

The Alchemist's work : Ibn Afra' Ra's and the reception of his collection of alchemical poems Shudhr al-dhahab

Autor(en): **Braun, Christopher / Forster, Regula**

Objektyp: **Article**

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

Band (Jahr): **75 (2021)**

Heft 2

PDF erstellt am: **25.07.2024**

Persistenter Link: <https://doi.org/10.5169/seals-956728>

Nutzungsbedingungen

Die ETH-Bibliothek ist Anbieterin der digitalisierten Zeitschriften. Sie besitzt keine Urheberrechte an den Inhalten der Zeitschriften. Die Rechte liegen in der Regel bei den Herausgebern.

Die auf der Plattform e-periodica veröffentlichten Dokumente stehen für nicht-kommerzielle Zwecke in Lehre und Forschung sowie für die private Nutzung frei zur Verfügung. Einzelne Dateien oder Ausdrucke aus diesem Angebot können zusammen mit diesen Nutzungsbedingungen und den korrekten Herkunftsbezeichnungen weitergegeben werden.

Das Veröffentlichen von Bildern in Print- und Online-Publikationen ist nur mit vorheriger Genehmigung der Rechteinhaber erlaubt. Die systematische Speicherung von Teilen des elektronischen Angebots auf anderen Servern bedarf ebenfalls des schriftlichen Einverständnisses der Rechteinhaber.

Haftungsausschluss

Alle Angaben erfolgen ohne Gewähr für Vollständigkeit oder Richtigkeit. Es wird keine Haftung übernommen für Schäden durch die Verwendung von Informationen aus diesem Online-Angebot oder durch das Fehlen von Informationen. Dies gilt auch für Inhalte Dritter, die über dieses Angebot zugänglich sind.

Christopher Braun and Regula Forster*

The Alchemist's work: Ibn Arfa' Ra's and the reception of his collection of alchemical poems *Shudhūr al-dhahab*

<https://doi.org/10.1515/asia-2020-0033>

Received September 4, 2020; accepted October 15, 2020; published online May 14, 2021

Abstract: In recent years, scholars have increasingly turned their attention to the social contexts of Islamic manuscripts related to the occult sciences. With regard to manuscripts dealing with Arabic alchemy, however, in-depth studies are still lacking. This article aims at shedding some light on the readers and owners of Arabic alchemical literature, focusing on Ibn Arfa' Ra's, a Moroccan alchemist of the twelfth century, and his collection of poems entitled *Shudhūr al-dhahab* ("The Splinters of Gold"). In the centuries following Ibn Arfa' Ra's's death, his *dīwān* became a "bestseller" and was copied numerous times in many parts of the Islamicate world. The 94 extant manuscripts bear witness to this incredible success and allow us to take a closer look at the milieu in which this text circulated.

Keywords: alchemical poetry, Ibn Arfa' Ra's, readers and owners of alchemical literature, *Shudhūr al-dhahab/The Splinters of gold*

'Knowledge is nobler than wealth. Knowledge protects you, whereas you need to protect your wealth. Wealth decreases when spending it, whereas knowledge increases when imparting it.'¹

1 Introduction

A substantial number of preserved Arabic manuscripts stored nowadays in libraries across the globe deal with the transmutation of base metals such as lead

1 Saying attributed to 'Alī b. Abī Ṭālib; al-Qāsimī 2012: 168.

*Corresponding author: Regula Forster, Abt. Orient- und Islamwissenschaft, Asien-Orient-Institut, Eberhard Karls Universität Tübingen, Wilhelmstr. 113, 72074 Tübingen, Germany, E-mail: regula.forster@uni-tuebingen.de. <https://orcid.org/0000-0003-4391-7217>
Christopher Braun, Independent Scholar, Saarbrücken, Germany, E-mail: chrbraun84@gmail.com. <https://orcid.org/0000-0002-3076-8446>

and copper into precious metals like silver and gold.² The miraculous metamorphosis is often said to occur through the application of a substance referred to as “the elixir” (*al-iksīr*) or “the philosophers’ stone” (*ḥajar al-falāsifa*, *ḥajar al-ḥukamāʾ*, etc.).³ These texts belong to the literary heritage of the proponents of Arabic alchemy who practised this “art” over a period of more than a millennium and within a geographical area that stretched from the Atlantic Ocean to the Indus valley. Arabic alchemical literature therefore reflects a multifaceted and polyphonic tradition that encapsulated an enormous breadth of interests and intellectual tendencies.⁴

While many studies have dealt with Arabic alchemy’s indebtedness to earlier (late) antique practices and philosophies as well as its major achievements and developments, the social context of this literature has not been sufficiently explored. This comes as no surprise as modern historians of Arabic alchemy face serious challenges in tracking down the authors, readers and promoters of Arabic alchemical literature.⁵ The authors, on the one hand, especially those who flourished in the formative period of Arabic alchemy, often attributed their treatises to historical or legendary figures or transmitted their texts anonymously. Thus, their social and intellectual backgrounds often remain obscure.⁶ Reliable information on the readers and promoters of Arabic alchemy, on the other hand, is even scarcer. This darkness surrounding the “adepts” is partly due to the preponderance of oral transmission in acquiring and imparting alchemical knowledge. Moreover, a formal system of teaching and reading certificates (*ijāzāt* and *samāʾāt*) did not exist in alchemy in contrast to other disciplines.⁷ To shed more light on the social context of Arabic alchemical literature, the modern historian will need to undertake a close study of the colophons, the very few existing *ijāzāt*, the stamps of possession, the readers’ notes and other elements of the transmitted Arabic alchemical manuscripts that allow him or her to contextualise this sort of literature. Since this task has not been undertaken on a larger scale so far, we do not yet possess much information on the *aṣḥāb al-kīmiyāʾ*, “the adherents of alchemy”.

² Useful although dated surveys of Arabic alchemical treatises are Sezgin 1971 and Ullmann 1972.

³ For an overview of Arabic alchemy and modern research on it, see Forster 2016: 15a–28a.

⁴ Ullmann 1072: 149: “Im ganzen ist die arabische Alchemie ein äußerst komplexes Gebilde, das viele verschiedene Strömungen in sich vereinigt.” The diversity of alchemical practices in the Western context has been continuously highlighted, see Nummedal 2011: 310.

⁵ For the social contexts of Arabic alchemical literature, see Forster 2016: 21b–22a.

⁶ On the widespread phenomenon of pseudepigraphy in Arabic alchemical literature, especially in its earliest phase, see Ullmann 1972: 151.

⁷ Forster (forthcoming). For an insightful analysis of manuscript notes in other disciplines, see Liebrecht 2018.

It is obvious that the surviving Arabic alchemical texts, which comprise different genres from simple recipes and practical instructions all the way through to theoretical treatises and poetry collections, must have been penned by and circulated among people from different backgrounds.⁸ Some alchemists may have been no more than simple crooks and swindlers, such as the fraudulent alchemists whose criminal activities the Damascene alchemist and fraud, al-Jawbarī, described in his treatise *Kashf al-asrār* (“The Unveiling of the Secrets”) in the first half of the thirteenth century.⁹ Not everyone interested in alchemy belonged to the margins of society, however. On the contrary, members of the upper echelons of society took an interest in Arabic alchemical literature too, as the biographies of several alchemists as well as the anecdotes in some Arabic chronicles suggest.¹⁰

A way to understand the background of students of alchemy is to study the reception of one of the key texts of Arabic alchemy, as proposed here. By studying all extant manuscript copies of *Shudhūr al-dhahab*, we try to elucidate the background of the students of the “art”. The work has been copied throughout the centuries until the first half of the twentieth century and captivated the attention of very prominent members of Middle Eastern society.

2 Ibn Arfa‘ Ra’s: identification

Ibn Arfa‘ Ra’s (literally “the son of the high-headed”), the author of this poetry collection, is an enigmatic figure. Until recently, he was considered to be an Andalusian alchemist, poet and religious scholar who lived in the twelfth century.¹¹ Previous scholarship portrayed him as the author of works on alchemy, magic and lettrism as well as a preacher at the main mosque in Fez. It was believed that Ibn Arfa‘ Ra’s transmitted *ḥadīth* and taught Islamic law (*fiqh*) and the different ways of reciting the Qur’ān (*qirā’āt*).¹²

In a recent study,¹³ Juliane Müller and Regula Forster argued that two different scholars might have been identified incorrectly – the alchemist and poet Ibn Arfa‘ Ra’s and the jurist and expert of Qur’ānic variants Ibn al-Naqirāt. This confusion might go back to the Andalusian historian and traditionist Ibn al-Abbār (d. 658/

⁸ On the variety of genres in Arabic alchemy, see Forster 2016: 19a–21b.

⁹ See al-Jawbarī 2006: 173–197; 330–333.

¹⁰ Forster 2016: 21b–22a.

¹¹ On Ibn Arfa‘ Ra’s’s life and works, see, for now, Ullmann 1972: 231–232; Schippers 2009: 92–93; Ghazzali 2018; see also his introduction to the recently published reading edition, Ibn Arfa‘ Ra’s 2018: 5–25.

¹² Ullmann 1972: 231–232; Schippers 2009.

¹³ Forster/Müller 2020.

1260) who, in his biography of Ibn al-Naqrāt, mentions that the composition of *Shudhūr al-dhahab* is attributed to him (*ilayhi yunsab*).¹⁴ If the alchemist and the jurist were wrongly identified by scholars who came after Ibn al-Abbār, we could say but little with any certainty of the life of the alchemist, whose place of residence, occupation, etc. would be a complete mystery once more.

Be that as it may, it is clear that Ibn Arfa‘ Ra’s the alchemist wrote one of the most influential works of “later” Arabic alchemy, namely *Shudhūr al-dhahab*.

3 Ibn Arfa‘ Ra’s’s *Shudhūr al-dhahab*

Ibn Arfa‘ Ra’s’s fame rests on his *Shudhūr al-dhahab*, a *dīwān* of alchemical poems. Ibn Arfa‘ Ra’s is not the first alchemist who transmitted alchemical wisdom in versified form. Greek alchemists had already turned to poetry to convey their knowledge.¹⁵ Moreover, several Arab or Arabic-writing authors such as Pseudo-Khālid b. Yazīd (d. ca. 85/704), Ibn Umayl (d. ca. 350/960) and al-Ṭughrā’ī (d. probably 515/1121) composed didactic poetry about alchemy in Arabic before Ibn Arfa‘ Ra’s.¹⁶ However, Ibn Arfa‘ Ra’s is – with the possible exception of Pseudo-Khālid – very likely the most successful poet in the field, considering the enormous number of extant manuscripts of *Shudhūr al-dhahab*.

