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# Classical poetic motifs as alchemical metaphors in the *Shudhūr al-dhahab* and its commentaries

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**Abstract:** Traditionally prized as much for its poetic artistry as its didactic content, Ibn Arfa‘ Ra’s’s (fl. twelfth century) *dīwān* of alchemical verse, the *Shudhūr al-dhahab* (*Shards of Gold*), is one of the most important and influential works in the literary canon of Arabic alchemy. Drawing on commentaries by both Ibn Arfa‘ Ra’s himself and Aydamir al-Jildakī (d. 743/1342 [?]), the present article explores a core feature of Ibn Arfa‘ Ra’s’s allegorical style – one that appears to have captured the attention of his medieval readership – namely his novel use of stock poetic motifs as metaphors for alchemical processes and substances. As well as focusing on the commentators’ theoretical interpretations, the article situates Ibn Arfa‘ Ra’s’s deliberate appropriation of pre-Islamic and Nuwāsian motifs in its broader literary context, noting the extent to which it foreshadows similar techniques in the poetic allegories of the thirteenth-century Sufi poets, Ibn ‘Arabī and Ibn al-Fāriḍ.

**Keywords:** Abū Nuwās; Alchemy; Arabic poetry; Aydamir al-Jildakī; Ibn al-Fāriḍ; Ibn ‘Arabī; Ibn Arfa‘ Ra’s; Sufism

## 1 Introduction

As a theoretical text, ‘Alī ibn Mūsā ibn Arfa‘ Ra’s’s (fl. twelfth century)<sup>1</sup> collection of didactic odes, the *dīwān Shudhūr al-dhahab* (*The Shards of Gold*), has traditionally

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<sup>1</sup> On Ibn Arfa‘ Ra’s’s life (about which we know relatively little) see Schippers 2009; Todd 2016; and Forster/Müller 2020. Ibn Arfa‘ Ra’s’s death date has traditionally been given as 593/1197 in medieval biographical dictionaries or *ṭabaqāt*, though as Forster and Müller have argued this may be due to their having conflated him with another figure, Ibn al-Naqirāt. At any rate, it seems very likely that Ibn Arfa‘ Ra’s lived in the second half of the sixth/twelfth century. See Forster/Müller 2020.

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been regarded as one of the most important works in the Arabic alchemical corpus.<sup>2</sup> Often mentioned, by alchemical theorists and lay scholars alike, in the same breath as the writings of Arabic alchemy's foremost authority, Jābir ibn Ḥayyān,<sup>3</sup> the *Shudhūr* has been cited and discussed by Muslim alchemists from Morocco to India,<sup>4</sup> and has engendered a substantial body of commentary testifying both to its canonical status and enigmatic character.<sup>5</sup> But the *Shudhūr*'s historical importance is not confined to the world of alchemy alone. Unusually, for a work of Arabic didactic verse – a genre in which the function of poetry is typically restricted to that of an aide-memoire<sup>6</sup> – Ibn Arfa' Ra's's *dīwān* has been praised not just for its theoretical content but for its poetic artistry too.<sup>7</sup> Indeed, one frequently-cited assessment claimed that “even if he doesn't teach you the art of making gold he will surely teach you the art of literature (*adab*).”<sup>8</sup>

Like other key works, however, of later Arabic alchemy,<sup>9</sup> the *Shudhūr* has only recently started to receive the attention of modern scholarship.<sup>10</sup> Whilst this has tended to focus, understandably enough, on its significance in relation to the

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2 Of Andalusī origin, Ibn Arfa' Ra's was an occasional exponent, as Forster has shown, of the *muwashshah* or part-vernacular strophic poetry endemic to Muslim Spain. In keeping, however, with their status as high literature, the odes contained in the *Shudhūr* draw extensively on the poetic traditions of the *mashriq* or Islamic East – traditions that had been imported to al-Andalus during the Spanish Umayyad caliphate some two centuries earlier. For a detailed study of Ibn Arfa' Ra's's *muwashshah* poems, see Forster 2021. On al-Andalus's reception of poetic traditions imported from the Islamic East, see Gruendler 2000: 211–217.

3 See, for example, al-Jildakī, *Kitāb al-Miṣbāḥ fī 'ilm al-miftāḥ fī al-ḥikma al-ilāhiya wa-al-ṣinā'a al-ḥikmiya*, MS Pennsylvania, Kislak Center for Special Collections, LJS441, fols. 3r–3v; and Ibn Khaldūn 1980: 1227 = Ibn Khaldūn 1967: vol. 3, 269.

4 See Guerrero 2010: 297–298; and al-Rushtāqī 1298/1881.

5 Within this tradition two bodies of commentary stand out. The first, which generally goes under the title of *Ḥall mushkilāt Shudhūr al-dhahab* is ascribed to Ibn Arfa' Ra's himself, though it takes the form of a dialogue with his disciple, a certain Abū l-Qāsim al-Anṣārī. The second is the set of typically voluminous commentaries composed by al-Jildakī (d. 743/1342), the last great theoretician of Arabic alchemy. Of Jildakī's commentaries on the *Shudhūr*, the most important is the line-by-line *Ghāyat al-surūr fī sharḥ al-Shudhūr*. The manuscript of the *Ghāya* that I cite in the present study is MS Birmingham, Cadbury Research Library, Mingana Islamic Arabic 949 (dated 1300/1882), whilst that of the *Ḥall mushkilāt* is MS Berlin, Staatsbibliothek Preussischer Kulturbesitz, Orientabt., Landberg 96. On Jildakī's life and work, see Harris 2017; and Forster/Müller 2019.

6 On Arabic didactic verse, see Khulūṣī 1990: 498–509; see also van Gelder 1995: 103–117.

7 See, for example, Ibn Khaldūn, *al-Muqaddima*, 1198; and *The Muqaddimah: an Introduction to History*, vol. 3, p. 229.

8 See al-Kutubī 1951: vol. 2, 181.

9 Notable examples include the *Rutbat al-ḥakīm* and the writings of al-Ṭughrā'ī (d. 515/1121) and Jildakī.

10 See Ullmann 1972: 231–232; Anawati 1996: 873–874; Hill 1990; Nomanul Haq 2007: 653; Forster 2016; and Forster/Müller 2020.

