Al-Qanṭara
XXXVII 2, julio-diciembre 2016
pp. 299-327
ISSN 0211-3589
doi: 10.3989/alqantara.2016.010

Iznīqī and Jābir, *Sirr* and *Miftāḥ*: Two Authors, Four Titles, One Alchemical Treatise

Iznīqī y Ŷābir, *Sirr* y *Miftāḥ*: dos autores, cuatro títulos, un tratado alquímico

Paola Carusi
Università di Roma 'La Sapienza', Rome

An alchemical Arabic treatise alternatively entitled *Miftāḥ al-ḥikma*, *Miftāḥ jannāt al-khuld*, *Sirr al-asrār* and *Sirr al-sārr wa-sirr al-asrār* is attributed in its manuscripts to two different authors: al-Iznīqī and Jābir b. Ḥayyān. In this article I briefly discuss some characteristic aspects of the treatise and its significance for the history of alchemy. These aspects include its ancient and important sources, such as the *Muṣḥaf al-jamā'a* (*Turba philosophorum*) and the *Kitāb al-Ḥabīb*, and its connection with the tradition of the artists and the activity of the workshop and laboratory, which first comes to the fore in Greek alchemy and later in Islamic alchemy. Furthermore, the work includes references to alchemical physical theories in which the influence of Islamic theology may perhaps be traced. This article, which summarises the results of investigations carried out over the last few years, could be considered as a kind of introduction to the edition and translation of the text currently in progress.

Key words: Jābir b. Ḥayyān, Sirr, Miftāḥ, alchemy, Mu'tazilite theology.

El tratado árabe alquímico titulado *Miftāḥ al-ḥikma*, *Miftāḥ ŷannāt al-juld*, *Sirr al-asrār* y *Sirr al-sārr wa-sirr al-asrār* se atribuye en sus manuscritos a dos autores diferentes: al-Iznīqī y Ŷābir b. Ḥayyān. En este artículo se discutirán brevemente algunos aspectos característicos del tratado y su importancia para la historia de la alquimia. Estos aspectos incluyen fuentes antiguas importantes, tales como el *Muṣḥaf al-ŷamā'a* (*Turba philosophorum*) y el *Kitāb al-Ḥabīb* y su conexión con la tradición de los artistas y la actividad de taller y laboratorio, que primero aparece en la alquimia griega y posteriormente en la islámica. Además, este trabajo incluye referencias a las teorías físicas alquímicas en las que la influencia de la teología islámica puede ser, tal vez, rastreada. Este artículo, que resume los resultados de las investigaciones llevadas a cabo durante los últimos años, podría considerarse como si fuera una introducción de una nueva edición y traducción del texto actualmente en curso.

Palabras clave: Ŷābir b. Ḥayyān, Sirr, Miftāḥ, alquimia, teología mu'tazilí.

1. Introduction

Some years ago, in the course of my research into the *Miftāḥ al-ḥikma* ("The Key of Wisdom"), part of the corpus of works by pseudo-Apollonius of Tyana (Balīnās)[1], I examined another treatise with the same title but apparently written by someone else – the *Miftāḥ al-ḥikma* attributed to ʻAlī Bek al-Iznīqī[2] in a single manuscript:[3] MS Istanbul, Süleymaniye Kütüphanesi, Hacı Selim Ağa 881.1, fols. 1v-13r – and in 2009, I published my findings.[4] I initially undertook this examination of the manuscript simply to ascertain whether this *Miftāḥ* was indeed different from the *Miftāḥ* by Pseudo-Apollonius on which I was working. However, having accessed the manuscript and begun to study it, I became enthralled by its contents. What I had discovered was an allegorical work strongly tied to the ancient tradition of the arts of fire and thus of particular relevance to the link between alchemy and chemical techniques.