His collection of alchemical poems usually comprises 43 individual poems which consist, according to Manfred Ullmann’s calculation, of around 1,460 verses.¹⁷ The poems are ordered alphabetically on the basis of each poem’s rhyme letter. Many of Ibn Arfa‘ Ra’s’s verses are of high quality, considered aesthetically, but often difficult to comprehend, a fact that later readers of his *dīwān* have already pointed out. The historian Ibn Khaldūn (d. 808/1406), for example, characterised his *dīwān* as “some of the most marvellously original poetry ever written, despite the fact that it consists entirely of barely comprehensible enigmas and riddles.”¹⁸

¹⁴ Ibn al-Abbār 1886–1887: vol. 2, 674.

¹⁵ On Greek alchemical poetry, see Goldschmidt 1923: 1–59; Letrouit 1995: 11–93; Browne 1946: 129–137; Browne 1948: 15–25.

¹⁶ On the Arab and Arabic-writing forerunners to Ibn Arfa‘ Ra’s, see Ullmann 1972: 193–194, 218 and 231–232. On Khālid b. Yazīd, see Forster 2021 and Dapsens’s contribution in the present volume. Didier Khan recently published an extensive survey of alchemical poetry in Latin and the vernacular languages of Western Europe. These poems, however, were not inspired by Arabic but by non-alchemical Latin poetry. See Kahn 2010: 249–274; Kahn 2011: 62–77.

¹⁷ Ullmann 1972: 231. An edition of *Shudhūr al-dhahab* has been published in Beirut (Ibn Arfa‘ Ra’s 2018); a critical edition with German translation is currently being prepared by Svetlana Dolgusheva (Berlin).

¹⁸ Ibn Khaldūn 1958–1967: vol. 2, 229.

The elegant verses imbued with philosophical wisdom earned Ibn Arfa' Ra's posthumously the sobriquet "poet of the philosophers and philosopher of the poets" (*shā'ir al-ḥukamā' wa-ḥakīm al-shu'arā'*).¹⁹ Still today, the appeal of his poems has not lost its lustre. The Arabist Richard Todd recently stressed the aesthetic quality of Ibn Arfa' Ra's's poems and pointed out the poet's frequent references to Arabic love poetry and allusions to the Qur'ān and the *Qiṣaṣ al-anbiyā'*.²⁰

3.1 Extant manuscripts of *Shudhūr al-dhahab*

Several scholars have argued that Ibn Arfa' Ra's's *Shudhūr al-dhahab* ("The Splinters of Gold") represented a key text in the study of alchemy in the Middle East and North Africa.²¹ The recent discovery of 94 preserved manuscripts and more than a dozen commentaries on this *dīwān* corroborates their claim.²² These didactic verses must have indeed played a central role in the acquisition and transmission of alchemical knowledge. The following manuscript copies transmitting Ibn Arfa' Ra's's *dīwān* are known to us (Table 1).²³

We have had access to 89 of these 94 manuscripts. To date, it remains unknown whether the five remaining manuscripts are indeed *Shudhūr al-dhahab* manuscripts.²⁴ Four manuscripts exist that only transmit fragmentary verses and were therefore not considered for this study.²⁵ In addition, we excluded some manuscripts of which we are convinced that they do not contain verses of the *Shudhūr al-dhahab*, although the catalogues claim otherwise.²⁶

¹⁹ al-Kutubi 1951–1953: vol. 2, 181; al-Ṣafadī 1983: 260; al-Maqqarī 1855–1861: vol. 2, 606. Cf. Ullmann 1972: 231–232; al-Zirikli 1954–1959: vol. 5, 26; Labarta 2009: vol. 2, 334.

²⁰ Todd 2016: 116–144.

²¹ Holmyard 1957: 100; Ullmann 1972: 231–232; Anawati 1996: vol. 3, 873–874; and recently Todd 2016: 118.

²² Juliane Müller (Tübingen) is currently preparing an article on the commentaries. A descriptive list of the extant commentaries in manuscript form is available on Regula Forster's website (Forster n. d.). We are constantly updating this list.

²³ This is a thoroughly revised list compared with the one in Ibn Arfa' Ra's 2018: 55–59, which is also based on the findings of our SNSF project. Some of the manuscripts mentioned there are in fact not manuscripts of *Shudhūr al-dhahab*, others are enumerated twice. On the other hand, the present list includes some manuscripts not yet listed in 2018, see Forster n. d.

²⁴ We have not been able to see Ba1, Ba2, C13, Mec, and Naj.

²⁵ Beirut, Université Saint-Joseph, 255; Cairo, Dār al-kutub al-miṣriyya, 4491; Hamburg, Staats- und Universitätsbibliothek, Cod. orient. 310; Rome, Biblioteca Apostolica Vaticana, Vat. ar., 1708.

²⁶ Istanbul, Süleymaniye Yazma Eser Kütüphanesi, Fayḍ Allāh Efendi, 310; Konya, İl Halk Kütüphanesi, 4724; Mosul, Jāmi' al-Bāshā, 364; Tunis, Bibliothèque nationale de Tunisie, 3726m.

Table 1: The extant manuscripts transmitting Ibn Arfa' Ra's's *Shudhūr al-dhahab*.

No	City, library, shelf mark	Abbr.
1	Alexandria, al-Maktaba al-Baladiyya, 237 (raqm al-ḥifẓ 3069/jīm Kīmiyā' wa-ṭabī'a)	A
2	Ankara, Milli Kütüphanesi, A 1416 (= digitised copy Dubai, Jum'a al-Mājid, 610171)	An
3	Baghdad, Jāmi'at Baghdād, Kulliyyat al-Ādāb, Maktabat al-dirāsāt al-'ulyā, Maḥfūz, 260 ^a	Ba1
4	Baghdad, Jāmi'at Baghdād, Kulliyyat al-Ādāb, Maktabat al-dirāsāt al-'ulyā, 55 ^b	Ba2
5	Baghdad, Dār al-kutub wa-l-wathā'iq al-waṭaniyya, Dār al-Makhṭūṭāt al-'Iraqiyya (formerly al-Khizāna al-Ālūsiyya), 8554	Ba3
6	Baghdad, Dār al-kutub wa-l-wathā'iq al-waṭaniyya, Dār al-Makhṭūṭāt al-'Iraqiyya, 2-30654	Ba4
7	Berlin, Staatsbibliothek Preußischer Kulturbesitz, Orientabt., Spr. 1969/1 (Ahlw. 4180) (= digitised copy Dubai, Jum'a al-Mājid, 710961)	B
8	Cairo, Dār al-kutub al-miṣriyya, 70 (= digitised copy Dubai, Jum'a al-Mājid, 303880)	C2
9	Cairo, Dār al-kutub al-miṣriyya, 107 kīmiyā' (= digitised copy Dubai, Jum'a al-Mājid, 369056)	C4
10	Cairo, Dār al-kutub al-miṣriyya, 128 (= digitised copy Dubai, Jum'a al-Mājid, 369004)	C5
11	Cairo, Dār al-kutub al-miṣriyya, 129 (= digitised copy Dubai, Jum'a al-Mājid, 369205)	C6
12	Cairo, Dār al-kutub al-miṣriyya, 177 (= digitised copy Dubai, Jum'a al-Mājid, 303979)	C7
13	Cairo, Dār al-kutub al-miṣriyya, 190 (= digitised copy Dubai, Jum'a al-Mājid, 304110)	C8
14	Cairo, Dār al-kutub al-miṣriyya, 16712 (= Kīmiyā wa-ṭabī'a 42) (= digitised copy Dubai, Jum'a al-Mājid, 369260 and, identical, 448379)	C9
15	Cairo, Dār al-kutub al-miṣriyya, Majāmi' Taymūr 288 (1799)	C11
16	Cairo, Dār al-kutub al-miṣriyya, Ṭabī'iyāt 17 (= 4243) (= digitised copy Dubai, Jum'a al-Mājid, 369067)	C10
17	Cairo, Dār al-kutub al-miṣriyya, Ṭabī'iyāt Taymūr 71 (= digitised copy Dubai, Jum'a al-Mājid, 369405)	C3
18	Cairo, al-Maktaba al-Azhariyya, 5926 (= digitised copy Dubai, Jum'a al-Mājid, 635898)	C1
19	Cairo, al-Maktaba al-Azhariyya, 131829 [9347 Adab Dumyāt] ^c	C13
20	Chinguetti, Maktabat Ahl Ḥabat, 547 (catalogue entry no 546)	Ch
21	Damascus, Maktabat al-Asad, 4817 (= digitised copy Dubai, Jum'a al-Mājid, 246256)	D1
22	Damascus, Maktabat al-Asad, 96542 tā' (= digitised copy Dubai, Jum'a al-Mājid, 229536)	D2
23	Damghan, Kitābkhāna-yi Qamar Banī Hāshim, 128	Da
24	Geneva, Bibliothèque de Genève, Ms. O.33	Ge
25	Gotha, Forschungsbibliothek, Ms. orient. A 1289	G1
26	Gotha, Forschungsbibliothek, Ms. orient. A 1290	G2
27	Hyderabad, Oriental Manuscripts Library and Research Institute, Kīmiyā' 56	H
28	Isfahan, Ganjīna, shelf mark illegible (1521?)	Is
29	Istanbul, Ayasofya, 3928 (= digitised copy Dubai, Jum'a al-Mājid, 756403)	I4
30	Istanbul, Köprülülü Kütüphanesi, Fazil Ahmed Pasha 1295	I3
31	Istanbul, Millet Kütüphanesi, 2823	I5
32	Istanbul, Süleymaniye Yazma Eser Kütüphanesi, Laleli 1727	I1
33	Istanbul, Süleymaniye Yazma Eser Kütüphanesi, Laleli 2772	I6
34	Istanbul, Süleymaniye Yazma Eser Kütüphanesi, Nuruosmaniye 3633	I2

Table 1: (continued)

