating his teacher for making his philosophical doctrines public. In response, Aristotle explains that his teachings were both open and secret, since his *Metaphysics* was written as an *aide-mémoire* for those already well-versed in the subject.[188]

In mediaeval Islamic alchemical literature, we encounter a different tension towards secrecy and disclosure. The 10th-century alchemist Muḥammad ibn

183 *Physica et Mystica* (Berthelot/Ruelle 1887–1888: part 2, 47 [text], 50–51 [trans.]). See also discission in Fraser 2018: 736.

184 *Physica et Mystica* (Berthelot/Ruelle 1887–1888, part 2, 43 [text], 44–45 [trans.]). See also discussion in Fraser 2018: 735–736.

185 *On the Letter Omega* (Zosimus of Panopolis 1995: 1–2).

186 This theme is particularly well-developed in Zosimus's *First Book of the Final Account* (Festugière 1950: 363–368 [text], 275–282 [trans.]).

187 *Book Six: On the Working of Copper* (Berthelot/Duval 1893: 223–224).

188 *Life of Alexander* (Plutarch 2008: § 8). This letter is cited in a commentary on Dionysius of Halicarnassus's *Roman Antiquities* by John Kanaboutzes (fl. 15th century) for the Genoese lord of Ainos and Samothrace. In it, Kanaboutzes mentions the Plutarchian letter as an example of how philosophy in general should be withheld from the masses. Later in this work, Kanaboutzes discusses alchemy as a science fit for kings, but does not mention Alexander and Aristotle in this context; see Sakarrafou/Merianos 2014: 87. On the identification of Kanaboutzes's Plutarchian source, see Hinterberger 2002: 412–413, n. 28.

Umayl, in his *Ḥall al-rumūz* ("Solution to Codes"), writes that the ancients spoke in symbolic language to communicate wisdom to those who shared their moral values (*akhlāq*). Yet he then goes on to lament the unwillingness of practitioners to commit the necessary effort and resources to deciphering the symbols of the ancients, thus leading them to approach their sayings with only a superficial understanding of their meanings (*ya'tamidu 'alā aqwāl al-ḥukamā' al-ẓāhira*). Among these practitioners were those who believed themselves to have direct access to divine secrets (*sirr Allāh al-maknūn*). This lack of diligence, explains Ibn Umayl, is what compelled him to clarify these symbols.[189] Another solution to alchemical ciphers was produced by Maslama al-Qurṭubī (d. 353/964), in a work entitled *Rutbat al-ḥakīm* ("The Rank of the Sage"), a companion volume to his better-known magical grimoire entitled *Ghāyat al-ḥakīm* ("Goal of the Sage"), or the *Picatrix* as it became known in Latin translation.[190] Like Ibn Umayl, al-Qurṭubī recognises both the value and the limitations of obfuscatory language. According to him, ancient Greek authorities such as Zosimus employed an encoded language that was understood by contemporaries. However, the Arabs of the age, not knowing Greek, were incapable of fully comprehending their codes, and so al-Qurṭubī sets out to explain them. Moreover, al-Qurṭubī not only views codes as an obstacle to comprehension; he also believes them to be a threat to the very integrity and public image of alchemy itself, citing contemporary critics who say that the codes used by the ancients are empty and devoid of meaning (*fārigha lā ma'nā lahā*). In order to demonstrate the veracity and utility of cyphers, al-Qurṭubī sets out to decode them.[191] It appears that such criticisms of alchemy were not wholly imagined; a later treatise entitled *Risālat al-Iksīr* ("The Epistle on the Elixir") attributed to Ibn Sīnā, a well-known refuter of the "Art," begins with the charge that alchemical writing is all too often "devoid of analogical reasoning that is the basis of every art" (*khāliyatan 'an al-qiyās alladhī huwa 'umdat kull ṣinā'a*), and thus sets out to soberly and fair-mindedly assess the main arguments for and against it.[192] Thus, the benefits of secrecy notwithstanding, authors such as al-Qurṭubī and Ibn Umayl acknowledged that in order to transmit alchemical knowledge properly while protecting it against the accusation of obscurantism, some measure of transparency was required.

It is *this* kind of tension that we find in 'Abdīshō''s preface to the *Epistle*, as well as in the *Epistle* itself. In his preface, 'Abdīshō' responds to complaints by critics who believe that alchemical secrecy is little more than a cover for deception. But

189 Ibn Umayl 2003: 3–4.

190 On the *Rutbat al-ḥakīm*, see Moureau/de Callataÿ in the present volume.

191 al-Qurṭubī 2017: 113–114. For a discussion of this passage, see Madelung 2017: 124–125.