The question of its attribution was therefore highly intriguing. The treatise was rich in citations from pre-Islamic authors, especially ancient and in Greek, while references to Muslim authors were totally absent, with the sole exception of Khālid b. Yazīd (d. c. 85/704). Because of its sources and also its style, it seemed fairly certain that it could not be the work of so late an author as al-Iznīqī. I therefore formulated the hypothesis that the date of composition should be shifted some centuries earlier and concluded:

> […] per il momento, niente permette di affermare con certezza che l'autore di questo *Miftāḥ* non sia effettivamente al-Iznīqī; in ogni caso, se egli fosse effettivamente al-Iznīqī, si tratterebbe tuttavia di un'opera volutamente redatta all'uso antico (gli scrittori di lingua araba sono in questo grandi maestri) e che risente in modo profondo degli autori alchemici dei tempi più antichi, in particolare Ǧābir e Ibn Umail al-Tamīmī (scritta all'uso di), citati con le loro terminologie originali.[5]

[1] Carusi, "Il trattato". Due to technical problems, the edition of this *Miftāḥ* has not yet been completed; it is nevertheless in hand and should appear in the near future.

[2] al-Iznīqī lived in the 9th/15th (or 10th/16th?) century and is known to have been a Turkish alchemist of the later period referred to as *al-muʻallim al-jadīd* ("the new/modern master") or *al-muʾallif al-jadīd* ("the new/modern author"); he was perhaps the last great representative of Islamic alchemy. For Ottoman alchemy in the early modern times and al-Iznīqī, see Artun's recent PhD dissertation (Artun, *Hearts*).

[3] Brockelmann, *Geschichte*, suppl. vol. 2, p. 668.

[4] Carusi, "Il *Miftāḥ*".

[5] Carusi, "Il *Miftāḥ*", p. 70. English transl.: [...] for the moment, nothing allows us to state that the author of this *Miftāḥ* was definitely not al-Iznīqī, but if it was al-Iznīqī, then

Further research enabled me to locate textual witnesses of this work under various other titles, including *Sirr al-asrār*, *al-Sirr al-sārr wa-sirr al-asrār*, *Miftāḥ jannāt al-khuld*. I also found it credited to an entirely different author: Jābir b. Ḥayyān. This article, summarising the results of further investigations carried out over the last few years, in a certain sense could be considered as a kind of introduction to a work currently in progress that will consist of an edition and translation of the text.

2. Manuscripts, title and attribution

At the present stage of my research, the manuscripts known by me to contain the work in question are the following:

Miftāḥ al-ḥikma attributed to al-Iznīqī:

– Istanbul, Süleymaniye Kütüphanesi, Hacı Selim Ağa 881.1, fols. 1v-13r[6]

Miftāḥ jannāt al-khuld attributed to Jābir b. Ḥayyān:

– Hyderabad (Andhra Pradesh), Oriental Manuscripts Library and Research Institute, II, 1418, *kīmiyā'* 18[7]

Sirr al-asrār attributed to Jābir b. Ḥayyān:

– London, British Library, Add. 23418, fols. 142r-148r, dated 1237/1821[8]

he was deliberately affecting an old-fashioned style (the writers in Arabic were great masters of this practice), and consciously imitating alchemical writers of older times, in particular Ǧābir and Ibn Umail al-Tamīmī, who are cited using their original terminology.

[6] Brockelmann, *Geschichte*, suppl. vol. 2, p. 668 (under the title *Miftāḥ al-ḥikam*).

[7] Kraus, *Jābir*, vol. 1, p. 119; Sezgin, *Geschichte*, p. 259.

[8] Brockelmann, *Geschichte*, vol. 1, p. 278; Kraus, *Jābir*, vol. 1, pp. 136-137; Sezgin, *Geschichte*, p. 262 (under the title *Sirr al-sārr wa-sirr al-asrār*); Holmyard, "Jābir". Among the manuscripts he mentions, Kraus, *Jābir*, vol. 1, p. 136, also includes a *Sirr al-asrār*, MS Escurial 697; but Sezgin, *Geschichte*, p. 262, note 2, comments: "In Escurial 700 (Casiri 697) befindet sich ein Buch mit ähnlichem Titel (*K. Sirr al-asrār*), das mit dem Buch von Ǧābir nicht identisch ist." Further on, Kraus, *Jābir*, vol. 1, p. 137, writes that Holmyard identifies the treatise under discussion with the *Kitāb al-Asrār* contained in the collection of the *112 Books*; but in fact, Holmyard includes a *Kitāb al-Asrār* in a list of treatises "mentioned in the Fihrist", which begins with the *Kitāb Usṭuqus al-uss*, the first treatise of the

al-Sirr al-sārr wa-sirr al-asrār attributed to Jābir b. Ḥayyān:

– Bethesda, U. S. National Library of Medicine (formerly Cleveland, Army Medical Library), A. 33.7, fols. 91r-120v, 11th-12th/17th-18th cent.[9]

– Bethesda, U. S. National Library of Medicine (formerly Cleveland, Army Medical Library), A. 70.1, fols. 1v-12r, 11th-12th/17th-18th cent.[10]

– Cairo, Dār al-kutub, Ṭabī'īyāt 731, fols. 148r-154v, dated 1081/1670[11]

– Hyderabad (Andhra Pradesh), Salar Jung Museum Library, Ṭibb 107.3, fols. 28v-50v[12]

– Istanbul, Süleymaniye Kütüphanesi, Şehit Ali Paşa 1749, fols. 35r-60r, 10th/16th cent.[13]

– Tehran, Kitābkhāna-yi Aṣghar Mahdawī 327, fols. 163v-192v, 10th/16th cent.[14]

– Tehran, Kitābkhāna-yi Khāniqāh-i Ni'matullāh 145, fols. 121r-130r, dated 1250/1834[15]

That eight out of ten manuscripts give the treatise the title of *al-Sirr al-sārr wa-sirr al-asrār*, or its abbreviated version *Sirr al-asrār*, might be thought sufficient to settle the question of the title once and for all, but this is not the case.

112 Books, and his actual words are: "(18) *K. al-Asrār*. 'The Book of Secrets.' This may be the same as the *K. Sirr al-Asrār*, 'The Book of the Secret of Secrets,' of which there is a MS. in the Brit. Mus. (*Add*. 23418, No. 14) and which is mentioned in quotations several times by Al-Tughrā'ī (Brit. Mus. *Or*. 8229). There is a Latin MS. *Secreta Secretorum* ascribed to 'Geber' in Gonville and Caius College, No. 181, and in Corpus Christi College, Cambridge, No. 99."

[9] Sezgin, *Geschichte,* p. 262; Awad, "Arabic Manuscripts", p. 273; http://www.nlm.nih.gov/hmd/arabic/alchemy37.html [12.11.2014]. See also Schullian and Sommer, *A Catalogue*, p. 308.

[10] http://www.nlm.nih.gov/hmd/arabic/alchemy36.html [14.11.2014]. See also Schullian and Sommer, *A Catalogue*, p. 320.

[11] Kraus, *Jābir*, vol. 1, p. 136; Sezgin, *Geschichte*, p. 262.

[12] Sezgin, *Geschichte*, p. 262; Ashraf, "List", p. 38.

[13] Brockelmann, *Geschichte*, suppl. vol. 1, p. 429; Kraus, *Jābir*, vol. 1, p. 136; Sezgin, *Geschichte*, p. 262.

[14] Sezgin, *Geschichte*, p. 262. See also Dānishpazhūh, *Fihrist*.

[15] Sezgin, *Geschichte*, p. 262. See also Dībājī, *Fihrist*.

A careful examination of the work shows that in fact the title is not *al-Sirr al-sārr wa-sirr al-asrār*.[16] This can be seen quite clearly from the two passages in which the expression appears:

وانه هو الخل الذي وصفوه في كتبهم وهو السر السار وسر الاسرار المعمول من الحجر [17]

It is the vinegar that they have described in their books; it is the secret that gladdens and the secret of secrets produced by the stone.

Here the author is not providing the title of a treatise but simply naming the 'solvent' that is at the heart of the work.

لما كتبت اليك كتاب سر الاسرار

When I wrote the book *The Secret of Secrets* for you.

Here the writer is stating that he has indeed written a book with the title *The Secret of Secrets*, but he does not say *al-Sirr al-sārr*, nor does he say "this book of mine", i.e. the one he is currently writing.