No	City, library, shelf mark	Abbr.
35	Istanbul, Topkapı Sarayı Müzesi Yazma Eserler Kütüphanesi, Aḥmad Thālith 1718	I8
36	Istanbul, Topkapı Sarayı Müzesi Yazma Eserler Kütüphanesi, Aḥmad Thālith 2572	I7
37	Jerusalem, al-Maktaba al-Badīriyya, 246 (= digitised copy Dubai, Jum'a al-Mājid, 660930)	Jer
38	Kabul, Arshīf millī (former Academy of the Sciences and the Humanities, even earlier: Museum), 167 (No 27 in the handwritten catalogue)	KL
39	Karachi, Dr. Mahmud Husain Library, 19994 (= digitised copy Dubai, Jum'a al-Mājid, 528519)	Kr
40	Leiden, Universiteitsbibliotheek, Or. 2840 (= Lb. 480)	LD
41	Leipzig, Universitätsbibliothek, Ms. or. 358	L
42	London, British Library, Add 7590 (former British Museum 601)	L1
43	London, British Library, Or 8047	L2
44	Madrid, Real Biblioteca del Monasterio de San Lorenzo de El Escorial, 530 (= Casiri 527)	Mad
45	Manchester, John Rylands Library, 809 (= Mingana No 338)	Mn
46	Mashhad, Kitābkhāna-yi Āstān-i Quds-i Raḍawī, 10955 ḍ	Md
47	Mecca, library not identified, 2, 410 ^d	Mec
48	Mosul, Maktabat al-Awqāf, 6157 (no 9/14 Ṣā'igh) (catalogue 1978) ^e	Mo
49	Munich, Bayerische Staatsbibliothek, Cod. arab. 881	M
50	Muscat, Wizārat al-turāth, 1334	Mc1
51	Muscat, Wizārat al-turāth, 1337 [general no: 1227]	Mc2
52	Muscat, Wizārat al-turāth, 1750	Mc3
53	Muscat, Wizārat al-turāth, 1796	Mc4
54	Najaf, Shaykh Muḥammad al-Simāwī, 311 ^f	Naj
55	Oslo, Nasjonalbiblioteket, Ms. fol. 4313	Osl
56	Oxford, Bodleian Library, Huntington 405	O
57	Palma de Mallorca, Biblioteca Bartolomé March, 325	PM
58	Paris, Bibliothèque nationale de France, Arabe 2622 (Supplément 1527)	P
59	Princeton, Princeton University Library, Garrett, MS. 931 (Call number: 539H)	Pr1
60	Princeton, Princeton University Library, Garrett, MS. 1090Y	Pr2
61	Qom, Kitābkhāna-yi 'umūmī-i Āyat Allāh Gulpāyigānī, 39/58–7678/1 (catalogue no 7255)	Qm1
62	Qom, al-Ma'had al-'ālī li-l-'ulūm wa-l-thaqāfa al-islāmiyya (former Kitābkhāna-yi Markaz-i Muṭāla'āt wa-taḥqīqāt-i islāmī), no 281	Qm2
63	Rabat, Bibliothèque nationale du Royaume du Maroc, 103d (catalogue no 477)	R10
64	Rabat, Bibliothèque nationale du Royaume du Maroc, 1460d (catalogue no 2468)	R1
65	Rabat, Bibliothèque nationale du Royaume du Maroc, 1495d (catalogue no 2469)	R11
66	Rabat, al-Khizāna al-Ḥasaniyya, 1035/Majmū' (1)	R2
67	Rabat, al-Khizāna al-Ḥasaniyya, 1109	R3
68	Rabat, al-Khizāna al-Ḥasaniyya, 1116	R4
69	Rabat, al-Khizāna al-Ḥasaniyya, 1369	R5
70	Rabat, al-Khizāna al-Ḥasaniyya, 1520	R9
71	Rabat, al-Khizāna al-Ḥasaniyya, 2252	R6
72	Rabat, al-Khizāna al-Ḥasaniyya, 5326	R7

Table 1: (continued)

No	City, library, shelf mark	Abbr.
73	Rabat, al-Khizāna al-Ḥasaniyya, 7384	R8
74	Rabat, Private Library	R12
75	Riyadh, Maktabat al-Malik ‘Abd al-‘Azīz al-‘amma, 681 (= digitised copy Dubai, Jum‘a al-Mājid, 336175)	RD1
76	Riyadh, Maktabat al-Malik ‘Abd al-‘Azīz al-‘amma, 3364 (= digitised copy Dubai, Jum‘a al-Mājid, 342434)	RD2
77	Riyadh, Jāmi‘at al-Malik Sa‘ūd, 1716 (= digitised copy Dubai, Jum‘a al-Mājid, 585809)	RD3
78	Riyadh, Jāmi‘at al-Malik Sa‘ūd, 3571 (= digitised copy Dubai, Jum‘a al-Mājid, 592980)	RD4
79	Rome, Biblioteca Apostolica Vaticana, Sbath 144	Rm1
80	Rome, Biblioteca Apostolica Vaticana, Sbath 251	Rm2
81	Saint Petersburg, Institute of Oriental Manuscripts, B 87 (= digitised copy Dubai, Jum‘a al-Mājid, 259269)	SP1
82	Saint Petersburg, Institute of Oriental Manuscripts, B 88 (= digitised copy Dubai, Jum‘a al-Mājid, 259274)	SP2
83	Tavşanlı, Zeytinoğlu İlçe Halk Kütüphanesi, 631/1	Tv
84	Tehran, Kitābkhāna-yi Danishgāh, 2281:6 j (Sayyid Muḥammad Mishkāt 1205/1; catalogue no 1747)	T2
85	Tehran, Kitābkhāna-yi Danishgāh, 7207	T5
86	Tehran, Markaz-i Dā‘irat ul-ma‘ārif-i buzurg-i Islāmī, 1886 (inventory no 252111) ^g	T4
87	Tehran, Kitābkhāna-yi Majlis-i shūrā-yi millī, 723	T1
88	Tehran, Kitābkhāna-yi Majlis-i shūrā-yi millī, 9520 = 3451	T3
89	Tehran, Kitābkhāna-yi millī-yi Malik, 5706	T6
90	Tindouf, Zāwiyat Sīdī Bel‘amash, 31 (= digitised copy Dubai, Jum‘a al-Mājid, 602469)	Tin
91	Tunis, Bibliothèque nationale de Tunisie, 4558	Tn1
92	Tunis, Bibliothèque nationale de Tunisie, 4644	Tn2
93	Uppsala, Universitetsbiblioteket, 133	U
94	? (origin unknown, digitised copy Dubai, Jum‘a al-Mājid, 305319)	NN

^aWe have not seen this manuscript yet and its current location remains unknown. ^bWe have not seen this manuscript yet but a partial edition is available, see Razūq 1982: 220. ^cWe have not obtained a copy of this manuscript yet. ^dWe have not seen this manuscript yet. Razūq 1982: 219 refers to this manuscript, however, it is not listed in the library’s catalogue, see Hīla 1994. ^eWe had access to a partial digital copy of this manuscript, ending in the middle of the poem on *mīm*. ^fWe have not obtained a copy of this manuscript yet. ^gThis is not an actual manuscript, but bound reader printer copies of a (relatively old looking) manuscript. We have not been able to identify the original nor its location.

3.2 Age

The enormous number of preserved manuscripts and their wide distribution across the Middle East and Asia attest to the fact that *Shudhūr al-dhahab* found a wide audience in the pre-modern Islamic world. Only some of the manuscripts are dated. So far, we have not discovered a manuscript copy dating to the lifetime of Ibn Arfa‘ Ra’s. The oldest manuscript we have had access to (Tin) was copied in 704/1304,

around one hundred years after Ibn Arfa' Ra's's death. It is currently stored in the Zāwiyat Sidī Bel'amash in Tindouf (Algeria). The most recent copy (Da), according to the colophon (p. 79), was finished on 29 Rajab 1357/24 September 1938 on modern ruled paper, a feature also shared by a copy currently stored at Princeton University Library (Pr2), dated to Šafar 1327/February–March 1909.

Indeed, of the 64 manuscripts that are dated or for which the catalogues propose an approximate date, only four date to the fourteenth century (Tin, Osl, Mn, Rm1), six each to the fifteenth (T2, I8, I5, D1, L, I7) and sixteenth centuries (T4, I3, Pr1, Mad, C7, Rm2), the seventeenth century contributes 11 manuscripts (KL, SP2, RD1, U, Ge, Ba3, SP1, B, Qm1, O, P), the eighteenth thirteen (RD3, Tv, An, Mc3, Mc2, C9, C10, C6, L2, L1, C4, T5, T6), while no less than nineteen probably date to the nineteenth century (G1, G2, R6, Tn2, Md, R10, C2, C11, R9, Mc1, A, R5, Is, R3, Tn1, T1, H, M, R4) and five are even from the twentieth century (Pr2, NN, Kr, Qm2, Da).

To these, we can add at least eight manuscripts that appear rather modern to us (C1, D2, Jer, LD, Mc4, R7, R8, RD2). An additional two Istanbul manuscripts (I1, I6), the only indications for the dating of which are stamps from the early nineteenth century, look considerably older to us.

While a peak in the seventeenth and eighteenth century can be expected when talking about the transmission of a scientific text,²⁷ the nineteenth century peak is rather intriguing. It could, perhaps, be explained by “loss rates”,²⁸ i.e. the simple fact that younger manuscripts have had less time to get lost and were not worn out by a more prolonged use. However, they remain a proof of a continued interest in alchemy even in a time that we usually call “modern”.

3.3 Geographical diffusion

The present location of the manuscripts does not tell us much about their exact origins which remain, to a large extent, unknown. To our surprise, we did not discover any very old Maghribī manuscripts. It might be possible that early Maghribī manuscripts disappeared, while later ones survived. However, it could well be the case that *Shudhūr al-dhahab* was first popular in the Islamic East (*al-mashriq*) and was only later read widely in the Islamic West (*al-maghrib*) (Figure 1).

Although typologies of Arabic script are still rough at best, some thoughts on the *ductus* of the manuscripts of *Shudhūr al-dhahab* might be helpful in order to

²⁷ A seventeenth/eighteenth century peak in the transmission has also been observed for the Pseudo-Aristotelian *Sirr al-asrār*, cf. Forster 2006: 12–14.

²⁸ On the problem of calculating loss rates cf. Witkam 2013: 35, who refers to Buringh's study of loss rates for medieval manuscripts in the Latin West, see Buringh 2011: 54–56; 179–252.