192 Pseudo-Avicenna 1953: 35.

unlike the ancient and late antique authors mentioned above, ʿAbdīshōʿ addresses these objections by "translating" an alchemical treatise that makes light use of enigmas. Setting out his reasons for working on the *Epistle*, ʿAbdīshōʿ complains of certain people whom he views as undermining the integrity of the "Art." The first is a group to whom he refers as *hamaj al-mutafalsifīn*, "the rabble of philosophasters," quack alchemists who knowingly mislead the simpleminded.[193] Such complaints may reflect stories about unscrupulous alchemists who use their craft to swindle the unwary, such as we read about in accounts by ʿAbd al-Raḥmān ibn ʿUmar al-Jawbarī of Damascus (fl. 1222).[194] Yet it is here that ʿAbdīshōʿ's concerns about secrecy emerge: In addition to charlatans and tricksters, he lambasts practitioners who possess only an apparent understanding of the words of the ancient sages (*ḥamalat kalām al-ḥukamāʾ wa-l-falāsifa ʿalā ẓāhirat ishtibāh al-alfāẓ wa-l-maʿānī*),[195] the implication being that they are incapable of penetrating the surface of their symbolic language—a concern we have already noted in Ibn Umayl's *Ḥall al-rumūz*. Such practitioners, writes ʿAbdīshōʿ, are like those who wish to read before learning their ABCs (*alif bāʾ*), or those who claim skill in medicine without grasping its theory and practice.[196] But perhaps his greatest scorn is reserved for those who—like the critics addressed by al-Qurṭubī—accuse alchemists of using cyphers to hide their meaningless:

> وطائفة منهم أيضا اشتغلوا[197] في ايراد المناقشات[198] والمناقضات والطعن على أصحاب هذه الصناعة الالهية والتكذيب بها وكانوا علموا ان اصحاب المناصب في الحكمة وارباب الدرجات في العلوم الشريفة[199] قد شهدوا بصحتها علما وعملا مثل العالم اغاديمون وهرمس العظيم وفيثاغوروس القديم وبليناس واسطانيس وافلاطون وارسطاطاليس وغيرهم من اساطين الفلسفة ولكن لما رمزوا عليها بالاشارات اللطيفة وفات هؤلاء الجهال مقدار ما كتموه من اسرارها الشريفة لم يتحاشوا بان يكذبوا بها ويتهموا اصحابها بالغلط والمغالطة وزخرفة الاقوال المحالية
>
> [Another] group busy themselves with naysaying, criticising, refuting, and denying the people of this divine art, despite knowing that the doyens of philosophy and the noble sciences—such as the wise Agathodaemon, the great Hermes, the ancient Pythagoras, Apollonius, Ostanes, Plato, Aristotle, and other masters of this art—have testified to its theoretical and practical soundness. And yet, when [these sages] allude to [the Art] with subtle insinuations (*ramazū ʿalayhā bi-l-ishārāt al-laṭīfa*), and a measure of the noble secrets that they conceal escapes (*fāta*) these ignoramuses, they have no shame in accusing them of error and of embellishing [their writing] with absurd expressions (*zakhrafat al-aqwāl al-muḥāliyya*).[200]

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193 CFMM 252, p. 79; USJ 252, fol. 4r; Gotha A 85, fol. 3r.

194 al-Jawbarī 2014: 173–197. See also translated excerpts in Abrahams 1984: 85–88.

195 CFMM 252, p. 80; USJ 252, fol. 4v; Gotha A 85, fol. 3r.

196 CFMM 252, p. 80; USJ 252, fol. 4v–5r; Gotha A 85, fol. 3r–3v.

197 اجتهدوا in USJ 252.

198 Missing in USJ 252.

199 الدرجات العظيم الشريفة in Gotha A 85.

200 CFMM 252, p. 81–82; USJ 252, fol. 5r–5v; Gotha A 85, fol. 3v.

This would suggest that ʿAbdīshōʿ views *Decknamen* as an integral part of alchemy—a technical language that, with the right amount of dedication, could reveal natural-philosophical truths. Yet, in common with earlier Arabic alchemists, ʿAbdīshōʿ viewed symbolism as a significant stumbling-block that encouraged some to misuse alchemy and others to criticise it. As such, ʿAbdīshōʿ's appears to uphold the *Epistle* as an example of a clear and concise approach to alchemy that could be consulted with relative ease, without the implication of obscurantism.

In a similar vein, the *Epistle* itself seeks to disambiguate many aspects alchemy. At the same time, however, the author acknowledges that there must be limits to disclosure. He does this by employing the genre of the epistolary romance which, as we observed earlier, was popular across confessional and linguistic boundaries over several centuries. Once again, the *Epistle* departs from more ancient accounts in important ways. Whereas in Plutarch's *Life* Alexander reprimands Aristotle for revealing his oral teachings, in the *Epistle* it is the Macedonian king who demands written instruction from his teacher. We have also noted that the *Epistle*'s Aristotle announces that he will explain alchemy without recourse to codes but does so only because Alexander is far away in India, and because he alone is worthy of such disclosure.[201] In other words, the narrative frame of the exchange provides the author with a fitting pretext to write a treatise on a secretive science that simultaneously eschews secrecy. In doing so, Aristotle does not dispense with secrecy entirely; in the *Epistle*'s narrative, the Stagirite explains that were Alexander *not* deemed worthy, such mysteries would necessarily be hidden from him and those similarly undeserving (*man laysa mustaḥiqq lahā*), in which case codes would be employed to prevent their discovery (*ḥattā lā yaqaʿu bihā*).[202] Driving home the theoretical importance of secrecy, pseudo-Aristotle provides a theological justification for it, stating:

> فان العلة الاولى لرأفتها بالبشر جعلت منهم فقراء ومنهم أيضا أغنياء حتى يجتهد الفقراء استنباط الصناعات التي تنتظم بها مصالح العالم السفلي في خدمة الاغنياء، حتى بذلك ينالوا منهم ما يقيم لهم صورة البقاء الشخصي ويبدل الاغنياء عظيمَ الصلاة والجوائز[203] للفقراء لتضعيف الصنائع[204] وابداع الغرائب ولو كانوا كلهم على صفة واحدة في الغناء والفقر لبطلت مصالح عالمهم وتوقفت احوالهم وتعذرت اللذات عندهم [...] ولما كانت بغية الفلاسفة ومقصودهم القرب من العلة الأولى والتشبه بها بقدر الامكان وكان القرب منها بالصفات لا بالمكان فلذلك وجب عليهم اتباع شرط المصلحة العامة في كتمان هذا الامر واخفائه والتكلم به وعليه ولاجله بالرموز

201 CFMM 554, p. 103; USJ 252, fol. 16r; Gotha A 85, fol. 11v.
202 CFMM 554, p. 103; USJ 252, fol. 16r; Gotha A 85, fol. 11v.
203 ܠܒܘܐܪܝ (?) in USJ 252.
204 مصالح in CFMM 554 and USJ 252.

والالقاب والاسماء المستعارة[205] وتخليط النعوت لعقاقيره وتدابيره ووجه تأليفه وتركيبه اذ لو جعلوه مباحا كأحد العلوم والصناعات لخالفوا في ذلك العلّة الاولى من قبل الخرم[206] بحال[207] نظام ترتيب العالم وتعطيل مصالحه

> The First Cause, due to Its love for humankind, made some poor and others rich so that the poor might strive to invent arts, through which the advantages (*maṣāliḥ*) of the sub-lunar world are ordered, in service to the rich. In this manner, the rich receive from the poor that which provides them their means of personal survival (*al-baqā' al-shakhṣī*), and they repay the poor with great blessings and rewards for multiplying the arts and innovating curiosities. Were all humankind equally rich or poor, the affairs of their world would cease, their condition would worsen, and their happiness would not be possible [...]. Since the philosophers' goal is proximity to the First Cause and imitation of It, within the bounds of possibility; and since proximity to It is by attributes rather than rank—it was necessary for them to observe the rule of the common good (*al-maṣlaḥa al-'āmma*) by concealing (*kitmān*) this matter [of alchemy], obfuscating it, talking about it in codes, epithets, and metaphors, and confounding the descriptions of its medicaments, operations, and types of composition. For had the philosophers made it accessible like any science or art, they would have transgressed against the First Cause by undoing the order of the world and disrupting its advantages.[208]

The notion that a flattening of alchemical knowledge leads to societal collapse can be traced to late antique discourses, at least indirectly. Interestingly, the *Epistle*'s starting point for this theory is the idea that the rich and poor have mutual needs. An early source for this line of reasoning is the *De Providentia* of the early Christian writer Theodoret of Cyrrhus (d. ca. 458/466). Influenced by earlier Christian and pagan thought, Theodoret sought to explain the teleological direction of God's creation.[209] Among the many questions he raises is why some are made rich and others poor. Social inequality, he explains, is the design of the Creator, Who equipped the poor with all kinds of crafts which cause the rich to solicit their services in return for material reward.[210] On the principle that humans cannot practice more than one craft (cf. Plato's *Republic* II: 370b–c), Theodoret reasons that if everyone were to pursue several professions in pursuit of wealth, they would fail to master any single one. Furthermore, if humankind were created equal, then the rich and poor would be unable to support each another and "all would face annihilation."[211] Theodoret's *De Providentia* would have a pervasive influence in subsequent centuries. As a learned bishop and the *Epistle*'s purported translator, it

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205 ܡܣܬܫܐܪܗ (i.e., *mustashāra*) in USJ 252.
206 ܐܠܓܙܡ (i.e., *al-jazm*) in CFMM 554 and USJ 252.
207 ܒܚܠ (i.e., *bi-ḥall*) in CFMM 554 and USJ 252.
208 CFMM 252, p. 105; USJ 252, fol. 16r–17r; Gotha A 85, fol. 10v–11v.
209 These influences include various writings by John Chrysostom, *De Natura Hominis* of Nemesius of Emessa, Plato's *Republic*, and the *De Usu Partium* of Galen of Pergamum; see Gotsis and Merianos 2007.
210 Theodoret 1864: Discourse 6, 660B-C (text); Theodoret 1988: 83 (trans.).
211 Theodoret 1864: Discourse 6, 656C (text); Theodoret 1988: 81, 4 (trans.).