Thus, *al-Sirr al-sārr wa-sirr al-asrār* or *Sirr al-asrār* appears not to be the title of the treatise. It is evidently only recorded in the textual tradition under these titles on the basis of the quoted passages it contains which allowed its readers to identify it. If we actually read the text in order to discover its true title, we find that it is indeed a *Miftāḥ*:

فافهم ما اضع لك في كتابي هذا فاني انما سميته مفتاحا وذلك انه لا يقدر احد على دخول بيت دون ان يفتح الباب بمفتاحه ولذلك وصفت هذا الكتاب مفتاحا لك لكتبهم التي اغلقوها للناس

Understand what I am exposing to you in this book of mine, which I have simply called *Miftāḥ.* No one can enter a house if they do not open the door with its key; for this reason I have described this book to you as a key to [access] their books which they have closed to people.

[16] Apropos of improper citations: this title appears, attributed to the entire *majmūʿa* (32 treatises), in Bethesda, U. S. National Library of Medicine, A. 70; the treatise is the first item (see above).

[17] This Arabic passage from our treatise and those that follow are taken from my edition in progress, as it appears after the collation of three witnesses: Istanbul, Süleymaniye Kütüphanesi, Hacı Selim Ağa 881.1; London, British Library, Add. 23418; Cairo, Dār al-kutub, Ṭabīʿīyāt 731.

The treatise is therefore a *Miftāḥ*, and we must orientate our research accordingly. If we turn from the title to the author, our attention is naturally focussed on Jābir. Not only do all the witnesses that I have identified, but one, attribute the work to Jābir, but the treatise is also presented as a work by Jābir in citations found in various works of the alchemical tradition: *Kitāb Mafātīḥ al-raḥma*, the *Kitāb al-Wāḍiḥ fī fakk al-rumūz*[18] and *Kitāb Sirr al-ḥikma* by al-Ṭughrā'ī; *Kitāb Thamarat al-irshād* by al-Iznīqī;[19] and the anonymous *Kitāb al-Shawā'id fī l-ḥajar al-wāḥid*.[20] Despite the doubts raised by Kraus,[21] these sources appear to support the attribution of the treatise to Jābir.

If we think of *Miftāḥ* as the likely title, Jābir as the likely author and consider the lists of works attributed to Jābir that contain the word *miftāḥ* in the title, there are three[22] alchemical works which I have identified so far that meet these criteria:

Kitāb al-Miftāḥ: a reading of Sezgin alone suffices to show that this is not our treatise since the quoted phrase *al-awzān wa-maqādīr al-nīrān* (the weights and quantities of fires) does not appear in it. A comparison of the *incipit* and *explicit* also allows us to exclude this work;[23]

[18] For these two works, Kraus, *Jābir*, vol. 1, p. 137, cites MSS Paris, Bibliothèque nationale de France, Ar. 2614 and 5099, indicating the folios on which the title appears. In *Kitāb Mafātīḥ al-raḥma*, al-Ṭughrā'ī reproduces long passages from the treatise, which he knows by the title *Sirr al-asrār*, and which he obviously rates highly.

[19] For *Kitāb Sirr al-ḥikma* and *Kitāb Thamarat al-irshād*, see Kraus, *Jābir*, vol. 1, pp. 136-137, who cites MSS Paris, Bibliothèque nationale de France, Ar. 2607, and Cairo, Dār al-kutub, Ṭabī'īyāt 5; but he attributes them both to a "Čelebi" (Iznīqī?). Correct authorship attributions are in Ullmann, *Die Natur- und Geheimwissenschaften*, pp. 230 and 243.

[20] MS Istanbul, Süleymaniye Kütüphanesi, Ragıp Paşa 963, fols. 1v-2r, cited in Plessner, "Beiträge", p. 548. The author refers to the work as *Sirr al-asrār*. This treatise is also cited in Brockelmann, *Geschichte*, vol. 1, p. 243, where it is attributed to Ibn Waḥshīya.

[21] On the attribution of the work to Jābir, Kraus expresses a number of reservations based on reasons that cannot entirely be dismissed. Kraus, *Jābir*, vol. 1, pp. 136-137: "Aucun traité de Jābir n'est cité et aucune des doctrines particulières du Corpus jābirien ne se trouve mentionnée. La formule *yā aḫī* (ô mon frère) par laquelle Jābir interpelle le disciple est remplacée par la formule hermétique *yā bunayy* (ὦ παῖ). La mention de vers de Ḫālid ibn Yazīd, cas insolite dans les écrits jābiriens, rend l'appartenance de l'ouvrage au Corpus assez douteuse." Another reason Kraus doubts the attribution is the presence in the work of a long dissertation on the *ouroboros*, which is never mentioned in the Jābirian corpus.