Arabic alchemical tradition, its place in the history of classical Arabic poetry has yet to be explored in-depth. To this end, we propose to examine one of the most striking features of Ibn Arfa' Ra's's poetic technique, namely his novel engagement, both in his *dīwān* and his self-penned commentary thereon, the *Ḥall mushkilāt Shudhūr al-dhahab* (*The Solution to the Obscurities in the Shards of Gold*),<sup>11</sup> with the tropes and stock motifs of earlier poetic genres. The reasons for dwelling on this feature are twofold. First, it appears to have captured the attention of the *Shudhūr*'s medieval readership, as evidenced by the testimony of the historian Ibn Shākir al-Kutubī (d. 764/1363), who singles out, as proof of Ibn Arfa' Ra's's poetic skill, his deft weaving of *ghazal* or classical love poetry into a multi-layered didactic allegory.<sup>12</sup> And second, insofar as it appropriates the motifs of old genres and invests them with symbolic meaning,<sup>13</sup> the *Shudhūr* anticipates by several decades the memorable use of this technique in Ibn 'Arabī's (d. 638/1240) celebrated *Tarjumān al-ashwāq* (*The Interpreter of Desires*),<sup>14</sup> and the Sufi wine songs of Ibn al-Fāriḍ (d. 632/1234).<sup>15</sup>

In this latter regard, however, it is important to note that the technique in question is defined by something more specific than the mere fact of adopting the broad thematic traits of established poetic genres, as early Sufi poets, for example, had done. Rather, it is characterized – as we shall see – by conscious intertextuality, often to the point of pastiche. Thus, while early Muslim mystics, from Rābi'a to Ḥallāj, wrote what might broadly be categorized as Sufi love poetry, no Sufi poet – so it seems – prior to Ibn 'Arabī in the *Tarjumān* has engaged so closely with the specific language and imagery of clearly recognisable poetic

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11 It is worth noting that Jildakī, who was known for his encyclopaedic knowledge of the alchemical tradition, seems surprisingly unaware of any commentary ascribed to the *Shudhūr*'s author. Of earlier commentators, he merely remarks dismissively that all they have succeeded in doing is in making an already obscure text even more obscure. See Jildakī, *Ghāyat al-surūr fī sharḥ al-Shudhūr*, MS Birmingham, Cadbury Research Library, Mingana Islamic Arabic 949, fol. 2a.

12 See al-Kutubī 1951: vol. 2, 181; and Todd 2016: 122.

13 Ibn Arfa' Ra's's appropriation of stock poetic imagery fits into a wider tradition of codenames and symbols that has characterized Arabic alchemical literature since its inception. Indeed, alongside the symbols he takes from poetry, he makes abundant use of the traditional set of alchemical motifs (such as the dragon, king, crow, dove, eagle, dog, and wolf) inherited from Greco-Egyptian antiquity, as well as symbols (such as Moses' staff and the burning bush) drawn from the scriptures.

14 On Ibn 'Arabī's *Tarjumān al-ashwāq* see Lings 1990: 250–253.

15 On Ibn al-Fāriḍ see Homerin 2011. As Forster and Müller have observed, a manuscript (MS Max Meyerhof 137) in the University of Alexandria attributes a commentary on Ibn al-Fāriḍ's wine poem to Ibn Arfa' Ra's (see Forster/Müller 2020: 381). This might suggest that the manuscript's copyist or owner made the same connection between Ibn Arfa' Ra's's allegorical technique and that of Ibn al-Fāriḍ.



models.<sup>16</sup> Indeed, Ibn ‘Arabī expressly highlights this aspect of the *Tarjumān* in his prose preamble to its constituent poems, when he explains how he will use the “language (*lisān*) of a refined prelude (*nasīb rā’iq*) and the expressions (*‘ibārāt*) of seemingly love poetry (*al-ghazal al-lā’iq*)” to allude to “divine forms of knowledge, spiritual mysteries, intellectual sciences, and legal reminders.”<sup>17</sup> This point is then reinforced in an introductory ode in which he provides a detailed list of classic *nasīb* motifs, from abandoned encampments and dwellings to weeping clouds and smiling flowers, assuring the reader that, despite outward appearances, all such motifs will be used to symbolize sublime mysteries and spiritual illuminations.<sup>18</sup>

Similarly, prior to Ibn al-Fāriḍ’s *mīmiyya*, no Sufi *khamriyya* or wine song – whether in Arabic or Persian – would appear to have engaged so extensively or deliberately with the stylistic hallmarks of a specific textual model (namely, in Ibn al-Fāriḍ’s case, the Bacchic poetry of Abū Nuwās).<sup>19</sup> It is precisely this sort of deliberate intertextuality, then, that is central, as we shall see, to Ibn Arfa‘ Ra’s’s allegorical technique.

## 2 *Nasīb* motifs in the *Shudhūr*

Like Ibn ‘Arabī’s *Tarjumān*, the *Shudhūr* draws heavily on the conventional imagery of the *nasīb* or nostalgic prelude to the pre-Islamic ode.<sup>20</sup> Revolving

<sup>16</sup> See Lings 1990: 251.

<sup>17</sup> Ibn ‘Arabī 1911: 12.

<sup>18</sup> Ibn ‘Arabī 1911: 13.

<sup>19</sup> See Lings 1990: 255.

<sup>20</sup> In this connection it is worth noting that there is evidence (albeit inconclusive) to suggest that Ibn ‘Arabī – who travelled widely throughout the Islamic West in the last decade of the twelfth century – may have met Ibn Arfa‘ Ra’s in person and been acquainted with the *Shudhūr*. The evidence in question is found in two works – the biographical *Rūḥ al-quds fī muḥāsabat al-nafs* and a collection of alchemical poems entitled *Qurāḍat al-‘asjad fī ma‘rifat al-ḥajar al-mufrad* – from different bands of the spectrum of authenticity into which Ibn ‘Arabī’s vast corpus may be divided. At the rigorously authenticated end is the *Rūḥ al-quds*, Ibn ‘Arabī’s well-known account of the Sufi men and women he encountered in his native al-Andalus and North Africa before finally leaving Muslim Spain for the East in 598/1201. Here, as Forster and Müller have pointed out (see Forster/Müller 2020), Ibn ‘Arabī mentions an enigmatic crypto-mystic whose description matches in key respects – viz. ‘Alī ibn Mūsā, a religious scholar and resident of Fez – the familiar biographical sketch of Ibn Arfa‘ Ra’s as portrayed in the *ṭabaqāt* or biographical reference works. Ibn ‘Arabī writes: “Among them, may God be pleased with them, is ‘Alī ibn Mūsā ibn al-Biqrān [sic] in Fez. He followed this [Sufi] way in anonymity (*kāna majhūlan bi-hādhihi l-ṭarīqa*) whereby his involvement therein remained concealed from other people. Yet he possessed perfect gnosis (*ma‘rifa tāmma*), which included intuitive knowledge (*firāsa*) [of the hidden qualities of things]. Among the people, however, he was known for his [knowledge of] Quranic readings (*qirā’āt*) and hadith narrations

around a poignant central image, that of the vestiges (*aṭlāl*) of an encampment where the poet had once been united with a now long-lost beloved – a potent visual symbol of the destructive power of time and the transience of human existence – the prelude was, as is well-known, a key part of the pre-Islamic ode's rigid structure.<sup>21</sup> By recasting, however, these desert remnants and their attendant motifs as symbols of the first phases of the opus, Ibn Arfa' Ra's is thus able to construct an extended alchemical metaphor while outwardly preserving the characteristic idioms and framework of the classical ode.