is more than likely that ʿAbdīshōʿ was well-informed about the Theodoret's views regarding God's providence in human society, particularly since he lists the *De Providentia* in his *Index of Ecclesiastical Writers*.[212] Theodoret's *De Providentia* would also have an impact on early Christian Arabic theology, having provided the framework for a treatise on providence by the Nestorian Jibrīl ibn Nūḥ al-Anbārī (fl. 850) entitled *Kitāb al-Dalāʾil wa-l-iʿtibār* ("Book of Indications and Consideration") and another entitled *Kitāb al-ʿIbar wa-l-iʿtibār* ("Book of Examples and Consideration") attributed to Abū ʿUthmān al-Jāḥiẓ (d. 255/868).[213]

It is possible that the author of the *Epistle* was also familiar with Islamic authorities on this issue. Indeed, teleological reflections on creation passed into mediaeval Islamic *kalām*, representing a theological common ground between Muslims, Christians, and Jews.[214] In the sphere of Islamic philosophy, echoes of Theodoret's ideas about social collapse are to be found in discussions about epistemic elitism—a subject germane to the *Epistle*'s defence of alchemical secrecy. In a brief treatise on the necessity of alchemy, Abū Naṣr al-Fārābī (d. 339/950–951) states that obscure expressions (*aqāwīl ghāmiḍa*) shield useful knowledge from those who wish to understand nature without first studying the prior parts of philosophy.[215] Al-Fārābī then asserts that unless the alchemical art is hidden from all but a few, there would be no civil accord (*al-ijtimāʿ al-madanī*) because gold and silver would cease to have any value, and thus great harm would befall society (*la-kāna al-ḍarar minhu lāḥiqan bi-l-umam wa-l-mudun ʿaẓīman*).[216] We also encounter this idea in other branches of the Islamic occult sciences. Similar concerns about the unravelling of the cosmos (*kharāb al-ʿālam, fasād al-dunyā*) are expressed by several other mediaeval occult writers regarding the astral as well as alchemical sciences.[217] Conversely, the argument that a universal knowledge of alchemy would devalue currency and cause social discord occurs in a number of medieval critiques of alchemy, most notably by the Ḥanbalite jurist Ibn Qayyim al-Jawziyya

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212 ʿAbdīshōʿ bar Brīkhā 1986: § 335, where it is listed as *da-mparnsānūṯā*. The Syriac version of this work is presumed lost.

213 Both works are attributed to al-Jāḥiẓ in their modern editions; Pseudo-Jāḥiẓ 1988 and 1994. The author's preface in the latter mentions Theodoret's work as a model for his own, explaining that it was translated from Greek into Arabic via Syriac; Pseudo-Jāḥiẓ 1994: 29. For other influences such as the Pseudo-Aristotelian *De Mundo*, see Daiber 2014: 171–178.

214 See El Shamsy 2015.

215 al-Fārābī 1951: 76.

216 al-Fārābī 1951: 76–77. It is likely that al-Fārābī had in mind Plato's idea that natural inclinations should lead to a division of labour, an idea that is also discussed in Averroes commentary on the *Republic*, which survives only in Hebrew translation; Averroes 1956: 121, 131.

217 Ullmann 1972: 2, n. 1 provides examples from Ibn Waḥshiyya's *Kitāb al-Sumūm* ("Book of Poisons"); Ibn Arfaʿ Raʾs's *Shudhūr al-dhahab* ("Splinters of Gold"); Maslama al-Qurṭubī's *Ghāyat al-ḥakīm*; and Fakhr al-Dīn al-Rāzī's *Sirr al-maktūm* ("Hidden Secret").

(d. 751/1350) and the historian Ibn Khaldūn (d. 809/1406).[218] Although the *Epistle* does not mention the devaluing of currency, societal breakdown wrought by alchemy's exposure to the masses is nevertheless implied.

With these two principles—(i) that humankind is of a nature to be unequal and (ii) epistemic transparency leads to social collapse—the *Epistle* makes the case that some measure of obfuscation is desirable in the practice of alchemy. Thus, despite its concise and unambiguous style (observed in the previous section), the *Epistle* makes some concession to secrecy. Having explained why this principle is important, Pseudo-Aristotle goes on to say that he will eschew the use of codes but for one important exception:

> صرحنا بها اليك ولم نكتم عليك في هذه الرسالة سوى مقادير الاوزان في تركيب الأركان الثلاثة وسنرمز عليها بما يرشدك الى معرفتها وهو طريق تربيع المثلث المختلف الاضلاع عند المهندسين وما فعلنا ذلك الا لخوفنا من وقوع هذه الرسالة الى غيرك ممن لا يستحقها فيما سيأتي من الازمان
>
> We have disclosed it (*scil.*, alchemy) to you and have not concealed [anything] from you in this epistle, apart from the measures of balances concerning the composition of the three pillars (*al-arkān al-thalātha*). We will symbolise these with what leads you to knowledge of them, which is by squaring a scalene triangle (*tarbīʿ al-muthallath al-mukhtalif al-aḍlāʿ*), according to the geometricians. We have only done so for fear that in times to come, this epistle will fall into the hands of someone other than you, someone undeserving.[219]