[22] A fourth treatise, *al-Miftāḥ fī ṣuwar al-daraj wa-ta'thīrātihā fī l-aḥkām*, cited in *Picatrix* (see Kraus *Jābir*, vol. 1, p. 169, and Sezgin, *Geschichte*, p. 268), can be excluded because it is not a work of alchemy.

[23] Sezgin, *Geschichte*, p. 260; Witkam, *Catalogue*, p. 269 (MS Leiden, Universiteitsbibliotheek, Or. 14.163/10, fols. 41v-46v).

Miftāḥ al-asrār, Tehran, Kitābkhāna-yi Aṣghar Mahdawī 276: of which I have no direct knowledge to date;[24]

Miftāḥ jannāt al-khuld: exactly the same title as the one found for our treatise (see the list of manuscripts above) is used for a work of the Jābirian corpus.[25]

On the basis of the information presented to this point, it seems that we can legitimately affirm that the title given to the work was *Miftāḥ jannāt al-khuld*, and that the author was either Jābir b. Ḥayyān, or at least an author of the Jābirian school.

An additional point can also be made: the author makes a number of references in his treatise to a book that precedes the one he is writing (*al-kitāb al-awwal*), or a first part of that book (*al-juz' al-awwal*); such a book could well be the *Kitāb Jannāt al-khuld*, another work of the Jābirian school preserved in a number of manuscripts,[26] and our *Miftāḥ* might be an explanation or commentary upon that prior work.

This summarises my research to date. Of course, I cannot exclude the possibility of further discoveries; however, it seems unlikely that a third potential author will enter the picture.

3. The sources

As has been noted above, what is immediately noticeable in the treatise is a conspicuous absence of almost any quotations from Muslim authors (the only one mentioned being Khālid b. Yazīd).[27] This circumstance is a cause for doubt about a Jābirian authorship on the part of Kraus (see note 21 above). With the sole exception of Khālid, all authors cited are pre-Islamic, some of them well known, others less so, and still others are not cited in some of the witnesses: Plato, the greatest

[24] Sezgin, *Geschichte*, p. 269.

[25] Sezgin, *Geschichte*, p. 259; Kraus, *Jābir*, vol. I, p. 119 (item 967).

[26] Sezgin, *Geschichte*, p. 259.

[27] An alchemist by the name of Sa'īd b. Ḥakam, disputing with an unknown Indian king, is added to Khālid by Kraus, *Jābir*, vol. 1, p. 136, and, following Kraus, by Sezgin, *Geschichte*, p. 131; but the collation of the manuscripts presently being undertaken shows that the passage in question should probably be read as: *wa-qāla malik al-hind Sa'īdas li-l-ḥakīm* (the King of India Sa'īdas told the wise).

(افلاطون الاكبر), Hermes (هرمس), Aristotle (ارسطو / ارسطاطاليس), Zosimus (زسيموس), Maria the Copt (مارية), Theseus? (طيسيوس), Ostanes اسطانس, (اسطينوس , and perhaps اسطوس), Andreas (اندريا), Democritus (ذومقراط), Īmūth / Imhotep? (ايموث), Thālūth (ثالوث), Pythagoras (فيثاغورس), Dioscorides (ديسقوريدس).

However, the principal interest of the treatise's sources does not reside in these names alone. In the very first sentences the author of the text declares that his sources are the alchemical treatises of the ancients, works that he calls *maṣāḥif* (sg. *muṣḥaf*). In the alchemical literature, as is well known, a certain number of *maṣāḥif* are cited, from the *muṣḥaf* by Ostanes to the *muṣḥaf* by Zosimus (among others), and indeed our author cites both Ostanes and Zosimus. Yet he also cites at one point the *jamā'a* of the ancient philosophers, i.e. the *Turba philosophorum*, which is quoted at length:

Turba philosophorum, in Heilmann (ed.), *Theatrum Chemicum*, pp. 1-52, here p. 50	*Miftāḥ jannāt al-khuld* (?)	*Miftāḥ jannāt al-khuld* (?)
Philosophus inquit: Prima compositio scilicet corpus magnesiae ex pluribus fit rebus, quamvis unum quid factae sunt uno dictum nomine, quod priores albar aeris nuncupaverunt. Cum autem regitur decem nominibus nuncupatur, sumptis a coloribus qui in regimine in huius magnesiae corpus apparent.	He also said: the white compound, that is the body of magnesia, is made from several things, but becomes a compound that is only one thing, for which only one name is given. It is also what the ancients called *abār-nuḥās* (molibdochalcon). When it is treated, it is called by the ten names, deriving from its colours that appear, in the treatments, in the body of this magnesia.	وقال ايضا ان التركيب الابيض الذي هو جسد المغنيسيا هو من اشياء شتى وانه قد صار تركيبا شئا واحدا وسمي باسم واحد وهو ايضا الذي سماه الاولون ابار نحاس واذا دبر سمي العشرة الاسماء التي اشتقت له بالوانه التي تظهر في التدابير في جسد هذه المغنيسيا […]

Oportet igitur ut plumbum in nigredinem convertatur, tum decem praedicta in auri fermento apparebunt, cum Serikon quod est compositio, quod et X. nominibus nuncupatur. Omnibus autem praefatis nil aliud significamus nominibus, quam albar aeris, eo quod tingit omne corpus quod in compositione introivit. Compositio autem duplex est, una enim est humida, altera vero sicca, cum proinde coquuntur, fiunt unum, et dicitur bonum plurimorum nominum.

You have to melt lead until it turns black and makes manifest those colours we said [speaking] about the yeast of gold; also *sīr.qūn* is this compound, which is what has been called by its ten names. But, of all that we have described, we don't indicate nothing but al-*abār al-nuḥās*, because it tinges each of the bodies (or metals) entering into the composition. There are two compositions: one of them is wet and the other dry, and when they are cooked, they become only one thing, which is called the good with many names.

فينبغي ان يكون تذوب الرصاص حتى يصير اسود فيظهر عنه تلك الالوان التي قلنا في خمير الذهب كما ان السيرقون هذا المركب وهو الذي سمي باسمائه العشرة غير انا لسنا بتالٍ (بدالٌ ؟) من جميع ما وصفناه <الا> بالابار النحاس لانه صابغ كل جسد من الاجساد الذي دخل في التركيب هو تركيبان فاحدهما رطب والاخر يابس فاذا طبخا صارا واحدا فسمي خير كثير الاسماء

Cum vero rubeum fit auri flos dicitur, auri fermentum, et aurum coralli, ac aurum rostri. Dicitur etiam redundans rubeum sulphur, et rubeum auripigmentum. Dum autem crudum permanet plumbum aeris, dicitur virga metalli ac lamina. Ecce eius patefeci nomina cruda, qua cocta ab ea invicem distinguemus.

When it becomes red, it is called gold, yeast of gold, coral gold, purple gold, and it is called *sīr.qūn*, red sulphur, red arsenic; while what remains raw, is called simply *abār-nuḥās*, ingot and foil. So I showed the names of the raw and the cooked, and I gave you the distinctions.

واذا احمر سمي ذهب وخمير الذهب وذهب بسذ وذهب فرفيري وسمي سيرقون وكبريت احمر وزرنيخ احمر فاما ما دام نياً فانما سمي ابار نحاس وسبيكة وصفيحة قد اظهرت اسماء الميتة واسماء المطبوخة وفرقت لك ما بينهما

The presence of this quotation from the *Turba* is of great interest. It should also be noted that the Latin text, which is found in *Theatrum Chemicum*,[28] corresponds to version A, considered among the Latin versions to be the one that is most faithful to the Arabic original.