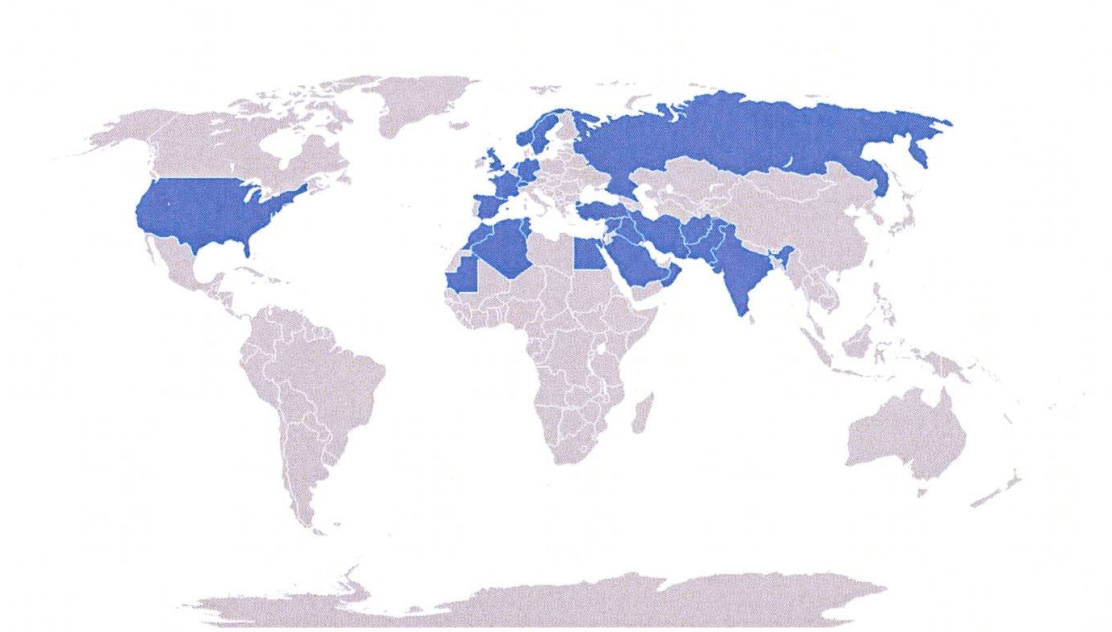


Figure 1: Countries where manuscripts of *Shudhūr al-dhahab* are stored at present.

establish the provenance of at least some of the manuscripts in question: First of all, one manuscript, (P), can be eliminated as a testimony of the distribution of the text in North Africa and the Middle East, as it was copied by a European hand.²⁹ While most (i.e. 65) of the manuscripts to which we had access are written in a *ductus* that can be classified as *naskhī*³⁰ and which is far too unspecific to give any indication of place or date, seventeen are in *maghribī*,³¹ seven in *ta'liq* or *nasta'liq*,³² and three in *ruq'a*.³³

Ta'liq and *nasta'liq* manuscripts might well have been written in the Ottoman Empire, but generally speaking, they are more likely to come from a Persianate context. This can be proven for two of the seven manuscripts in question, one written in Herat (C6), the other one in Mashhad (Da).

Of the *maghribī* manuscripts there is only one for which we have a clear indication of origin: according to the colophon, R4 was written in Cairo, but for the Moroccan sultan Mawlāy al-Ḥasan I, which means that the intended readership fitted the script.

Of the more than 60 manuscripts in *naskhī*, most bear no indication of provenance beyond the ownership marks of the libraries to which they belong today.

²⁹ Cf. Vajda 1940–1969: 60.

³⁰ A, B, C1, C2, C3, C4, C5, C7, C8, C9, D1, D2, G1, G2, Ge, H, Is, I1, I2, I3, I4, I5, I7, I8, Jer, Kr, L, L1, L2, LD, M, Mad, Mc1, Mc2, Mc3, Mc4, Md, Mn, Mo, O, Osl, P, Pr1, Qm1, R5, R7, R8, R9, RD1, RD2, RD3, RD4, Rm1, Rm2, SP1, SP2, T1, T2, T3, T4, T5, T6, Tin, U, NN.

³¹ C11, Ch, I6, PM, R1, R2, R3, R4, R6, R7, R8, R9, R10, R11, R12, Tn1, Tn2.

³² An, C6, C10, Da, KL, Pr2, Qm2.

³³ C4, Pr2, Tv.

Only three explicitly mention a place of copying: Qm was written in Medina, U in al-Manṣūra, probably the Egyptian town of this name, and Mc2 in a village in Jabal Banī Rayām in Oman (cf. fol. 81v).

For other *naskhī* manuscripts, there are indications left by former owners and copyists referring to Syria in general (L1), Egypt (GE, G2), and the city of Hyderabad (H). The last manuscript bears additional annotations that are at least partly in *ta'liq*, so an Eastern origin is reasonably likely.

Finally, two manuscripts seem to come from the Ottoman provinces: in one case, the copyist bears a Turkish name, Bolulu Ahmed Halimi (Tv); the other one (L) was owned by someone from Ūskub, i.e. Skopje, capital of North-Macedonia. In only one case, a manuscript in *naskhī* was adapted to a Maghrebi audience: the oldest extant *Shudhūr* manuscript (Tin), although presenting the main text in *naskhī*, has a title page in *maghribī*. This means that we can guess the provenance or at least the place of use for only 20 manuscripts out of 89.

3.4 Layout features

Of the 89 manuscripts we were able to examine all but one are codices: the one exception is a *safīna* (T5).³⁴ Most manuscripts show some concern with filling the pages evenly, yet mostly without framing or bordering around the text. In fact, text frames or rule borders occur in only 16 manuscripts (e.g. A, C3, C11, G2, I5, I3, KL, L1, Mo, Pr1, R3, R4, R7, RD3, T1, U).

As we can expect from poetry, hemistichs are usually separated, either by a space or by red dots. 53 manuscripts have a non-framed text with separated hemistichs.³⁵ However, there are a few exceptions (I4, I5, I7, L2, Mn, Osl, Pr1, SP2) which do not mark the divisions of the hemistichs.³⁶

We encountered different presentations only rarely, such as one hemistich per line (Ch, Ge), parts of the text written in the margin (Md), a presentation as strophic poetry and irregular framing (Mc2), or more than one verse per line (R12).

³⁴ Gacek 2001–2008: vol. 1, 69 (s. v. *safīnah*); Gacek 2012: 34 (“book format”).

³⁵ An, B, C1, C2, C4, C5, C6, C7, C8, C9, C10, G1, H, I1, I2, I6, I8 (dots added later?), Jer, Kr, L, LD, M, Mad, Mc1, Mc3, Mc4, O, P, Pr2, Qm1, Qm2, R1, R2, R5, R6, R8, R10, R11, RD1, RD2, RD4, Rm2, SP1, T2, T3, T4, T5, T6, Tin, Tn1, Tn2, Tv, NN.

³⁶ Separating the hemistichs into two columns was a convenient layout arrangement that facilitated the recitation of the poems and allowed the reader to add marginal notes to single verses, see Daub 2016: 51–53.

3.5 The copyists of *Shudhūr al-dhahab*

Although we have not been able to find more information on any of the copyists in the Arabic bio-biographical dictionaries yet, some preliminary conclusions can be drawn from our findings. Of the 94 manuscripts, the (partial) names of the scribes are known for 29 manuscripts (Table 2).

The names suggest that most if not all scribes were of Muslim confession. Some had already carried out the *ḥajj*, the pilgrimage to Mecca, and were carrying the honorific title *al-ḥājj*, such as al-Ḥājj Muḥammad ‘Abd Allāh al-Ḥanafī (Tn1) or al-Ḥājj Aḥmad al-Jazarī (R10). One manuscript from Cairo (C1) was copied by the son of a jurist (*ibn faqīh*) which also seems to indicate a Muslim context. An interesting case is the modern manuscript from Karachi (Kr), dated to 1340/1921–22 in the colophon, which seems to have been copied directly from a manuscript kept in Cairo (C9), as the copyist of the Cairo manuscript, Maḥmūd Ḥalabī, is mentioned as the scribe of the copied text on p. 74 of the Karachi copy. There are no women among the scribes, as far as the retrieved names tell us.

3.6 The owners of *Shudhūr al-dhahab*

Only some of the former owners of the manuscripts are known by name. Among them were religious scholars and dignitaries. A copy of *Shudhūr al-dhahab* currently held at the University Library (Kitābkhāna-yi Danishgāh) in Tehran (T5) was part of the library of Mullā Muḥammad ‘Alī Bāzmāndigān (?). The title Mullā designates “any Muslim scholar who has acquired a certain degree of religious education and the aptitude to communicate it”.³⁷ While its usage varied throughout the centuries and at different locations, the bearer of the title must have been a person with a thorough religious education. If one takes into account, that one copy of *Shudhūr al-dhahab* in Mosul is part of the book collection of a *madrasa*, an educational institution dedicated to the teaching of Islamic sciences, alchemy and religion may not have stood in sharp contrast to each other at the time of acquisition.³⁸

It appears that Ibn Arfa‘ Ra’s’s *dīwān* was also of interest for the military elite. The manuscript stored at present in Geneva (Ge) belonged in the year 1139/1726 to Muḥammad Āghā Kullazī. Later, Jean-Joseph Marcel (d. 1854), a French printer and engineer who took part in Napoleon’s 1798 campaign in Egypt as a member of the Commission des Sciences et des Arts, brought the manuscript from Egypt to

³⁷ Calmard 1998: vol. 7, 221b.

³⁸ See Forster forthcoming.

Table 2: The copyists of the extant manuscripts of Ibn Arfa' Ra's's *Shudhūr al-dhahab*.

Fourteenth Century	
'Abd al-'Azīz b. Aḥmad b. Muḥannā (copied in 731/1330–1)	Osl
Fifteenth Century	
Muḥammad al-Sunqurī (copied in 880/1475–6)	I7
Muḥammad b. Muḥammad 'Abd al-Rahmān b. 'Alī b. wakīl [?] al-sulṭān al-Anṣārī al-Shāfi'ī, (copied in 904/1498–9)	O
Seventeenth Century	
'Abd al-Ghaffār al-Harūmī (copied in 1010/1601–2 in Kashmir)	KL
Muṣṭafā b. Farūkh (copied in 1054/1644–5)	SP2
Muḥammad b. Muḥammad al-Sharta'āsī [?] al-Shāfi'ī (copied in 1057/1647–8)	RD1
Shihāb al-Dīn b. Aḥmad b. Muḥammad b. 'Alī (copied in 1062/1651–2 in al-Manṣūra)	U
al-[...], [...] b. 'Alī [...] al-Urdunī [?] (name was deleted, copied in Muḥarram 1063/December 1652)	Ge
Eighteenth Century	
Aḥmad Ḥalīmī Būlawī (Turkish: Bolulu Ahmed Halimi) (copied in 1175/1761–2)	Tv
'Umar b. Sālīm b. Sā'id al-Mundhirī al-Sulayfī (copied in 1182/1768–69)	Mc3
Ḥamd b. Safīd b. Sulaimān b. Safīd b. Khalaf al-Tūnī al-Riyāmī [?] (copied in 1185/1771–72)	Mc2
Maḥmūd Ḥalabī (copied on 2 Ṣafar 1195/28 January 1781)	C9
Muḥammad (copied in 1204/1789–90)	C10
'Abd Allāh (copied in Herat on 18 Ramaḍān 1206/10 May 1792)	C6
Muḥammad Muṣṭafā al-Dumyāṭī (copied in 1212/1797–8)	C4
Nineteenth Century	
al-ḥājj Aḥmad al-Jazarī (copied on 19 Rabī' al-thānī 1267/21 February 1851)	R10
Aḥmad al-'Udwī al-Jabal al-Suwayfī (copied in 1298/1880–1)	A
(copied on 2 Rajab 1301/28 April 1884)	R5
al-ḥājj Muḥammad b. al-ḥājj Muḥammad b. Muḥammad 'Abd al-Ḥanafī (copied in 1303/1885–6)	Tn1
'Alī Akbar b. al-Muṣṭafā b. Maḥmūd al-Sharūnī (copied at the end of the nineteenth century)	H
Twentieth Century	
Maḥmūd Ḥamdī (copied in 1340/1921–22 according to the colophon, or in 1320/1902–3 according to the introduction)	Kr
No date	
Aḥmad b. 'Abd al-Karīm al-Rakrākī	R12
Muḥammad Ṣabbāgh	M
Muḥammad Wajīh b. Muḥammad Shafīq al-Suyūfī	D2
al-Najafī [?]	NN
al-Sibā'ī	R4

Europe. Finally, Jean Humbert acquired the manuscript in Paris in the year 1820 for the Bibliothèque de Genève.³⁹ The title *āghā* was given in Ottoman times to persons

³⁹ Louca 1968: 58.

employed in the government service, mainly in the military.⁴⁰ It is likely that Muḥammad Āghā Kullazī was a member of the Ottoman military administration who hailed from the town of Killis in south-central Turkey near the Syrian border. There are no women among the owners of the manuscripts known by name.⁴¹ However, given the rather limited number of owners known by name, this does not imply that no woman ever possessed this collection of alchemical poems (Table 3).