This allegorical device features prominently in the opening section of the *sīniyya* (ode with the rhyming letter *sīn*), which – with its depiction of an abandoned encampment made verdant by desert rains – is reminiscent of the prelude to Labīd's famous *Mu'allaqa*.<sup>22</sup> As in the latter, the staple *nasīb* motif of human habitation reclaimed by nature is combined with another familiar pre-Islamic poetic image, that of a thunderstorm and deluge:

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(*riwāyāt*). May God Most High have mercy upon him" (Ibn 'Arabī 1964: 82). – Though the text of the *Rūḥ al-quḍṣ* (or the published edition at any rate) cites this figure's *laqab*, not as Ibn Arfa' Ra's but as "Ibn al-Biqrān", this – as Forster and Müller have noted – is almost certainly a corruption of Ibn al-Naqirāt, the *laqab* of a specialist in hadith and *qirā'āt* who, according to several medieval sources, died in Fez in 593/1197, the place and year usually cited as those of Ibn Arfa' Ra's's death. Given, moreover, that on the one hand some of the biographical notices on Ibn al-Naqirāt – the earliest, that of Ibn al-Abbār (d. 658/1260), dating from just a few decades after Ibn al-Naqirāt's death – explicitly credit him with the authorship of the *Shudhūr*, and on the other the *Shudhūr*'s manuscript tradition indicates that the *laqab* Ibn Arfa' Ra's (son of the loftiest head) starts to be applied to its author as late as the fifteenth century (see Forster/Müller 2020), it does seem possible that Ibn Arfa' Ra's and Ibn al-Naqirāt/Ibn al-Biqrān are ultimately one and the same person. – In contrast to the uncertainty surrounding Ibn al-Naqirāt, there is no question about the identity of the figure in the *Qurāḍat al-'asjad*, since the *tā'iyya* ode contains the phrase "the shaykh mentioned in the *Shudhūr* [...]" (Ibn 'Arabī 2019: 35). In this instance, however, the doubt pertains not to the reference itself but to the authenticity of the text in which it occurs. Absent from Ibn 'Arabī's self-penned *fihris* or inventory of his works, as well as the comprehensive *ijāza* (list of works that the recipient was qualified to transmit) granted to the Ayyubid Sultan al-Malik al-'Ādil, the *Qurāḍat al-'asjad* belongs to the substantial portion of Ibn 'Arabī's corpus that is of questionable attribution. Although the theme of alchemy per se is not sufficient reason to dismiss the constituent poems of the *Qurāḍat al-'asjad* as obviously spurious – since Ibn 'Arabī, as is well-known, sometimes refers to alchemical theory – their highly specialized focus on alchemical substances and procedures does appear out of step with the general character of the poetry in his authentic writings. All told, therefore, whilst the hypothesis of a direct link between Ibn 'Arabī and the *Shudhūr*'s author still stands, in principle at least, the documentary evidence supporting it should be treated with caution.

<sup>21</sup> On the function of the *nasīb* in the classical *qaṣīda* see Stetkevych 1993; Sells 1989: 3–5; Jacobi 1985; and Montgomery 1995.

<sup>22</sup> See Jones 1996: 166–168.

In the hollow spaces of Al-An‘amayn,<sup>23</sup>  
 The lively downpour of the desert rain  
 Has drenched the faded traces of the tents  
 And left their graves and living quarters slain.  
 When shines thereon the flashing smile of lightning,  
 The storm cloud’s eyes with mournful tears lament  
 And give unto the ground a robe of petals  
 And jewels of flowers blossoming and bright.<sup>24</sup>

Noteworthy in the detail of this poetic landscape is the interplay – accentuated by the antithesis and paronomasia in the second hemistich – between emblems frequently employed in alchemical symbolism, viz. the binaries of life and death, decay, and resurrection.<sup>25</sup> This is evident not only in the contrast between the desert graves and the new life that takes root among them, but also in the twofold nature of the deluge, at once destructive and revivifying – a motif that, whilst grounded in the Arabic poetic tradition,<sup>26</sup> is suggestive, too, of the dual character of the alchemist’s Mercurial waters, which both ‘poison’ and ‘cure’ the defective matter of the stone during the early stages of the opus.<sup>27</sup>

Although these specific verses are not mentioned in the section of Ibn Arfa‘ Ra’s’s selective commentary that deals with the *sīniyya*, he does provide explanations, elsewhere in the *Ḥall mushkilāt*, of the intended meaning behind the metaphors of the abandoned encampment and the flora nurtured by desert rains.

<sup>23</sup> According to Ibn Manẓūr’s *Lisān al-‘Arab*, “*al-an‘amayn*” is the name of a place (*ism mawḍi‘*). See Ibn Manẓūr 1955–1956: vol. 12, 588.

<sup>24</sup> Ibn Arfa‘ Ra’s 2018: 163, lines 1–3:

امات الحيا احياءه والروامس	دييار بخت الانعمين دوارس
بكتها عيون للغمام بواجس	اذا ابتسمت فيها البروق ضواحا
من النور حلي والرياض ملابس	بكل مسف مزنه للثرى به

Here and elsewhere I have departed slightly from Lahouari Ghazzali’s text where a particular variant seemed preferable. In this instance, and in note 45 below, I have followed Jaldakī, who favours (in the first hemistich of line 1) *khabt* (a low or depressed tract of ground) over *khabhth* (refuse, dross, slag).

<sup>25</sup> See Abraham 1998: 24.

<sup>26</sup> Well-known examples are the destructive deluge at the end of Imru’ al-Qays’s *Mu‘allaqa* and the life-giving rains at the start of Labīd’s. See Jones 1996: 83–86, 167–168.

<sup>27</sup> See Abraham 1998: 208.

One such elucidation occurs in reference to a passage in the *qāfiyya* (ode with the rhyming letter *qāf*), in which the abandoned dwellings are again associated with death and decay:

As though the faded traces there upon  
 The sand were bones of long departed dead,  
 Lamented by the tears that lightning shed.  
 Old abodes from which the moon has gone,  
 Ushering the blackness of a night  
 That darkened both their east and occident.  
 The morrow they awake in robes of tar,  
 But if the moon returns to them its light,  
 Their cloaks of pitch are therewith torn and rent.  
 So seek a moon which, though it be afar,  
 Is by the seeker's ardent longing won.<sup>28</sup>

Prompted by his student, Abū l-Qāsim, our author explains that the encampment's traces (*rusūm*) are meant to symbolize the charred matter that remains at the bottom of the alchemical vessel<sup>29</sup> in the initial phase of blackening (*iswidād*) or *nigredo*:

[Abū l-Qāsim] said: I asked, "Master, tell me what you mean when you say 'old abodes from which the moon has gone, ushering the blackness of a night that darkened both their east and occident.' [...]" Wherefore he – may God grant him bounteous knowledge – replied: "The abodes (*ma'ālim*), plural of abode or landmark (*ma'lam*), are the faded traces (*al-rusūm al-dārisāt*) that indicate the remains of encampments (*aṭlāl*) and dwellings (*diyār*). What I intend thereby is that when the stone (*ḥajar*) is mixed and commingled at the start of the opus

<sup>28</sup> Ibn Arfa' Ra's 2018: 229, lines 22–25 (I have departed slightly from Ghazzali's text in lines 22 and 25, preferring instead the version quoted in the *Ḥall mushkilāt*):

رمايم اموات بكتها بوارقه	كان الرسوم الدارسات خلالها
مغاربه في ليله ومشارقه	معالم غاب النبر عنها فأظلمت
إذا عاد فيها نوره فهو خارقه	فأصبحن في ثوب من القار بعده
وطالبه من شدة الشوق لاحقه	فيا لك من بدر بعيد محله

<sup>29</sup> On the 'black earth' or 'Philosophers' Earth' which remains at the bottom of the glass, see Abraham 1998: 27.

(*amal*) it is no longer itself. What remains is merely the vestige (*athar*) thereof, namely its physical form, especially when its moon (*badr*) – meaning its spirit (*rūḥ*) – disappears, such that [the stone] becomes blackened like coal, tar, or ashes [...]. Hence its rising places (*mashāriq*), meaning its spirits (*arwāḥ*), and its setting places (*maghārib*), meaning its souls (*anfās*), grow dark, as occurs in the commingling (*ikhtilāṭ*) of eastern quicksilver (*zi'baq*) and sulphurs (*kabārit*),<sup>30</sup> leaving naught [of the stone] save faded traces and the bones (*ramā'im*) of the dead.”<sup>31</sup>

For Ibn Arfa' Ra's, then, his *aṭlāl* metaphor concerns the process known in standard Jābirian theory as the 'first operation' (*al-tadbīr al-awwal*),<sup>32</sup> whose purpose is to obtain, by artificial means, the basic building blocks of elemental bodies, namely the four 'natures' (*ṭabā'i*) or fundamental qualities – heat, cold, dryness and moisture – which, can then be combined in pairs (in proportions calculated through the Jābirian science of the Balance)<sup>33</sup> to form the artificial elements or 'cornerstones' (*arkān*)<sup>34</sup> required to produce an elixir. This disaggregation (*tafṣīl*) is achieved by first breaking down the starting material or 'stone' (a notional term, since organic raw materials were often used) into its elements and then isolating their constituent natures.<sup>35</sup> Crucial to this procedure – according to the animistic interpretation of chemical changes that informs alchemical theory<sup>36</sup> – is the extraction, through gentle heating, of the starting material's vital moisture or 'spirit' (*rūḥ*), a development that brings about the death and putrefaction of the stone's body (*jasad*), which decays into blackened dregs or ashen residue. Separated from the body, and “converted into air in the dome [of the vessel],”<sup>37</sup> the spirit plays a key role in the opus, both as the watery distillate from which the qualities of coldness (*burūda*) and moisture (*ruṭūba*) are obtained and as the solvent or *aqua permanens* (*al-mā' al-khālīd*) in which the isolated qualities or natures are mixed.

30 See Ibn Arfa' Ra's, *Ḥall mushkilāt Shudhūr al-dhahab*, MS Berlin, Staatsbibliothek Preußischer Kulturbesitz, Orientabt., Landberg 96, fol. 4a: “For it is a characteristic of the spirit that it is blackened when it intermingles with the soul, like the blackening of eastern quicksilver by mineral sulphur.”

31 Ibn Arfa' Ra's, *Ḥall mushkilāt*, fol. 46a–b.

32 On the first operation's role in Jābirian theory, see Kraus 1986 [1942–1943]: 8–9; and Jābir b. Ḥayyān 1983: 89–94.

33 For an in-depth study of this theory, see Nomanul Haq 1994a.

34 See Nomanul Haq 1994b.

35 On the alchemical theory of the natures and their artificial isolation, see Kraus 1986 [1942–1943]: 4–5; Jābir b. Ḥayyān 1983: 89–94; Pingree / Nomanul Haq 1998; and Todd 2016: 124–126.

36 See Jābir b. Ḥayyān 1983: 19.

37 Ibn Arfa' Ra's, *Ḥall mushkilāt*, fol. 15a.

As for the ‘soul’ (*nafs*) – which thus completes the familiar alchemical triad of spiritus, anima, corpus – it is the stone’s inner fire or sulphur, from which are obtained the qualities of heat and dryness.<sup>38</sup> Ibn Arfa‘ Ra’s writes:

The stone’s spirit (*rūḥ al-ḥajar*) is its vapour and its soul (*nafs*) is its smoke. It is also said that its spirit is its moisture and its soul its dryness which is consistent with [the stone] and is united therewith. So too is it said that its spirit is its water and its soul its fire which inheres therein. And they call its spirit its quicksilver (*zi’baq*) and its soul its sulphur (*kibrīt*), from which are engendered tinctures (*aṣbāgh*), oils (*adhān*), and flowers (*azhār*). This, then, is what is meant by the alchemical ‘soul’ and ‘spirit’. They are siblings, one more junior in rank than the other. One is raw the other cooked, one male the other female, one eastern the other western,<sup>39</sup> one solar the other lunar, one aqueous the other fiery, one moist the other dry, one hot the other cold, one luminous the other dark, one lofty the other lowly.<sup>40</sup>

To produce the full set of *arkān* or artificial elements, from which an elixir will be crafted in the ‘second operation’ (*al-tadbīr al-thānī*), the alchemist, through repeated sublimations and distillations, must first refine the stone’s spirit and soul – which, at the start of the opus, are “dark and deficient”<sup>41</sup> – and then combine their respective qualities. If managed successfully, such distillations will yield, in order of production, a white cloudy solution known as ‘virgin’s milk’ (*laban al-‘adhrā’*), a yellow oil (*duhn*) and a red tincture (*ṣibgh*) representing the watery, airy, and fiery *arkān* respectively.<sup>42</sup> When all three are combined in a solution – the alchemist’s *aqua permanens* – and added to the purified earthy residue at the bottom of the vessel, the elixir’s basic ingredients are complete. Hence “the folk all agree”, says Ibn Arfa‘ Ra’s, “that their water is threefold in power, viz. watery, airy and fiery; and when it acquires an earthy power it becomes fourfold.”<sup>43</sup>

In the conventional poetic image, therefore, of the faded vestiges revived by desert rains our author identifies a ready metaphor for the alchemical processes of putrefaction, distillation,<sup>44</sup> and imbibition, whereby the earthy dregs are ‘bathed’

38 By dint of its dryness, the stone’s soul is deemed to act as a coagulant capable of fixing the volatile spirit and binding it to the body. See Abraham 1998: 10, 193.