As might be expected, Pseudo-Aristotle's statement here is somewhat opaque. However, like many of the *Epistle*'s contents, its underlying concepts are rooted in earlier alchemical theory. The "three pillars" pertain to the notion that the elixir must be composed of "spirit," "soul," and "body" which are extracted from various substances.[220] According to Zosimus, the sublimed vapour is the "spirit" (πνεῦμα) which permeates through metallic bodies, endowing them with their natures. "Soul" (ψυχῇ) meanwhile, is the sulphurous (θειώδη) part of the metal.[221] Similarly, Stephanus of Alexander declares that copper, like man, has both a soul and spirit.[222] A tripartite scheme also occurs in the iambic verses of the late antique Greek alchemical poets. One poem speaks of metals possessing three hypostases (ἐκ τῆς μετάλλου τρεῖς ἔχων ὑποστάσεις).[223] Another goes further, stating that the

218 See respectively Livingston 1971: 101; Asatrian 2003: 108–109.

219 CFMM 554, p. 105; USJ 252, fol. 17v; Gotha A 85, fol. 11v.

220 Siggel 1951: 37, 41, 53 provides basic definitions for the terms for *jasad* ("Metalkörper"), *rūḥ* ("Geist"), and *nafs* ("Seele"), but with no further elaboration.

221 Rinotas 2017: 214, 217.

222 Taylor 1938: 40 (text); 41 (trans.).

223 Goldschmidt 1923: 38 (text); Browne 1920: 204 (trans.).

body, soul, and spirit act in unison to penetrate and tincture other metals.[224] However, neither of these poems specifies how each operation corresponds to the body, soul, and spirit, nor is a fourfold action introduced.

The idea that the elixir is both triple and quadruple in nature and action is more clearly elaborated in the Arabic tradition. It is *this* notion of tripling and quadrupling that underlies the *Epistle*'s statement about "squaring the scalene triangle." According to Jābir ibn Ḥayyān, the principle of body, soul, and spirit are essential in creating the "tincture of tinctures" (*ṣibgh al-aṣbāgh*), a reference to the elixir's ability to transmute metals by "tincturing" their properties as well as their colours.[225] In one of his theoretical works, Jābir ibn Ḥayyān reports an exchange between Socrates and a student, in which the latter demands that his teacher impart knowledge of alchemy without codes or metaphors. Unwilling to do so, Socrates instead uses approximate terms to explain the threefold composition of the elixir:

1. "Body" acts as a vessel for souls and spirits (*qayd wa-ribāṭ li-l-arwāḥ wa-l-anfus*), protecting them against heat (*al-ḥijāb lahā ʿan al-nār*). It is obtained through putrefaction (*taʿfīn*) or calcination (*taklīs*) of a substance;
2. "Soul," being courser than "spirit," withstands liquefaction (*al-qāhira ʿinda al-dhawb*);
3. "Spirit" resurrects bodies (*khidmatuhā an tunshirahā*) and bestows them with beauty, water, and luminosity (*runqan wa-māʾan wa-ḍiyāʾan*).[226]

Once outlining these distinctions, Jābir ibn Ḥayyān discusses why animal substances are superior to minerals in the making of the elixir (presumably because living beings possess souls, spirits, and bodies).[227] Later alchemists such as Maslama al-Qurṭubī would elaborate on this triad in far clearer terms. Recall that the *Epistle* mentions the "the squaring of a scalene triangle" (that is, a triangle with sides of differing length). In his *Rutbat al-ḥakīm*, al-Qurṭubī explains that the philosophers refer to the elixir by saying "it is triplicate (or a triangle) in nature and quadruplicate (or a square) in qualities (*muthallath al-kiyān murabbaʿ al-kayfiyyāt*)."[228] He further states that the faculty of the elixir is threefold, consisting of

224 Goldschmidt 1923: 57 (text); Browne 1948: 136 (trans.).

225 The term "tincture" is traceable to the Greek alchemists, who use the verb βαφεῖν ("to dip" or "to dye") when referring to this process; Principe 2013: 17.

226 *Kitāb al-Tajrīd* (Jābir 1928: 128–129). On the reanimation of the putrefied body by the spirit, see Lory 1994: 95.

227 al-Qurṭubī makes this point explicitly (see below).

228 al-Qurṭubī 2016: 42.

"spirit," "soul," and "body." Basing this schema on the composition of animals (*ʿalā tarkīb al-ḥayawān*), al-Qurṭubī explains that each possesses a "seat" (*markaz*) that differs from the next: The spirit resides in the upper region; the body in the lower; and the soul somewhere in between, because it is coarser than the spirit but subtler than the body.[229] These differences in potency may account for the scalene nature of the triangle mentioned in the *Epistle*.