3.7 The readers of *Shudhūr al-dhahab* and their additions

Only a very few readers of Ibn Arfa‘ Ra’s’s poetry are known by name. The aforementioned owner Muḥammad Āghā Kullazī studied *Shudhūr al-dhahab* intensively. He left many glosses in the manuscript in which he sometimes wishes God’s mercy (*rahma*) upon the author. Two other manuscripts (B and RD1) have readers’ notes. In the Berlin manuscript (B), only the first line of the note *ṭāla‘a fī hādihā l-kitāb [...]* (This book read [...]) can be read with certainty. In the second manuscript from Riyadh (RD1), the name of the reader is Muḥammad b. Aḥmad b. Muḥammad al-Shāfi‘ī al-Anṣārī al-Kanī, who claims to be a descendant of the Prophet’s earliest supporters (al-Anṣārī).

Although many readers of *Shudhūr al-dhahab* remain anonymous, they did leave indelible traces on the manuscripts’ pages. Of the 89 manuscripts we examined 41 have glosses and extensive comments either written between the lines, in the margins, or both. Yet, these are most often limited to corrections of the text, not contributing any discussion of the content. Some readers (or perhaps later scribes?) resorted to their mother tongue and scribbled glosses and comments in Ottoman Turkish (An) or Persian (H, C6, T1). Other notes are excerpts from larger and individually transmitted commentaries on *Shudhūr al-dhahab*.

Commentaries must have indeed played a significant role in *Shudhūr al-dhahab*’s long history of transmission. As already mentioned, a considerable number of commentaries on Ibn Arfa‘ Ra’s’s *dīwān* have survived. We are currently aware of more than a dozen commentaries. This is hardly surprising, given that Ibn Arfa‘ Ra’s’s poetry is often difficult to comprehend, and, to use the words of Ibn Khaldūn, at times quite “cryptic” (*malghūz*).⁴² The commentary tradition begins with Ibn Arfa‘ Ra’s commenting on his own verses in *Ḥall mushkilāt Shudhūr al-dhahab* (“The Unravelling of the Difficulties of The Splinters”).⁴³ It continues with

⁴⁰ Bowen 1960: vol. 1, 245.

⁴¹ Women appear rarely as the owners of Arabic manuscripts in general, see Liebrecht 2016: 356–362.

⁴² Ibn Khaldūn 1958–1967: vol. 2, 229.

Table 3: The owners of the extant manuscripts of Ibn Arfa' Ra's's *Shudhūr al-dhahab*.

'Abd Allāh Muḥammad Yūsuf al-Mutaḥaddiq al-Shafrī al-Shāfī' 'Abd Allāh	Mn
Abū l-Qāsim b. 'Alī b. Muḥammad 'urifa bi-Ibn (رئوده/رئوده)	Rm1
Aḥmad b. 'Alī al-Ḥaddād	RD3
Aḥmad b. al-shaykh Muḥammad b. Sakkim (سكّم) (destroyed ownership note)	Osl
Aḥmad b. Muḥammad 'Abd al-Qādir Bā'shan [?]	L2
Brill (Leiden)	Pr1
Ekrem Ulunay	An
Falqān Dubai	L
Muḥammad Āghā Kullazī	Ge
Muḥammad b. 'Alī b. 'Abd Allāh Yaḥyā Bāsandūwa [?]	L2
Mullā Muḥammad 'Alī Bāzmāndigān [?]	T5
al-Ḥalwatī [?]	O
Ibn al-Jazarī	O
Ilyās b. al-marḥūm al-khwāja Ni'mat Allāh Iṣṭanbulī in 1815 masīḥiyya (destroyed ownership note)	Osl
Jā'id b. Ḥazīn [?] b. Mubārak al-Kharūḍī (patron for whom the copy was made)	Mc3
Madrasat al-Ṣā'igh, known as Madrasat al-Jalabī	Mo
Muḥammad b. Jamāl al-Dīn al-Jamālī	I7
Muḥammad wa-Ḥ[...] b. Maulānā 'Alī	Mn
Muḥammad Rūsḍīnkadar	An
Muṣṭafā Ṣidqī b. Ṣāliḥ ^a (seal)	An
Qusṭanṭīn Anṭākī	Rm2
Sbath, Paul	Rm1
al-Shaykh Muḥammad Amīn al-Tirmidhī	Rm1
Sulaymān al-'Umarī al-imām bi-qal'at Ḥalab	Osl
Yūsuf Manādīlī	Rm1
Yūsuf Sābā	Rm1

^aOn Muṣṭafā Ṣidqī b. Ṣāliḥ, see Bonmarriage (2016).

al-Sīmāwī al-'Irāqī's (fl. mid-thirteenth century) commentary and reaches its apogee with al-Jildakī (fl. mid-fourteenth century) who composed four different commentaries on *Shudhūr al-dhahab*.

The extant manuscripts of *Shudhūr al-dhahab* reflect this rich commentary tradition. The marginal notes in C7 and C10, for example, are mostly based on al-Jildakī's *Ghāyat al-sunūr* ("The Goal of Happiness"). In the Manchester

43 Juliane Müller has prepared a critical edition of this commentary which will be published soon in the series *Bibliotheca Islamica*. On the commentary's varying titles in the manuscripts, see her introduction in the forthcoming monograph.

manuscript (Mn), which was copied around 740–1/1350, someone added in the year 1059–1060/1650 comments on specific verses that are mostly excerpts from the same commentary.⁴⁴ Furthermore, in the margins of six other manuscripts (L, M, Mad, Mn, Mo, Osl) readers occasionally annotated verses, citing this and the other commentaries of al-Jildakī. Thus, reading Ibn Arfa‘ Ra’s’s *dīwān* in conjunction with al-Jildakī’s commentary must have been a fairly common practice. This is corroborated by one of the reports of al-Ḥasan b. Muḥammad al-Wazzān al-Zayyātī (or al-Fāsī) (d. 1552?), better known as Leo Africanus. In his *Descrittione dell’Africa*, he writes that the alchemists of his hometown Fez studied the works by Jābir, al-Ṭughrā’ī and the “cantics” of an author known as “El Mugairibi” (“the little Maghrebin”) which a Mamluk alchemist from Damascus had commented upon.⁴⁵ There is no doubt that Leo Africanus refers here to Ibn Arfa‘ Ra’s’s *Shudhūr al-dhahab* and one of al-Jildakī’s commentaries on these verses. Given the fact that we currently know of 106 surviving copies of al-Jildakī’s *Ghāyat al-surūr* alone, his commentaries must have significantly shaped the reception of Ibn Arfa‘ Ra’s’s *dīwān* from the fourteenth century onwards.

The *dīwān* and its commentaries continued to attract readers throughout the centuries up to and including the nineteenth and early twentieth centuries when several copies of *Shudhūr al-dhahab* were produced. Among those who took an interest in *Shudhūr* at this rather late stage of the *dīwān*’s reception history was a famous political figure and avid reader of Arabic alchemical literature, the Moroccan Sultan Mawlāy al-Ḥasan I (d. 1894).

Paratexts, that is prefaces, postscripts, and similar additions, are not usually a part of *Shudhūr*. Only 21 of the manuscripts we had access to contain a few lines introducing the title and/or the author of the work: usually calling Ibn Arfa‘ Ra’s by his *kunya* (Abū l-Ḥasan), *ism* (‘Alī), and *nisba* (al-Anṣārī), sometimes adding an honorific title.⁴⁶ Other additions are rare exceptions. In three cases, a longer biography of the author is added, probably taken from Ḥajjī Khalīfa’s *Kashf al-zunūn* (A, G1, H). One manuscript (L1) contains a post-face, in which the scribe explains that his goal in copying the text was to reach *adab* and *faṣāḥa* (“refinement and eloquence”). This seems to be in keeping with the sources mentioned above, praising Ibn Arfa‘ Ra’s for his literary style. Two manuscripts (O, Pr1) offer (the same) short praise text in rhymed prose as post-faces, and two (R3, R7) contain the same praise poem on Ibn Arfa‘ Ra’s and his alchemical poetry. Finally, two manuscripts contain a table of contents, an addition

⁴⁴ See, for example, fol. 2v left margin.

⁴⁵ Leo Africanus 2014: 316.

⁴⁶ C1, C8, NN, Mo, Pr2, Qm2, R8, RD1, RD4, Rm1, SP2, T1, T2, T4, T5, Tin, Tn1, Tn2.

not strictly necessary for a *dīwān* ordered, as one would expect, by rhyming letter (I4, R4).

3.8 Composition of the extant manuscripts

Most *Shudhūr* manuscripts contain only the *dīwān*: with its ca. 1400 verses, it may do for a volume of some 50 folia. Sometimes, there are additional notes on fly leaves etc., but these are essentially single-text-volumes.⁴⁷ In those cases where *Shudhūr* was not the only text copied into the volume, we usually have multi-text-manuscripts, written by the same hand.⁴⁸ Of the multi-text-manuscripts, the majority, some 30 manuscripts,⁴⁹ make clear, that *Shudhūr* was mainly considered to be an alchemical work or at least as belonging to the “occult” sciences: here, the *dīwān* is combined with other more or less prominent alchemical works, ranging from anonymous recipes to Jābir, Ibn Umayl, Abū l-Iṣbā‘, al-Jildakī, and the Paracelsian writings on iathrochemistry (in B). Besides, we find a focus on the alchemical work of Ibn Arfa‘ Ra’s himself, as sixteen *Shudhūr* manuscripts also offer his strophic poem on alchemy⁵⁰ and one contains his self-commentary (Mc4). Often, the alchemical texts added are at least partly in verse, most often by Khālid b. Yazīd or Ibn Umayl, so that a certain consciousness of genre might be postulated.