39 See Ibn Arfa‘ Ra’s, *Ḥall mushkilāt*, fol. 47a: “By the ‘moon’ (*badr*) I mean the cold moist spirit which is referred to as the ‘western damsel’ (*al-fatāh al-gharbiyya*).”

40 Ibn Arfa‘ Ra’s, *Ḥall mushkilāt*, fol. 24a–b.

41 Ibn Arfa‘ Ra’s, *Ḥall mushkilāt*, fol. 25b.

42 See Ibn Arfa‘ Ra’s 2018: 155; Kraus 1986 [1942–1943]: 5; and Todd 2016: 125, 136–137.

43 Ibn Arfa‘ Ra’s, *Ḥall mushkilāt*, fol. 31a.

44 Ibn Arfa‘ Ra’s’s *qāfiyya*, likewise, starts with a description of desert rains (Ibn Arfa‘ Ra’s 2018: 225, lines 1–2.):

بكى الودق من خبت الأنعام وادقه  
على خد روض سندسي حدائقه

إذا افتر من جون الغمام بارقه  
بدمع كأن الريح ينثر لؤلؤا



in the distillate solution. It is noticeable, however, that in his description of the vegetation that sprouts in the wake of the downpour Ibn Arfa‘ Ra’s soon departs from the stock pre-Islamic model, evoking instead – with his portrayal of basil, violets, and narcissi<sup>45</sup> – the Baghdad gardens<sup>46</sup> that often feature (as in the following verses) in the narrative wine songs of the early Abbasid poet Abū Nuwās (d. c. 200/815):

At the monastery of Behrazan I have a spot

For idling and sport in its gardens.

I went there with my gallant lads

To visit on its day of palm branches,

With every daring seeker of passion

Who prefers this world to his religion.

We settled on a spot that smiled on us

With the colours of its fragrant basil;

Its tender narcissi bordered by roses,

Its roses all bordered by jonquils.<sup>47</sup>

For Ibn Arfa‘ Ra’s, such flowers symbolize the crucial changes in the colour of the ashen residue that occur during the second operation as the stone passes from the phase of blackness to that of the ‘rainbow’ or ‘peacock’s tail’, followed by whiteness, and then yellowness. He writes:

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When lightning flashes in the clouds then fades,

The deluge weeps, upon the wadi’s trees,

Tears like pearls strewn hither by the breeze

On cheeks of gardens laid out like brocade

Thus, in his commentary on these verses, Jildakī observes that the thundercloud and the rain dripping from the branches are “allusions to distillation (*taqṭīr*), which is an indispensable cornerstone of the art.”

(Jildakī, *Ghāyat al-surūr fī sharḥ al-Shudhūr*, MS Birmingham, Cadbury Research Library, Mingana Islamic Arabic 949, fol. 188b).

<sup>45</sup> See Ibn Arfa‘ Ra’s 2018: 164.

<sup>46</sup> See Abū Nuwās 2003: vol. 3, 9, 20, 111, 150, 172, 181, 198, 220, 325, 327, 334, 338.

<sup>47</sup> Abū Nuwās 2003: vol. 3, 334.



[God] Most High has said “until when the earth takes its adornment and is beautified.”<sup>48</sup> Even thus is the philosophers’ hallowed and thirsty earth (*arḍ al-ḥukamā’ al-muqaddasa al-‘aṭshā’*) when its extracted moisture and waters are returned to it. For these, in effect, are like drops of rain which, at the start of the second operation (*al-tadbīr al-thānī*), yield such hues, flowers, fragrant herbs, blossom, red roses, and daisies as dazzle the grasp [of the senses]. Wherefore, of all things, [this earth] resembles most closely the day of the [spring] festival (*yawm al-mahrajān*).<sup>49</sup>

### 3 Nuwāsian imagery in the *Shudhūr*

The flowers of Baghdad’s gardens are by no means the only Nuwāsian motifs encountered in the *Shudhūr*. Like both Ibn al-Fāriḍ<sup>50</sup> and al-Shushtarī after him, Ibn Arfa‘ Ra’s draws extensively on the Bacchic imagery of Abū Nuwās’s *kham-riyyāt* or wine songs.<sup>51</sup> Some of this imagery, it is true, overlaps with that of

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48 Q 10:24.

49 Ibn Arfa‘ Ra’s, *Ḥall mushkilāt*, fol. 11b.

50 Ibn al-Fāriḍ draws on Abū Nuwās’s characteristic portrayal of wine as a rarefied, quasi-transcendent substance (see, for example, Abū Nuwās 2003: vol. 3, 3) capable of ridding human beings of angst (Abū Nuwās 2003: vol. 3, 2):

A golden wine in whose courtyard  
Sorrows never alight.

Cf. Ibn al-Fāriḍ 2004: 161:

Never have wine and sorrow  
Shared the same abode.

It is capable, too, of freeing human beings from the constraints of rational thought (Abū Nuwās 2003: vol. 3, 174):

Too subtle to touch  
Like the moon on the water  
She eludes the beholder’s grasp.  
‘Wine’... you’d say  
But then when you poured her  
From the mouth of her pitcher, you’d gasp  
‘Pure luminescence;  
How can I drink her?  
No wine were of this sort,  
So clear.’ Till you taste her  
And fall prostrate before her  
In the dust, past the realm of thought.

As such, Abū Nuwās’s wine becomes, for Ibn al-Fāriḍ, a metaphor for mystical knowledge, conceived of as both the means and goal of Sufism.

51 For a comprehensive study of Abū Nuwās’s Bacchic verse see Kennedy 1997.

traditional alchemical symbolism (notably the core emblems of sun and moon) lending them a dual resonance when used in the *Shudhūr*, both alchemical and Nuwāsian. Thus, when Ibn Arfa‘ Ra’s – referring to the dual nature of the alchemist’s ‘sulphurous’ or ‘silvery’ water – says *hiya l-shams illā annahā qamariyya* (“she is the sun, yet of the moon too”),<sup>52</sup> readers familiar with alchemy would recognize the traditional alchemical symbols; but they would also, almost certainly, hear echoes of Abū Nuwās’s celestial metaphors – portraying wine as the sun<sup>53</sup> and the androgynous cupbearer as the full moon<sup>54</sup> – as well as his fondness for sexual ambiguity.<sup>55</sup>

Other motifs, however, adopted by Ibn Arfa‘ Ra’s, are unequivocally Nuwāsian. This is the case, for example, with the symbol of the ‘silver-haired woman’ or *shamṭā*, who though grey with years is still alluring.<sup>56</sup> For Abū Nuwās she personifies a lively vintage wine:

A grey-haired woman who remembers

Adam with his Seth

And passes on news about Eve.<sup>57</sup>

And for Ibn Arfa‘ Ra’s, so Jildakī suggests in the *Ghāyat al-surūr*, the woman in the following verses from the *Shudhūr* symbolizes both the elixir and the ancient art of alchemy:

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<sup>52</sup> Ibn Arfa‘ Ra’s 2018: 101, line 3.