As to the quadruplicate in this schema, al-Qurṭubī cites an exchange between Psueudo-Aristotle and a student who wishes to know about the elixir. The Stagirite responds that the elixir is the sum of the four natures (*jāmiʿ al-ṭabāʾiʿ al-arbaʿ*) and illustrates this with a chicken's egg. The elixir, he explains, is of three faculties, each corresponding to the four qualities of hot, cold, moist, and dry (hence al-Qurṭubī's earlier statement about the elixir being three in nature and four in quality). The first of these four qualities is cold-dry like the eggshell and signifies the body; the second is cold-moist like the egg white and signifies the spirit; and the third is hot-dry like the egg yolk and signifies the soul. These composite qualities, in turn, correspond to the tinging actions of the three "pillars" as follows:

1. The spirit "whitens" (*tabyīḍ*), moistens, and cools substances—thus signifying a mercury-like substance;
2. The soul "reddens" (*taḥmīr*), dries, and heats substances—thus signifying sulphur-like substance;
3. The body, while it does not assign colour, possesses qualities of dry and cold, and is able to harden malleable substances.[230]

Possessing all three of these faculties, concludes al-Qurṭubī, the elixir is able to "whiten" copper, "redden" silver, and harden lead all at once.[231] In addition to these, there are a further four actions that characterise the function of the elixir. The *Risālat al-iksīr* attributed to Avicenna asserts that the main problem faced by alchemists is finding a single chemical agent that can achieve four things:

1. Withstanding fire (*ghayr muḥtariq ʿinda mulāqat al-ashyāʾ al-ḥārra*);
2. "Tincturing" (*ṣabbāgh*) substances;
3. Mixing and immersing (*mukhāliṭ*) with substances;
4. Being stable and capable of fixing substances (*ḥādd wa-kāna l-ḥādd yanʿaqid*).[232]

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229 al-Qurṭubī 2016: 36.

230 al-Qurṭubī 2016: 36–37. The author suggests that this is why the elixir is sometimes referred to as the "Philosophers' Egg" (*bayḍat al-ḥukamāʾ*), in addition to the more common "Philosophers' Stone" (*ḥajar al-ḥukamāʾ*).

231 al-Qurṭubī 2016: 37: *yubayyiḍu l-nuḥās wa-yuṣaffiru l-fiḍḍa wa-yushiddu l-raṣāṣ*.

232 Pseudo-Avicenna 1953: 36–37, 50; see also summary by Anawati 1996: 878.

Each of these faculties, qualities, and actions are combined in one elixir, from which a fourth thing is generated when thrown onto a metal. Since not all of them are present in any one metal, it is necessary that the elixir possess them in order to perform effectively as a transmuting agent, thereby endowing metals with the very properties they lack. It is for this reason therefore that the *Epistle* enigmatically describes the interaction between the three powers and four qualities/actions as the "squaring of a scalene triangle."

Yet, having stipulated that the three "pillars" will be alluded to with codes, the *Epistle* then proceeds to explain what these codes mean—revealing yet further tensions and apparent contradictions between concealment and disclosure. In its outline of theories underpinning the elixir, the *Epistle* attributes to Hermes the discovery of a single chemical that could achieve the four actions previously mentioned:

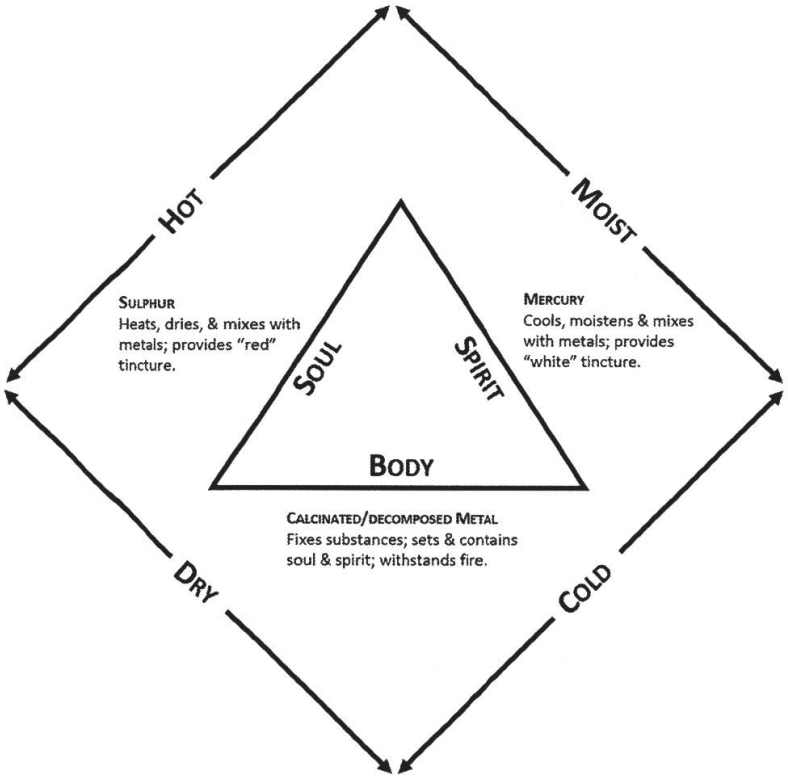

Figure 1: "Squaring the scalene Triangle".