Although Ibn Arfa‘ Ra’s’s *Shudhūr* can primarily be considered to be a poetry collection on the subject of alchemy, it was mainly perceived as alchemical literature throughout the centuries. This is attested by the fact that *Shudhūr al-dhahab* was often transmitted together with other Arabic alchemical works. Only rarely is the alchemist’s *dīwān* transmitted together with verses by other poets such as Ṣafī al-Dīn al-Ḥillī (d. ca. 749/1348) in the Jerusalem manuscript (Jer) or al-Mutanabbī’s *dīwān* in the manuscript from Uppsala (U). The transmission of *Shudhūr al-dhahab* together with alchemical treatises and commentaries on *Shudhūr* suggests that Ibn Arfa‘ Ra’s’s magnum opus attracted readers mainly on the basis of its alchemical contents and only to a lesser degree because of its literary merits.

⁴⁷ A, An, C9, D1, Da, G2, Ge, I1, Kr, L, M, Mn, O, Osl, P, Pr1, R1, R3, R4, R5, R6, R7, R8, R10, R12, RD4, Rm2, SP2, T1, T2, T5.

⁴⁸ As we have not obtained complete copies of all manuscripts, but sometimes only the parts containing *Shudhūr*, we cannot say anything definitive about the manuscripts’ composition.

⁴⁹ B, C10, Ch, D2, H, I2, I3, I4, I5, I6, I8, KL, L1, L2, Mad, Mc1, Mc3, Mc4, Pr2, Qm2, R2, R9, RD1, Rm1, SP1, T3, T4, Tn1, Tn2, Tv.

⁵⁰ Ba3, C2, C3, C6, C7, I7, I8, Is, G1, H, LD, Mad, Md, NN, Qm1, Tv.

3.9 *Shudhūr al-dhahab* and the Moroccan Sultan Mawlāy al-Ḥasan I

Alchemy in Morocco has seldom been the focus of modern scholarship, although this occult science seems to have thrived in the most-western region of the Islamicate world. Kacem Aït Salah Semlali provided the first succinct and comprehensive study of the history of alchemy in Morocco.⁵¹ He has been able to trace back the earliest alchemical endeavours to the reign of the Almoravids, a Berber dynasty that ruled during the second half of the eleventh century and the first half of the twelfth century.⁵²

Ibn Arfa‘ Ra’s’s *dīwān Shudhūr al-dhahab* must have become an important text among alchemists in this region, as Leo Africanus’s above-mentioned remark suggested. Twelve manuscripts of the *dīwān* (R1 to R12) are currently known to be preserved in Morocco. Most of the copies are stored in the Bibliothèque nationale du Royaume du Maroc and in al-Khizāna al-Ḥasaniyya (also known as al-Khizāna al-Malakiyya or Bibliothèque royale), both located in Rabat.⁵³ The history of each of these eleven manuscripts has yet to be explored in detail.

Several of the eight manuscripts in the Royal Library were very likely acquired by former ‘Alawid sultans who gained power in the second half of the seventeenth century.⁵⁴ The ‘Alawids were patrons of the arts and sciences, some even composed books themselves. Ahmed Chouqui Binebine, the current director of al-Khizāna al-Ḥasaniyya in Rabat, praises their efforts of patronage: “Their erudition, their love for the humanities and their passion for books have encouraged the scholars who have found with them protection and financial and moral support.”⁵⁵

No one of the ‘Alawid sultans, however, had displayed such a strong predilection for alchemy as al-Ḥaṣan I (r. 1290/1873–1311/1894) (Figure 2). His study of alchemical literature might seem surprising at first, but such an interest in alchemy among the ruling elite and their entourage was nothing out of the ordinary and already common in the late medieval period.⁵⁶ Juliane Müller recently discovered that a manuscript (Istanbul, Topkapı Sarayı Müzesi Yazma Eserler Kütüphanesi,

⁵¹ Semlali 2015.

⁵² Semlali 2015: 36.

⁵³ Several copies are privately owned and could not be considered for this study.

⁵⁴ On the library’s history, see Binebine 1992: 72–73.

⁵⁵ Binebine 1992: 73: “Leur érudition, leur amour pour les lettres et leur passion pour les livres encouragèrent les savants qui ont trouvé, auprès d’eux, protection, soutien financier et moral.”

⁵⁶ Forster 2016: 21b–22a; Coulon 2017: 442: “À la fin de l’époque médiévale, les cercles du pouvoir se sont beaucoup intéressés aux sciences occultes. Que l’on étudie les civilisations chrétienne ou islamique, on constate que des gouverneurs, leurs conseillers ou leurs agents faisaient la promotion de l’astrologie, de l’alchimie, de la magie, etc.”

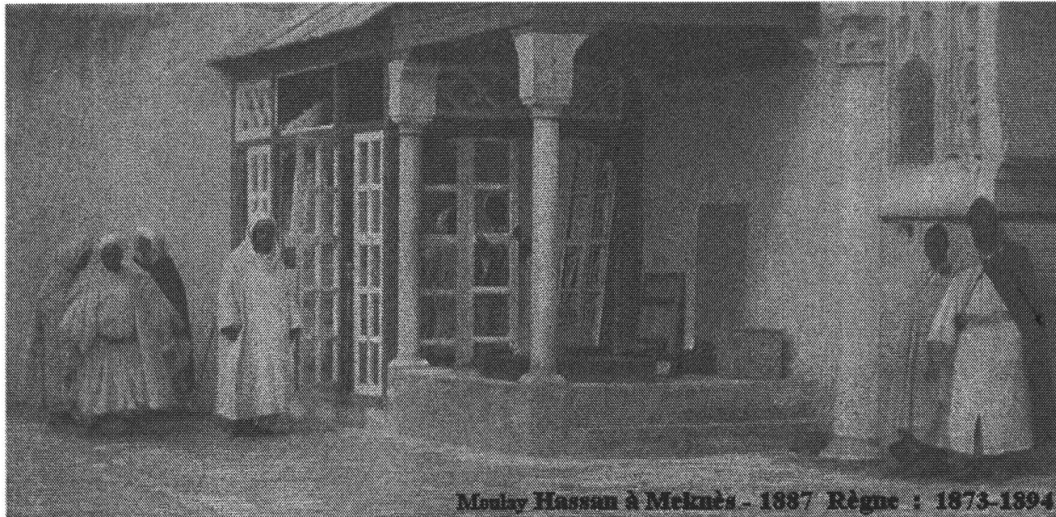


Figure 2: Sultan al-Ḥaṣan I in Mèknes in 1887. Source: https://de.wikipedia.org/wiki/Mulai_al-Hassan_I.#/media/File:Hassan_I.jpg, accessed: 27 April 2021.

Aḥmad Thālith 2111) was copied in 843/1439–40 in Herat for the Timurid Sultan Ulugh Beg (r. 850–3/1447–9). It transmits three texts by the alchemist al-Jildakī, all three either cite verses of *Shudhūr al-dhahab* or comment on Ibn Arfa‘ Ra’s’s *dīwān*. However, Sultan al-Ḥaṣan I’s efforts in pursuing this occult science by collecting and copying Arabic manuscripts on alchemy are unique in their scope. He studied alchemy with two alchemists of his time and established an alchemical laboratory in his palace.⁵⁷ George Salmon (d. 1906), the head of the French scientific mission in Morocco, writes:

Moulay Al-Ḥaṣan dedicated all his free time to the study of alchemy together with two alchemists known in Morocco: Sidi Moḥammed Mezoûr and the Jew Makhlouf Amsellem [...]. An alchemical laboratory had been established in a hall of the palace. A European who frequently visits the Dâr Makhzen told us that he had seen large basins and receptacles there that were once used for this purpose and are nowadays abandoned.⁵⁸

The sultan went to great lengths to obtain alchemical manuscripts. He even confiscated the private library of the alchemist with whom he studied this science,

⁵⁷ On the material culture of Arabic alchemy, see, for example, Savage-Smith 1997: vol. 1, 48–57; Moureau (forthcoming); Moureau/Thomas (forthcoming); Thomas/Moureau (forthcoming). For alchemical laboratories in Medieval Europe, see, for example, Soukup/Mayer 1997.

⁵⁸ Salmon 1906: 451: “Moulay Al-Ḥaṣan consacrait tous ses loisirs à l’étude de l’alchimie, en compagnie de deux alchimistes connus au Maroc, Sidi Moḥammed Mezoûr, et le juif Makhlouf Amsellem [...]. Un laboratoire d’alchimie était disposé dans une des salles du palais, où un Européen qui fréquente le Dâr Makhzen, nous a dit avoir vu de grands bassins et des récipients ayant autrefois servi à cet usage et aujourd’hui abandonnés.”

the Jewish scholar Makhlof Amsellem.⁵⁹ Furthermore, he ordered the confiscation of all the manuscripts on alchemy that were then stored in the library of the Qarawiyyīn in Fez and in other mosques.⁶⁰ Moreover, he sent envoys to libraries in Spain, Algeria, Egypt, Syria, Iraq, and Turkey to either purchase or copy some of the alchemical manuscripts stored there.⁶¹ Finally, al-Ḥasan I engaged several scribes who produced copies of a variety of alchemical texts for him. Aḥmad al-‘Udwī al-Jabal al-Suwayfī was one of his scribes.⁶² He copied no less than 20 manuscripts on alchemy for the sultan, among them a copy of *Shudhūr al-dhahab* and several copies of commentaries on the *dīwān* (Table 4).

Al-Suwayfī was al-Ḥasan I’s most productive scribe of alchemical manuscripts followed by al-Zaydānī (13), Ibn ‘Abd al-Mawlā (10), and al-Sibā‘ī (9).⁶³ Ibn Arfa‘ Ra’s’s *dīwān Shudhūr al-dhahab* and commentaries on this poetry collection by al-Jildakī and al-Sīmāwī al-‘Irāqī feature very prominently in the scribes’ list of copied works. Given the large number of copied manuscripts, the extraordinary care taken, and the precious ornamentation used in producing these manuscripts, al-Ḥasan I must have spent a fortune on his interest in alchemy. Semlali believes that he might have followed the path of his father who commissioned the translation of European works into Arabic, among them one by the Swiss physician and alchemist Paracelsus (d. 1541).⁶⁴

Mawlāy al-Ḥasan I has spent years intensively pursuing the subject. He even took books on alchemy with him when he was travelling. For this purpose, he had established a “travelling library” (*al-maktaba al-mutanaqqila*).⁶⁵ Mawlāy al-Ḥasan I also commented on Ibn Arfa‘ Ra’s’s verses and highlighted the, in his eyes, erroneous sequence of verses, indicating the right place with a drawn arrow and remarking: “This is the place of this verse” (*mawḍi‘ hādhā l-bayt*).⁶⁶ Such an intensive engagement with Arabic alchemical literature suggests that the sultan, known for his piety, did not consider alchemy to be in direct contradiction with Islamic religion or law. Neither did most of his scholars and courtiers believe that alchemy was an illicit preoccupation.⁶⁷ Al-Ḥasan I’s interest in *Shudhūr al-dhahab* thus attests to the fact that Ibn Arfa‘ Ra’s’s *dīwān* elicited great fascination even

⁵⁹ Salmon 1906; Binebine 1992: 75.