<sup>53</sup> See Abū Nuwās 2003: vol. 3, 60, 223.

<sup>54</sup> See Abū Nuwās 2003: vol. 3, 171:

In a garden as though its plants  
Donned embroidered robes  
When raindrops fall in the morning.  
Around it passes the moon,  
Pouring out the sun for us.  
Didst thou ever see a sun  
Set in orbit by a moon?  
The same imagery is taken up by Ibn al-Fāriḍ (2004: 158):  
The full moon is its cup  
Whilst it is a sun  
Passed round by a crescent.  
When mixed, how many stars appear!

<sup>55</sup> See Abū Nuwās 2003: vol. 3, 3.

<sup>56</sup> See Abū Nuwās 2003: vol. 3, 5, 173.

<sup>57</sup> Abū Nuwās 2003: vol. 3, 10.

She is a fire, though never fades away,

However few her days of rest and leisure.

Firm-breasted, though her hair has faded grey.

The forty-year old's peers are her peers.<sup>58</sup>

Commenting on these verses, Jildakī writes:

“She is fire” [...] Here he alludes to the end-product (*natīja*) of the Art, namely the elixir. For in act, colour, and effect, [the elixir] is indeed fire, albeit one that never goes out [...] “Firm-breasted, though her hair has faded grey” [...] “Firm-breasted” (*kā'ib*) refers to a young woman, by which he means that the end-product is young from the point of view of the seeker who has just acquired it; whereas “grey-haired” (*shamṭā'*) refers to an old woman (*'ajūz*), by which he means the antiquity of the science [of alchemy], for it dates from the time (*'ahd*) of Adam.<sup>59</sup>

The mature yet at the same time youthful *shamṭā'* is not the only typically Nuwāsian motif appropriated by Ibn Arfa' Ra's in order to convey the paradoxical character of the philosopher's stone insofar as it represents a conjunction of natural opposites. In the following verses from his *kāfiyya* he evokes a female personification frequently encountered in Abū Nuwās's *khamriyyāt*,<sup>60</sup> namely the depiction of an unopened amphora of lively vintage wine as an “old maiden” (*bikr 'ajūz*), as ancient as time (*dahr*) itself. Ibn Arfa' Ra's writes:

How noble a rock, of such value to us

That our paths thereto are obscured and hidden.

When the philosopher lists its attributes at length

He is thought a liar – such a paradox are they.

In their symbolism they call it a round-breasted maiden,

Though it is a woman so old

58 Ibn Arfa' Ra's 2018: 110, lines 37–38:

مدى الدهر، إلا أن يقل سباتها  
لدات بنات الأربعين لداتها

هي النار إلا أنها غير خامد  
هي الكاعب الشمطاء، والناصف التي

59 Jildakī, *Ghāyat al-surūr*, fol. 139b–140a.

60 See Abū Nuwās 2003: vol. 3, 53, 98, 101, 281, 324.

That time itself has forgotten her.<sup>61</sup>

It would appear, then, that for Ibn Arfa' Ra's the paradox symbolized by the ancient maiden consists in the idea that the philosopher's stone, though outwardly dry and earthy, comprises within itself nonetheless the "cold, moist, female spirit" or philosophical mercury, a principle often represented in alchemical literature (the *Ḥall mushkilāt* included) by the symbol of the maiden ('*adhrā*').<sup>62</sup> Jildakī's commentary confirms this impression: the philosopher's stone, observes Jildakī, is an old woman (*shaykha*) by dint of its longevity; yet though it is outwardly dry and earthy it is inwardly moist and aqueous, yielding a "spiritual water" (*mā' rūḥānī*) that confers immortality on whoever drinks it.<sup>63</sup>

Another female personification drawn from the pages of Abū Nuwās's *khamriyyāt* is the *majūsiyya* or Zoroastrian woman, who features in the extract below from Ibn Arfa' Ra's's '*ayniyya*. Here it is also worth noting that this extract's Nuwāsian resonance is amplified by the mention, two lines earlier, of the term *ṣahbā'* or crimson, an epithet of red wine that is often used by Abū Nuwās.<sup>64</sup> Ibn Arfa' Ra's writes:

Dwelling in my heart is my love for her,

Mixed with my blood like red wine and pure water.

So no limb is spared from passion for her,

And no cure but she can avail me.

Zoroastrian is she on her father's side,

But her mother is descended from Dārim and Mujāshi'ī.<sup>65</sup>

61 Ibn Arfa' Ra's 2018: 241, lines 9–11:

علينا فأبهمنا عليها المسالكا	فاكرم بها من صخرة عز قدرها
يظن لافراط التناقض افكا	إذا بسط القول الحكيم بوصفها
تغافل عنها الدهر عذراء فالكا	يسمونها في رمزهم وهي شيخة

62 In the *Ḥall mushkilāt* Ibn Arfa' Ra's identifies both "Hermes" and the "maiden" ('*adhrā*') as symbols of the "cold, moist, female spirit" (see *Ḥall mushkilāt*, fols. 19a and 57a). Elsewhere in the *Ḥall mushkilāt*, as we have seen, the alchemical spirit is identified with quicksilver or philosophical mercury (see *Ḥall mushkilāt*, fol. 24a).

63 See Jildakī, *Ghāyat al-surūr*, fol. 200b.

64 See Abū Nuwās 2003: vol. 3, 7, 10, 26, 49, 59, 77, 92, 101, 112, 192, 249.

65 Ibn Arfa' Ra's 2018: 204, lines 17–19 (In line 18 I have favoured *dawā'*, as given in the Escorial manuscript, to *hawā'*):

ممازجة الصهباء ماء النقايع	وى حبها قلبي فمازجه دمي
وما من دواء غيرها منه نافع	فما في عضو ليس فيه هوى لها
إذا انتسبت من دارم بمجاشعي	مجوسية الالباء لكن أمها

One of many motifs that reflect the cosmopolitan, multi-denominational character of early Abbasid Baghdad,<sup>66</sup> the *majūsiyya* seems intended in the following verse by Abū Nuwās to symbolize a rarefied wine whose delicacy has surpassed that of fire, a reference to the role the latter plays in Zoroastrian worship:

A Zoroastrian woman who has shunned her coreligionists

Due to her loathing the fire that blazes among them.<sup>67</sup>

According to the *Ghāyat al-surūr*, fire plays a key part in the symbolism of Ibn Arfa' Ra's's *majūsiyya* likewise, with Jildakī interpreting the Zoroastrian motif as another reference to the balance of elemental natures that make up the philosopher's stone, envisaged this time as the alchemist's prime matter (*hayūlā*) at the start of the opus. Jildakī writes:

He is referring to [the alchemist's] prime matter, whence is born the philosophers' human being (*insān al-falāsifa*), and [to the allegorical idea] that [their prime matter] is Zoroastrian on its father's side, since Zoroastrians worship fire and venerate the heavenly bodies, the Sun and the Moon. Hence on its father's side, [the alchemist's] prime matter is born of Zoroastrians whose natures (*ṭabā'i*) incline towards that of fire pure and simple, and towards the natures of the fiery heavenly bodies such as the Sun and Mars. As for its mother, by contrast, she is a woman of Arab stock, and thus mild-tempered, born as she is of the Arabs, who are known for their flirtatiousness, humour, and poetry, and who are of the nature (*ṭabī'a*) of Venus, Mercury, and the Moon – the Banī Dārim and Mujāshi'i being two [South Arabian] tribes descended from [the patriarch] Qaḥṭān.<sup>68</sup>

Finally, besides their frequent appropriation of Nuwāsian tropes, Ibn Arfa' Ra's's verses anticipate Ibn al-Fāriḍ's meticulously crafted *khamriyya* in their use of *badī'*, the elaborate set of stylistic embellishments – ranging from antithesis (*ṭibāq*) and paronomasia (*jinās*) to Quranic allusions (*talmīḥ*)<sup>69</sup> – that had been imported to al-Andalus from the Arab East during the cultural heyday of the Spanish Umayyad caliphate. Of such stylistic devices, we might note, that of *ṭibāq* (with its various subsets)<sup>70</sup> seems particularly well suited to the theme of alchemy, with its established set of binaries and contraries: sulphur and mercury, sun and moon, fire and water. Thus, in the verse cited below, for example, the linguistic antithesis of *yahīmu* ("he yearns") in the first hemistich and *targhabu 'an* ("she shuns") in the second is combined with the familiar alchemical binary of 'eastern youth'

<sup>66</sup> See Abū Nuwās 2003: vol. 3, 14, 50, 98, 102, 130, 220, 334.

<sup>67</sup> Abū Nuwās 2003: vol. 3, 14.

<sup>68</sup> Jildakī, *Ghāyat al-surūr*, fol. 167a.

<sup>69</sup> On the characteristic elements of *badī'*, see Arberry 1965: 21–26; and van Gelder 2021.

<sup>70</sup> On *ṭibāq* and its subsets, see Arberry 1965: 23; and van Gelder 2021.

(sulphur) and '[western] lass' (quicksilver), with a further embellishment being added in the form of a play on the root letters in the second hemistich:

تشوق إلى شرق وترغب عن غرب

يهيم الفتى الشرقي منها بغادة

The eastern youth yearns for a lass

who longs for the East and shuns the West.<sup>71</sup>

## 4 Conclusion

A noteworthy development in the history of Sufi literature and classical Arabic poetry alike, the use of stock poetic motifs as didactic metaphors is a characteristic feature of some of the most memorable and innovative poems of the late classical period. Although this trend has typically been associated with Ibn 'Arabī's appropriation of pre-Islamic imagery in the *Tarjumān al-ashwāq* and Ibn al-Fāriḍ's audacious adoption of motifs from the wine songs of Abū Nuwās, we have seen that they were not the first to endow the idioms of earlier genres with doctrinal symbolism. When assessing, therefore, the *Shudhūr al-dhahab*'s place in the history of classical Arabic poetry, it is to be observed that Ibn Arfa' Ra's's *dīwān* foreshadows the allegories of the thirteenth-century Arab Sufi poets not only in terms of the general technique of using classical motifs for symbolic purposes – a methodology that Ibn 'Arabī articulates in the introduction to the *Tarjumān* – but also in the specific models on which it draws.

## References

### Manuscripts

- Ibn Arfa' Ra's, *Ḥall mushkilāt Shudhūr al-dhahab*, MS Berlin, Staatsbibliothek Preußischer Kulturbesitz, Orientabt., Landberg 96.  
 Al-Jildakī, Aydamir, *Kitāb al-Miṣbāḥ fī 'ilm al-miftāḥ fī al-ḥikma al-ilāhīya wa-al-ṣinā'a al-ḥikmīya*, MS Pennsylvania, Kislak Center for Special Collections, LJS441.  
 Al-Jildakī, Aydamir, *Ghāyat al-surūr fī sharḥ al-Shudhūr*, MS Birmingham, Cadbury Research Library, Mingana Islamic Arabic 949.

<sup>71</sup> Ibn Arfa' Ra's 2018: 101, line 2.

## Printed Sources

- Abū Nuwās, al-Ḥasan ibn Hānī' (2003): *Der Dīwān des Abū Nuwās*. Edited by Ewald Wagner. 5 vols. Beirut: In Kommission bei "Klaus Schwarz Verlag" Berlin.
- Ibn 'Arabī, Muḥyī l-Dīn (1964): *Rūḥ al-quds fī muḥāsabat al-naḥs*. Edited by 'Abd al-Wakīl al-Durūbī. Damascus: Mu'assasat "al-'Ilm" lil-ṭibā'a wa l-nashr.
- Ibn 'Arabī, Muḥyī l-Dīn (1911): *Tarjumān al-ashwāq*. Edited by Reynold A. Nicholson. (Oriental Translation Fund; n.s. 20). London: Royal Asiatic Society.
- Ibn 'Arabī, Muḥyī l-Dīn (2019): *Qurāḍat al-'asjad – dīwān Muḥyī l-Dīn ibn 'Arabī*. Edited by Lahouari Ghazzali. Beirut: Dār al-Kutub al-'Ilmiyya.
- Ibn Arfa' Ra's, 'Alī ibn Mūsā Abū-l-Ḥasan al-Anṣārī (2018): *Shudhūr al-dhahab*. Edited by Lahouari Ghazzali. Beirut: Dār al-Kutub al-'Ilmiyya.
- Ibn al-Fāriḍ, 'Umar (2004): *Dīwān*. Edited by Giuseppe Scattolin. Beirut, Cairo: Al-Ma'had al-'Ilmī al-Faransī lil-Āthār al-Sharqiyya bil-Qāhira.
- Ibn Khaldūn (1967): *The Muqaddimah: an Introduction to History*. Translated by Franz Rosenthal. 3 vols. London: Routledge and Kegan Paul.
- Ibn Khaldūn (1980): *Muqaddimat Ibn Khaldūn*. Edited by 'Alī 'Abd al-Wāḥid Wāfī. Cairo: Lajnat al-Bayān al-'Arabī.
- Ibn Manẓūr, Muḥammad ibn Mukarram (1955-1956): *Lisān al-'Arab*. 15 vols. Beirut: Dār Ṣādir.
- Jābir b. Ḥayyān (1983): *Dix traités d'alchimie. Les dix premiers traités du Livre des Soixante-dix*. Présentés, traduits de l'arabe et commentés par Pierre Lory. Paris: Sindbad.
- Al-Kutubī, Ibn al-Shākir (1951): *Fawāt al-Wafāyāt*. 2 vols. Muḥammad Muḥyī l-Dīn 'Abd al-Ḥamīd, 2 vols. Cairo: Maktabat al-Nahḍa al-Miṣriyya.
- Al-Rushtāqī, 'Alī ibn Mas'ūd al-Ḥā'irī (1298/1881): *Fi Sharḥ ba'd al-abyāt min Kitāb Ḥall al-mushkilāt*. Mumbai: publisher not identified.