فتحصل من هذا البحث والفحص على اربع اصول وهي الصبغ والمصبر على النار للصبغ والممازج المداخل والثابت المثبت اجزاء الذائبات حتى لا تفرقها المفسدات فلما نظر[233] في جميع العقاقير الترابية والحيوانية والنباتية بأسرها ووجدها كلها إذا كانت على حالها بغير تدبير وتلطيف وتطهير كانت متلفة محرقة مفسدة للاجسام[234] الذائبة فاحتال لها بالتدابير المقدم ذكرها حتى اخرجها عن صورها النوعية وابطل كثيرا من قواها الطبيعية حتى قصرها على اتمام ما رام من صناعة الاكسير وذلك انه لما وجد الصبغ الابيض في زئبق والاحمر في صبغ الكبريت احتال لهما من وجوه التدابير على سنبين فيما بعد حتى جعل منها الجوهر الصابغ مجردا عن الأمور الأخر ووجد الجوهر الممازج المداخل في جرم الزرنيخ والكبريت وأصلحهما بما سنذكره في موضعه حتى اقامها ذهنا غائصا مازجا ملجما ووجد الجوهر الثابت المثبت لا يكون الا جسدا لا يفر عن النار فاثبت البياض من الفضة والحمرة من الذهب فعالجهما بالتكليس حتى جعلهما ذرورا لا جزء له بحيث يقبلا السحق والتسقية[235] والخلط بباقي الادوية والعقاقير فكانت هذه الاركان الثلاثة للابيض[236] والاحمر فرمز على الزئبق المصلح بالروح للطافقته وسرعة نفوذه وقوة فعله وتأثيره في الاجسام ورمز على الزرنيخ والكبيرت المصلحين بالنفس ورمز على الجسم المكلس بالجسد، فالنفس هي الجامعة بين الروح اللطيف جدا والجسد الكثيف جدا

From this investigation, [Hermes] arrived at four principles: [A chemical] that [i] tinctures; [ii] withstands fire; [iii] mixes and immerses; [iv] and is stable and fixes fusible parts (*ajzāʾ al-dhāʾibāt*) so that impurities do not separate them. When he studied earth, animal, and plant medicaments in their entirety, and found that when in an unprocessed, unrefined, and impure state they were harmful, combustible, and corrupting to liquified metals—he manipulated them (*fa-ḥtāla lahā*) through the aforementioned operations, until he brought them out of their specific forms (*ṣuwarihā al-nawʿiyya*), suppressed much of their natural faculties, and confined them to the completion of the elixir he desired to make. Which is to say, when he discovered a white dye in mercury and a red dye in sulphur, he manipulated them through various operations that we will mention later, until a tinging substance was created from them, abstracted from all other things.

He [then] discovered a mixable and immersive substance in the body of arsenic and sulphur, and optimised them by a method we will mention later, until he made them an immersible, mixable, and adhesive oil. He [then] discovered that a stable and stabilising substance must be a body that does not flee fire. Thus, he stabilised the whiteness from the silver and the redness from the gold and treated them through calcination, until he turned them into powders devoid of parts, insofar as they could be ground, watered, and mixed with other medicines and medicaments.

These were the three pillars for white and red. He symbolised (*ramaza*) optimised mercury (*al-ziʾbaq al-muṣallaḥ*) as "spirit" due to its subtlety, speedy immersion, and powerful effect on bodies; he symbolised optimised arsenic and sulphur as "soul"; and he symbolised the calcinated metal (*al-jism al-mukallas*) as "body", for the soul is a combination of the very subtle spirit and the very coarse body.[237]

But how does the *Epistle* apply this tripartite schema in practice? As we have observed elsewhere, the descriptions of these processes are for the most part clear and concise. Yet where the three "pillars" are concerned, the *Epistle* insists on

233 نظرت in Gotha A 85.
234 ܐܠ ܐܓܣܐܡ (i.e., *al-ajsām*) in CFMM 554 and USJ 252.
235 ܐܠܬܣܩܝܗ (?) in CFMM 554 and USJ 252.
236 الابيض in Gotha A 85.
237 CFMM 554, p. 114–117; USJ 252, fol. 22r–23v; Gotha A 85, fol.14r–15r.

referring to them by their *Decknamen*. Take, for example, its section on ceration (*tashmīʿ*), the method of mollifying substances by continuously imbibing them with liquid.[238] Each pillar (*rukn*), the *Epistle* explains, is cerated separately: The body is cerated thirty times and must be left on the fire until its vapour ceases while its fire is balanced; the soul fifteen times while its fire is very weak; the spirit twenty times while its fire is at medium strength.[239] Thus, although the *Epistle* generally articulates the operations in a concise manner, it reserves the use of *Decknamen* for these three terms. And yet, paradoxically, this nod to secrecy is all but undermined by the author's earlier explanation of the three "pillars." Still, that the author employs them at all suggests a belief that they were indispensable to any serious exposition of the alchemical craft. In this regard, the author of the *Epistle* differs little from the Arabo-Islamic alchemists observed previously.