⁶⁰ Binebine 1992: 76.

⁶¹ Binebine 1992: 80; Semlali 2015: 308.

⁶² al-Khaṭṭābī 1986: 10.

⁶³ al-Khaṭṭābī 1986: 10.

⁶⁴ Semlali 2015: 309.

⁶⁵ Semlali 2015: 309.

⁶⁶ R 2, fol. 77r.

⁶⁷ Semlali 2015: 310.

Table 4: Alchemical manuscripts copied by al-Suwayfī.

Ms.	Author	Title	Date
Rabat, al-Khizāna al-Ḥasaniyya, 1369 (catalogue number 137)	Ibn Arfa' Ra's	<i>Shudhūr al-dhahab</i>	2 Rajab 1301/28 April 1884
Rabat, al-Khizāna al-Ḥasaniyya, 6517 (catalogue number 293)	al-Jildakī	<i>Maṭālī' al-budūr bi-Sharḥ ṣadr abyāt al-Shudhūr</i>	1302/1884–85
Rabat, al-Khizāna al-Ḥasaniyya, 831 (catalogue number 125)	‘Alī Bek al-lznīqī (<i>al-mu'allif al-jadīd</i>)	<i>Daqā'iq al-mizān fī maqādīr al-awzān</i>	9 Shawwāl 1302/22 July 1885
Rabat, al-Khizāna al-Ḥasaniyya, 1490 [mājmū' 1] (catalogue number 398)	‘Abd al-Majīd al-Miṣrī	<i>al-Fawātiḥ al-quḍsiyya fī tadbīr al-arwāḥ al-ḥikmiyya</i>	Dhū l-Qa'da 1302/August–September 1885
Rabat, al-Khizāna al-Ḥasaniyya, 1193 [mājmū'] (catalogue number 337)	‘Alī al-lznīqī	<i>al-Mawāzīn al-'ashara wa-l-tarākīb</i>	1303/1885–86
Rabat, al-Khizāna al-Ḥasaniyya, 141 (catalogue number 378)	al-Jildakī	<i>Ghāyat al-surūr fī Sharḥ Dīwān al-Shudhūr</i>	7 Rabī' al-Thānī 1303/13 January 1886
Rabat, al-Khizāna al-Ḥasaniyya, 1748 (catalogue number 221)	‘Alī al-lznīqī	<i>al-Sirr al-Rabbānī fī 'ilm al-mizān</i>	3 Jumadā al-Ūlā 1303/7 February 1886
Rabat, al-Khizāna al-Ḥasaniyya, 136 (catalogue number 352)	al-Jildakī	<i>Nihāyat al-ṭalab fī Sharḥ al-Muktasab fī zirā'at al-dhahab</i>	11 Sha'bān 1303/15 May 1886
Rabat, al-Khizāna al-Ḥasaniyya, 201 (catalogue number 70)	al-Jildakī	<i>al-Jawhar al-manẓūm wa-l-durr al-manthūr talkhīṣ Ghāyat al-surūr fī Sharḥ Dīwān al-Shudhūr</i>	12 Ramaḍān 1303/14 June 1886
Rabat, al-Khizāna al-Ḥasaniyya, 1193 [mājmū' 1] (catalogue number 224)	al-Jildakī	<i>al-Sirr al-maṣūn fī Sharḥ Risālat Biyūn</i>	3 Shawwāl 1303/5 July 1886
Rabat, al-Khizāna al-Ḥasaniyya, 1367 (catalogue number 92)	al-Ṭughrā'ī	<i>Ḥaqā'iq al-istishhād</i>	5 Shawwāl 1303/7 July 1886
Rabat, al-Khizāna al-Ḥasaniyya, 6250 (catalogue number 211)	Jābir b. Ḥayyān	<i>Kitāb al-Rawḍa</i>	20 Rabī' al-Awwal 1304/17 December 1886
Rabat, al-Khizāna al-Ḥasaniyya, 6264 (catalogue number 409)	‘Alī al-lznīqī	<i>Qabs al-Qābis fī tadbīr Hirmis al-Harāmisa</i>	2 Rabī' al-Thānī 1304/29 December 1886

Table 4: (continued)

Ms.	Author	Title	Date
Rabat, al-Khizāna al-Ḥasaniyya, 823 (catalogue number 231)	al-Sīmāwī al-‘Irāqī	<i>Sharḥ Dīwān al-Shudhūr</i>	13 Jumadā al-Ūlā 1305/27 January 1888
Rabat, al-Khizāna al-Ḥasaniyya, 1488 (catalogue number 351)	al-Jildakī	<i>Nihāyat al-ṭalab fī Sharḥ al-Muktasab fī zirā‘at al-dhahab</i>	12 Rabī‘ al-Awwal 1306/16 November 1888
Rabat, al-Khizāna al-Ḥasaniyya, 1371 (catalogue number 350)	[Abū ‘Abd Allāh Muḥammad b. al-ḥājj al-Sharīf al-Ḥasanī]	<i>Kitāb al-Nukat al-mus-takhraj min kitāb al-Mushābaka</i>	1306/1888–89
Rabat, al-Khizāna al-Ḥasaniyya, 971 [<i>majmū‘</i> 1] (catalogue number 65)	Jalāl al-Naqqāsh	<i>Tashmīs al-budūr fī takhmīs matn al-Shudhūr</i>	5 Jumādā al-Thā-niya 1306/6 February 1889
Rabat, al-Khizāna al-Ḥasaniyya, 971 [<i>majmū‘</i> 2] (catalogue number 167)	[al-Jildakī]	<i>Risāla fī l-tashmīr wa-l-tashwiya</i>	5 Jumādā al-Thā-niya 1306/6 February 1889
Rabat, al-Khizāna al-Ḥasaniyya, 6382 (catalogue number 233)	al-Sīmāwī al-‘Irāqī	<i>Sharḥ Dīwān al-Shudhūr</i>	20 Jumadā al-Ūlā 1308/1 January 1891
Rabat, al-Khizāna al-Ḥasaniyya, 1527 (catalogue number 255)	‘Alī al-Iznīqī	<i>Sharḥ Khuṭbat al-Bayān al-mansūba li-sayyidinā ‘Alī b. Abī Ṭālib</i>	not mentioned

among the ruling elite and that *Shudhūr*’s success story continued well into the nineteenth century.

4 Conclusion

The importance of *Shudhūr al-dhahab* for the Arabic alchemical tradition cannot be overstated. This text was extremely popular among alchemists and those interested in this occult science, the 94 copies discovered so far and the numerous additional manuscripts transmitting commentaries on Ibn Arfa‘ Ra’s verses being reflective of this considerable interest. Despite being at times “cryptic”, this poetry continued to be popular among readers of different backgrounds from the thirteenth to the twentieth century.

Among the owners and readers of *Shudhūr al-dhahab* were religious dignitaries, military personal, and even a sultan. This challenges the view that Arabic

alchemy was a marginal science.⁶⁸ On the contrary, alchemy was at the centre of society and appears to have been a subject of interest for religious scholars and the upper echelons of the administration and the military, as well as for the ruling elite. Thus, “the alchemist at work” in the pre-modern Middle East and North Africa was not primarily a shady character concocting and melting enigmatic substances on a glowing furnace. Among those interested in alchemy were people of diverse backgrounds, some of rank who indulged in reading and interpreting eloquent verses and who might have hoped to “leave in the evening, while being the richest person of all the worlds” (*yaruḥ wa-huwa aghnā al-‘ālamīna masā’a*).⁶⁹

Acknowledgments: We are grateful to Boris Liebrecht who helped us in deciphering some of the manuscripts’ ownership statements and readers’ notes.

Research funding: The research leading to this study has received funding from the Swiss National Science Foundation.

References

Manuscripts

Mentioned in the text.

Typescript

Vajda, Georges (1940–1969): “Notices des manuscrits arabes 2600 à 2627”. Bibliothèque nationale de France. Département des manuscrits. Arabe 7299 [<http://archivesetmanuscrits.bnf.fr/ark:/12148/cc12924f/ca151>, accessed: 28 April 2021].

Primary Sources

Ibn al-Abbār (1886–1887): *Kitāb al-Takmila li-Kitāb al-Ṣila*. Edited by Francisco Codera y Zaidín. 2 vols. Madrid: Rojas.

Ibn Arfa‘ Ra’s (2018): *Shudhūr al-dhahab. Dīwān Ibn Arfa‘ Ra’s al-Jayyānī al-Andalusī shā’ir al-ḥukamā’ wa-ḥakīm al-shu‘arā’*. Edited by Lahouari Ghazzali. Beirut: Dār al-kutub al-‘ilmiyya.

Ibn Khaldūn (1958–1967): *The Muqaddimah: an introduction to history*. Translated by Franz Rosenthal. 3 vols. Princeton, NJ: Princeton University Press.

⁶⁸ That alchemy and alchemists were socially and intellectually marginal is a statement most prominently argued for by Strohmaier, see for example Strohmaier 2016: 424–425.

⁶⁹ Ibn Arfa‘ Ra’s 2018: 93 (first poem on *alif*, last verse).

- al-Jawbarī (2006): *Al-Ġawbarī und sein Kašf al-asrār. Ein Sittenbild des Gauners im arabisch-islamischen Mittelalter (7./13. Jahrhundert)*. Edited by Manuela Höglmeier (Islamkundliche Untersuchungen; 267). Berlin: Klaus Schwarz Verlag.
- al-Kutubī, Muḥammad b. Shākīr (1951–1953): *Fawāt al-Wafayāt*. Edited by Muḥammad Muḥyī l-Dīn ‘Abd al-Ḥamīd. 2 vols. Cairo: Maktabat al-Nahḍa al-Miṣriyya.
- Leo Africanus (2014): *Cosmographia de l’Africa (Ms. V.E. 953 – Biblioteca Nazionale Centrale di Roma – 1526)*. Edited by Gabriele Amadori. Rome: Aracne.
- al-Maqqarī, Aḥmad b. Muḥammad (1855–1861): *Analectes sur l’histoire et la littérature des Arabes d’Espagne*. Edited by R. Dozy et al. 2 vols. Leiden: Brill.
- al-Ṣafadī, Ṣalāh al-Dīn Khalīl b. Aybak (1983): *Kitāb al-Wāfi bi-l-wafayāt, vol. 22: ‘Alī b. Muḥammad b. Rustam bis ‘Umar b. ‘Abd an-Naṣīr*. Edited by Ramzi Baalbaki. Wiesbaden: Steiner.