## Secondary Literature

- Abraham, Lyndy (1998): *A Dictionary of Alchemical Imagery*. Cambridge: Cambridge University Press.
- Anawati, Georges C., (1996): "Arabic alchemy". In: *Encyclopedia of the History of Arabic Science*. Edited by Roshdi Rashed. Vol. 3. London: Routledge, 853–885.
- Arberry, A.J. (1965): *Arabic poetry: a primer for students*. Cambridge: Cambridge University Press.
- Fierro, Maribel (1996): "al-Shushtarī, Abū 'l-Ḥasan 'Alī b. 'Abd Allāh al-Numayrī". In: *The Encyclopaedia of Islam. New Edition*. Edited by C.E. Bosworth et al. Vol. 9. Leiden: Brill, 513.
- Forster, Regula (2016): "Alchemy". In: *Encyclopaedia of Islam, THREE*. Vol. 2016–2. Leiden, Brill, 15–28.
- Forster, Regula / Müller, Juliane (2019): "al-Jildakī". In: *Encyclopaedia of Islam, THREE*. Vol. 2019. Leiden, Brill.
- Forster, Regula / Müller, Juliane (2020): "The Identity, Life and Works of the Alchemist Ibn Arfa' Ra's". *Al-Qanṭara*. 41.2: 373-408.
- Forster, Regula (2021): "Alchemical Stanzaic Poetry (*muwashshah*) by Ibn Arfa' Ra's (fl. twelfth century)". *Asiatische Studien* 73.4.



- Gruendler, Beatrice (2000): "The Qasida". In: *Cambridge History of Arabic Literature: The Literature of Al-Andalus*. Edited by María Menocal, Raymond Scheindlin and Michael Sells. Cambridge: Cambridge University Press, 211-217.
- Guerrero, José Rodrigue (2010): "Some Forgotten Fez Alchemists and the Loss of the Peñon de Vélez de la Gomera in the Sixteenth Century". In: *Chymia: Science and Nature in Medieval and Early Modern Europe*. Edited by Miguel López Pérez, Didier Kahn and Mar Rey Bueno. Newcastle-upon-Tyne: Cambridge Scholars Publishing.
- Harris, Nicholas G. (2017): "In Search of 'Izz al-Dīn Aydamir al-Ġildakī, Mamlūk Alchemist". *Arabica* 64.3-4: 531-556.
- Hill, Donald R. (1990): "The Literature of Arabic Alchemy". In: *Cambridge History of Arabic Literature: Religion, Learning and Science in the 'Abbasid Period*. Edited by M. J. L. Young, J. D. Latham and R. B. Serjeant. Cambridge: Cambridge University Press, 328-341.
- Homerin, T.E. (2011): *Passion before me, my fate behind: Ibn al-Fāriḍ and the poetry of recollection*. Albany: State University of New York Press.
- Jacobi, Renate (1985): "Time and Reality in *Nasīb* and *Ghazal*". *Journal of Arabic Literature* 16: 1-17.
- Jones, Alan (1996): *Early Arabic Poetry*. Vol. 2. Reading: Ithaca.
- Kennedy, Philip (1997): *The Wine Song in Classical Arabic Poetry*. Oxford: Clarendon Press.
- Khulūṣī, Ṣafā' (1990): "Didactic Verse". In: *Cambridge History of Arabic Literature: Religion, Learning and Science in the 'Abbasid Period*. Edited by M. J. L. Young, J. D. Latham and R. B. Serjeant. Cambridge: Cambridge University Press, 498-509.
- Kraus, Paul (1986 [1942-1943]): *Jābir ibn Ḥayyān: contribution à l'histoire des idées scientifiques dans l'Islam: Jābir et la science grecque*. 2 vols. Paris: Les belles lettres.
- Lings, Martin (1990): "Mystical poetry". In: *Cambridge History of Arabic Literature: Religion, Learning and Science in the 'Abbasid Period*. Edited by M. J. L. Young, J. D. Latham and R. B. Serjeant. Cambridge: Cambridge University Press, 235-264.
- Montgomery, James E. (1995): "The Deserted Encampment in Ancient Arabic Poetry: A Nexus of Topical Comparisons". *Journal of Semitic Studies* 40: 283-316.
- Nomanul Haq, Syed (1994a): *Names, natures and things: the alchemist Jābir ibn Ḥayyān and his Kitāb al-aḥjār (Book of stones)*. Dordrecht: Kluwer.
- Nomanul Haq, Syed (1994b): "Rukn". In: *The Encyclopaedia of Islam. New Edition*. Edited by C.E. Bosworth et al. Vol. 8. Leiden: Brill, 596-597.
- Nomanul Haq, Syed (2007): "Occult Sciences and Medicine". In: *New Cambridge History of Islam*. Edited by Robert Irwin. Vol. 4. Cambridge: Cambridge University Press, 640-667.
- Pingree, D.E. / Nomanul Haq, Syed (1998): "Ṭabī'a". In: *The Encyclopaedia of Islam. New Edition*. Edited by C.E. Bosworth et al. Vol. 10. Leiden: Brill, 25-28.
- Schippers, Arie (2009): "al-Anṣārī, Abū l-Ḥasan". In: *Encyclopaedia of Islam, THREE*. Vol. 2009-1. Leiden, Brill, 92-93.
- Sells, Michael (1989): *Desert Tracings*. Middletown, Conn.: Wesleyan University Press.
- Stern, Samuel M. (1974): *Hispano-Arabic strophic poetry*. Oxford: Clarendon Press.
- Stetkevych, Suzanne (1993): *The Mute Immortals Speak: Pre-Islamic Poetry and the Poetics of Ritual*. Ithaca: Cornell University Press.
- Todd, Richard (2016): "Alchemical Poetry in Almohad Morocco: the *Shudhūr al-dhahab* of Ibn Arfa' Ra's". *Oriens* 44.1-2: 116-144.
- Ullmann, Manfred (1972): *Die Natur- und Geheimwissenschaften im Islam*. (Handbuch der Orientalistik; Abt. 1, Ergänzungsbd. 6, Abschnitt 2). Leiden: Brill.

- Van Gelder, Geert Jan (1995): "Arabic didactic verse". In: *Centres of learning. Learning and location in pre-modern Europe and the Near East*. Edited by J. W. Drijvers and A. A. MacDonald. Leiden: Brill, 103–117.
- Van Gelder, Geert Jan (2021): "Badī". In: *Encyclopaedia of Islam, THREE*. Vol. 2021. Leiden, Brill.