6 Conclusions

At the beginning of this article, I ventured that non-Muslim writers in the pre-modern Islamicate world were more than mere cultural brokers and scientific translators. Rather, they participated in shared modes of knowledge production—or what Sarah Stroumsa has recently referred to as a "linguistic and philosophical *koinē* of the Islamicate world." This is to say that by the 13th century, Muslim rule facilitated not only the emergence of a *lingua franca* but also a commonwealth of "texts, ideas, and concerns [which] were fully shared and discussed [...] by philosophers and scientists hailing from different religious communities."[240] Among these intellectual concerns was the function of esotericism in the practice of alchemy. As we observed from the *Epistle's* preface, the work emerged from a Syriac Christian cultural environment. Yet it also sought to address many of the same concerns as those expressed by Muslim alchemists. In effect, the *Epistle* asks: To what extent was it permissible to breach the boundaries of secrecy when writing about a famously secretive science? Based on the genre and contents of the *Epistle*, it appears that the author was engaging with a long-established literary genre that framed the disclosure of secret knowledge as an epistolary treatise. Thus, the *Epistle* negotiates the confines of secrecy by adopting the narrative frame of a private exchange between two foundational figures in Arabic occult literature.

Thus, as Strauss and Halbertal have observed in Maimonides' *Guide to the Perplexed*, ʿAbdīshōʿ makes his disclosure of occult knowledge by employing a

238 On which see Holmyard 1957: 171.

239 CFMM 554, p. 137; USJ 252, fol. 34r–34v; Gotha A 85, fol. 18r.

240 Stroumsa 2019: iv–vii.

literary device that resembles "oral transmission" but is ultimately a "public letter."[241] This apparent tension compels the author of the *Epistle* to remind his readers of the value of secrecy while simultaneously transgressing its limits. Another source of this apparent tension was the fact that alchemy's esoteric character lent itself to severe attack. For in the eyes of many critics, the secretive language of the alchemists was merely a ruse for quackery and *legerdemain*. Like al-Fārābī, the *Epistle*'s Aristotle believes that alchemical transparency would lead to social collapse. However, in order to answer the accusation that to obfuscate the "Art" is to conceal its deceits, the author produces a concise treatise that makes only a nominal use of codes. This concern is also present in the preface of ʿAbdīshōʿ, the works purported translator.

As regards questions of authorship, the unmistakably Islamicate imprint of the *Epistle*'s alchemy suggests a later composition than its "translator," ʿAbdīshōʿ, alleges. There is no doubting that Arabic alchemy owed a great debt to earlier Greek writers (and vice versa in the case of Middle and Late Byzantine alchemy). However, very little of the *Epistle*'s contents suggests a direct reliance on Graeco-Byzantine models. What we encounter instead is the legacy of foundational Arabic authorities such as Jābir and al-Rāzī. We have observed these influences in the *Epistle*'s discourse on metallic formation; the superiority of "animal stones"; fractional distillation; and the luting of vessels. Even its account of smoky and moist exhalations—though inspired by Aristotle—appears to be conditioned by later Arabic sources. In light of these findings, I believe it unlikely that the *Epistle* derives from a Greek original. One possibility is that ʿAbdīshōʿ himself composed the work, writing pseudonymously as was typical of the genre. Alternatively, if we are to believe ʿAbdīshōʿ's claim that the *Epistle* came down to him through a Syriac intermediary, then this version must also have been a relatively late composition.

With that said, we cannot fully answer these questions until the text of the *Epistle* has been fully edited and studied in more detail. For the time being, I hope to have revealed how ʿAbdīshōʿ—whether as the *Epistle*'s translator or its author—was exposed to a tradition of alchemy that is more often associated with Arabo-Muslim and Latin contexts. Nor should alchemy be considered the rogue interest of a single outlier; Syriac Christian bishops prior to and during ʿAbdīshōʿ's lifetime were known to practice it. Indeed, esoteric tendencies were just as present in Syriac Christian exegetical and ascetical discourses as they were in Islamic traditions. ʿAbdīshōʿ's cautious and heavily caveated disclosure of alchemy is also evident in mediaeval Muslim thinkers such as Maslama al-Qurṭubī and Ibn Umayl, thus revealing one aspect of a multi-confessional and entangled history of occult science.

241 Strauss 1988: 47–48; Halbertal 2007: 63–64.

Acknowledgments: I would like to extend my sincerest thanks to Thijs Delva, Regula Forster, Liana Saif, Nicolas Harris, and two anonymous reviewers for their incisive and prescient comments. I am also grateful to Matteo Martelli and Sébastien Moureau for additional advice and bibliographical recommendations. Needless to say, all errors are my own.

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ASOM 63 = Mosul, Syrian Orthodox Archdiocese, 63.
CFMM 554 = Mardin, Church of the Forty Martyrs, 554.
Gotha A 85 = Gotha, Forschungsbibliothek, Ms. orient. A 85.
N.Y., Or 276 = New York, Columbia University, Rare Book and Manuscript Library, Ms. Or. 276.
Pococke 107 = Oxford, Bodleian Library, Pococke 107.
USJ 252 = Beirut, University of Saint Joseph, 252.
Vat. sir. 187 = Rome, Biblioteca Apostolica Vaticana, sir. 187.

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