Secondary literature

- Anawati, Georges C. (1996): “Arabic alchemy”. In: *Encyclopedia of the History of Arabic Science*. Edited by Roshdi Rashed. Vol. 3. London: Routledge, 853–885.
- Binebine, Ahmed Chouqui (1992): *Histoire des Bibliothèques au Maroc*. Casablanca: Imprimerie Najah el Jadida.
- Bonmarriage, Cécile (2016): “La bibliothèque de Muṣṭafā Sīdkī: contribution à l’étude d’une collection de manuscrits au xviii^e siècle”. *Arabica* 63: 533–556.
- Bowen, Harold (1960): “Āghā”. In: *The Encyclopaedia of Islam*. New Edition. Edited by C.E. Bosworth et al. Vol. 1. Leiden: Brill, 245b–246a.
- Browne, C. A. (1946): “Rhetorical and Religious Aspects of Greek Alchemy, Including a Translation of the Poem of the Philosopher Archelaos Upon the Sacred Art (Part 1)”. *Ambix* 2: 129–137.
- Browne, C. A. (1948): “Rhetorical and Religious Aspects of Greek Alchemy, Including a Translation of the Poem of the Philosopher Archelaos Upon the Sacred Art (Part 2)”. *Ambix* 3: 15–25.
- Buringh, Eltjo (2011): *Medieval Manuscript Production in the Latin West. Explorations with a Global Database*. (Global Economic History Series; 6). Leiden and Boston: Brill.
- Calnard, Jean (1998): “Mollā”. In: *The Encyclopaedia of Islam*. New Edition. Edited by C.E. Bosworth et al. Vol. 7. Leiden: Brill, 221a–225a.
- Coulon, Jean-Charles (2017): “Magie et politique : événements historiques et pensée politique dans le Šams al-ma‘ārif attribué à al-Būnī (mort en 622/1225)”. *Arabica* 64: 442–486.
- Daub, Frederike-Wiebke (2016): *Formen und Funktionen des Layouts in arabischen Manuskripten anhand von Abschriften religiöser Texte: al-Būṣīrīs Burda, al-Ġazūlis Dalā’il und die Šifā’ von Qāḍī ‘Iyāḍ*. (Arabische Studien; 12). Wiesbaden: Harrassowitz.
- Forster, Regula (2006): *Das Geheimnis der Geheimnisse. Die arabischen und deutschen Fassungen des pseudo-aristotelischen Sirr al-asrār/Secretum secretorum*. (Wissensliteratur im Mittelalter; 43). Wiesbaden: Reichert.
- Forster, Regula (2016): “Alchemy”. In: *Encyclopaedia of Islam, Three*. Fasc. 2016–1. Edited by Kate Fleet et al. Leiden: Brill, 15a–28a.
- Forster, Regula (2021): “Khālīd b. Yazīd”. In: *Encyclopaedia of Islam, Three*. Fasc. 2021–2. Edited by Kate Fleet et al. Leiden: Brill, 75b–78a.
- Forster, Regula/ Müller, Juliane (2020): “The Identity, Life, and Works of the Alchemist Ibn Arfa’ Ra’s. Identidad, vida y obra del alquimista Ibn Arfa’ Ra’s”. *Al-Qanṭara*. 41.2: 373–408.
- Forster, Regula (forthcoming): “Learning and Institutions”. In: *A Cultural History of Chemistry in the Middle Ages*. Edited by Charles Burnett and Sébastien Moureau. London: Bloomsbury.

- Gacek, Adam (2001–2008): *The Arabic Manuscript Tradition: A Glossary of Technical Terms and Bibliography*. 1 vol. + supplement. Leiden and Boston: Brill.
- Gacek, Adam (2012): *Arabic Manuscripts. A Vademecum for Readers*. (Handbook of Oriental Studies, Section 1, 98). Leiden and Boston: Brill.
- Goldschmidt, Günther (1923): *Heliodori carmina quattuor ad fidem codicis Casselani*. Gießen: Alfred Töpelmann.
- Holmyard, Eric J. (1957): *Alchemy*. London: Constable.
- al-Hīla, Muḥammad al-Ḥabīb (1994): *Fihris makḥṭūṭāt Maktabat Makka al-Mukarrama/Handlist of manuscripts in the Library of Makkah al-Mukarrama*. 2 vols. London: Mu'assasat al-Furqān li-l-Turāth al-Islāmī.
- Kahn, Didier (2010): "Alchemical Poetry in Medieval and Early Modern Europe: A Preliminary Survey and Synthesis Part I — Preliminary Survey". *Ambix* 57.3: 249–274.
- Kahn, Didier (2011): "Alchemical Poetry in Medieval and Early Modern Europe: A Preliminary Survey and Synthesis Part II — Synthesis". *Ambix* 58.1: 62–77.
- al-Khaṭṭābī, Muḥammad al-Arbī (ed., 1986): *Fahāris al-Khizāna al-Ḥasaniyya bi-l-Qaṣr al-Malaki bi-l-Ribāṭ. Al-Mujallad al-Khāmis. Al-Fihris al-waṣṣī li-makḥṭūṭāt al-kīmiyā' wa-ta'bīr al-ru'yā wa-l-'ulūm al-khafiyya*. Casablanca: al-Najāh al-Ḥadītha.
- Labarta, Emilia Calvo (2009): "Ibn Arfa' Ra'sahu". In: *Biblioteca de al-Andalus*. Edited by Jorge Lirola Delgado and José Miguel Puerta Vilchez. Vol. 2. Almeria: Fundación Ibn Tufayl de Estudios Árabes, 332–334.
- Letrouit, Jean (1995): "Chronologie des alchimistes grecs". In: *Alchimie: art, histoire et mythes*. Edited by Didier Kahn and Sylvain Matton. Paris and Milan: SÉHA/Archè, 11–93.
- Liebrez, Boris (2016): *Die Rifā'īya aus Damaskus. Eine Privatbibliothek im osmanischen Syrien und ihr kulturelles Umfeld*. (Islamic manuscripts and books; 10.) Leiden and Boston: Brill.
- Liebrez, Boris (ed.) (2018): "Special Issue: The History of Books and Collections through Manuscript Notes". *Journal of Islamic Manuscripts* 9.2–3.
- Louca, Anouar (1968): *Catalogue des manuscrits de la Bibliothèque publique et universitaire de Genève, tome XVII: manuscrits arabes*. Geneva: Bibliothèque publique et universitaire.
- Moureau, Sébastien, Thomas, Nicolas (forthcoming): "Practice and Experiment". In: *A Cultural History of Chemistry*. Volume 2. Middle Ages. Edited by Charles Burnett and Sébastien Moureau. London: Bloomsbury.
- Moureau, Sébastien (forthcoming): "Alchemical Equipment". In: *Routledge Handbook on Science in the Islamicate World: Practices from the 8th to the 19th century*. Edited by Sonja Brentjes. London: Routledge.
- Nummedal, Tara (2011): "Words and Works in the History of Alchemy". *Isis* 102. 2: 330–337.
- al-Qāsīmī, 'Alī (2012): *Mu'jam al-istishhādāt al-wajīz li-l-ṭullāb*. Beirut: Maktabat Lubnān.
- Razūq, Razūq Faraj (1982): "Ibn Arfa' Ra's". *Majallat al-Majma' al-'ilmī al-'Irāqī* 33: 212–225.
- Salmon, Guillaume (1906): "Notes sur l'alchimie à Fés". *Archives marocaines* 7: 451–62.
- Savage-Smith, Emilie (1997): "Glass alchemical equipment". In: *Science, Tools & Magic*. Edited by Francis Maddison and Emilie Savage-Smith. 2 vols. London: The Nour Foundation et al. vol. 1, 48–57.
- Schippers, Arie (2009): "Al-Anṣārī, Abū l-Ḥasan". In: *Encyclopaedia of Islam, Three*. Fasc. 2009–2. Edited by Kate Fleet et al. Leiden: Brill, 92–93.
- Semlali, Kacem Aït Salah (2015): *Historie de l'alchimie et des alchimistes au Maroc*. Essai. Rabat: n. p.
- Sezgin, Fuat (1971): *Geschichte des arabischen Schrifttums. Band IV. Alchimie - Chemie, Botanik - Agrikultur bis ca. 430 H*. Leiden: Brill.

- Soukup, Rudolf W., Mayer, Helmut (1997): *Alchemistisches Gold. Paracelsistische Pharmaka, Laboratoriumstechnik im 16. Jahrhundert*. Vienna: Böhlau.
- Strohmaier, Gotthard (2016): “Elixir, alchemy and the metamorphoses of two synonyms”. *Al-Qanṭara* 37: 423–434.
- Thomas, Nicolas/Moureau, Sébastien (forthcoming): “Laboratories and Technology”. In: *A Cultural History of Chemistry*. Volume 2. Middle Ages. Edited by Charles Burnett and Sébastien Moureau. London: Bloomsbury.
- 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, Erg.-Bd. 6, Abschn. 2). Leiden and Boston: Brill.
- Witkam, Jan-Just Witkam (2013): “The Philologist’s Stone. The Continuing Search for the Stemma”. *Comparative Oriental Manuscript Studies Newsletter* 6: 34–38.
- al-Ziriklī, Khayr al-Dīn b. Maḥmūd (1954–1959): *al-A‘lām. Qāmūs tarājim li-ashhar al-rijāl wa-l-nisā’ min al-‘Arab wa-l-musta‘ribīn wa-l-mustashriqīn*. 10 vols. Cairo: Tsūmās.

Websites

- Forster, Regula (n.d.): “Zwischen Religion und Alchemie. Der Gelehrte Ibn Arfa‘ Ra’s (gest. 593/1197) als Modell für eine integrative arabische Literatur- und Kulturgeschichte”, URL: <https://uni-tuebingen.de/de/180841>, accessed: 27 April 2021.
- Ghazzalī, Lahouari (2018), “Bayna al-ḥikma wa-l-ṣan‘a wa-l-salāmāt. Ibn Arfa‘ Ra’s al-Jayyānī al-Andalusī fī dīwānihī al-Shudhūr”. URL: <http://www.nizwa.com/%d8%a8%d9%8a%d9%86-%d8%a7%d9%84%d8%ad%d9%83%d9%85%d8%a9-%d9%88%d8%a7%d9%84%d8%b5%d9%91%d9%8e%d9%86%d8%b9%d8%a9-%d9%88%d8%a7%d9%84%d8%b3%d9%91%d9%8e%d9%84%d8%a7%d9%85%d8%a7%d8%aa-%d8%a7%d8%a8%d9%86/>, accessed: 28 April 2021.
- https://de.wikipedia.org/wiki/Mulai_al-Hassan_l.#/media/File:Hassan_l.jpg, accessed: 27 April 2021.