As is well known – to summarise the matter briefly – the existence of a *Muṣḥaf al-jamā'a*, the Arabic original of the *Turba*, was noted in 1931 by Ruska.[29] Ruska was uncertain of its dating and finally assigned it to a very broad period from the 3rd/9th century – i.e. from the date of the two treatises the *Kitāb al-Qīrāṭīs* (*Book of Krates*) and the *Kitāb al-Ḥabīb*,[30] traces of which he believed could be found in the *Turba* – to the 5th/11th century. It is difficult to defend the latter date (as Plessner was to observe some time later[31]) since both Rāzian and Jābirian traces are absent from the *Turba*: an absence which Ruska himself acknowledged. Two years after Ruska, Stapleton and Hidāyat Ḥusain[32] identified some quotations from the *Turba* in the *Mā' al-waraqī* by Ibn Umayl al-Tamīmī; and in 1936, as a consequence of this discovery, Ruska revised his proposal of the 5th/11th century as the *terminus ante quem*[33] back to the middle of the 4th/10th century (Ibn Umayl died about 350/960). There were no further contributions of note for almost twenty years, until 1954, when Plessner narrowed the timeframe established by Ruska by dating the *Muṣḥaf* to between the date of the translation of the *Book on Poisons* by Shānāq al-Hindī[34] (beginning of the 3rd/9th century) and the date of Ibn Umayl and proposing as author of the *Muṣḥaf* the Egyptian 'Uthmān b. Suwayd (early 4th/10th century), who is mentioned in the *Fihrist* by Ibn al-Nadīm[35] (second half of 4th/10th century).[36]

The attribution of the work is tied to the idea of Egypt and an Egyptian school of alchemy, although such an association may influence subsequent studies without necessarily being helpful.

[28] Heilmann (ed.), *Theatrum Chemicum*.

[29] Ruska, *Turba Philosophorum*.

[30] Berthelot, *La Chimie*, vol. 3, pp. 1-33 and 34-78 (Arabic text); pp. 44-75 and 76-115 (trans.).

[31] Plessner, "The Place".

[32] Stapleton and Hidāyat Ḥusain, "Muḥammad bin Umail", pp. 117-143 [Reprint: pp. 127-153].

[33] Ruska, "Studien".

[34] Strauss, *Das Giftbuch*.

[35] Ibn al-Nadīm, *The Fihrist*, vol. 2.1, pp. 461-462. The work that is possibly the *Muṣḥaf* bears the rather unconvincing title *Munāẓarāt al-'ulamā' wa-mufāwaḍātuhum*.

[36] Plessner, "The Place". See also Plessner, *Vorsokratische Philosophie*.

The fact that a lengthy quotation from *Muṣḥaf al-jamā'a* has been found in a treatise virtually unanimously attributed to Jābir b. Ḥayyān may be a significant event in research into the history of alchemy.[37] The question of a possible relation between Jābir and the *Turba* has dragged on, through doubts and denials, for years. In 1931, Ruska tackled the question by working backwards and excluding the possibility of a Jābirian influence on *Muṣḥaf al-jamā'a*;[38] in his *Geschichte,* published in 1971, Sezgin had to confess that the question remained unresolved;[39] and in 2011, S. N. Haq admitted that unfortunately no progress had been made on the Jābir question, and thus the question of any Jābir-*Turba* connection remained shrouded in uncertainty.[40]

The discovery of a passage from *Muṣḥaf al-jamā'a* in a Jābirian treatise perhaps opens a new perspective on the debate. Here it is worth reconsidering an important observation by Kraus – something that struck Sezgin and also others[41] but which perhaps has not been given due weight. Believing that the *Turba* was composed towards the beginning of the 4th/10th century, Kraus holds that Jābir did not know the *Turba*, but he notes that in the Jābirian *Kitāb al-Mujarradāt* there is a reference to a reunion of ancient philosophers who met (*yajtami'ū*) to discuss alchemy:

> Jābir ne semble pas connaître la *Turba* qui a été probablement composée au début du IVe siècle de l'Hégire et dont Ibn Umayl est le premier à attester l'existence […]. L'idée cependant d'une réunion des anciens philosophes en vue de discuter les problèmes de l'alchimie, ne lui est pas entièrement étrangère. Cf. notamment ce qu'on lit dans le *k. al-mujarradāt* (ms. Jārullāh 1641, f. 248b): "Sache que les plus célèbres parmi les anciens philosophes, et parmi eux le plus grand Hermès, Pythagore, Démocrite, Kaṭrāmīša' (?), Kankah, Īlūlī (?), Socrate et

[37] Evaluation of the work and of the *outillage mental* of its author has varied greatly over time: after the opinion expressed by Ruska, for whom the work is a political attack on the Greek alchemists, other scholars have recognised the attention and consideration which the author pays to the wisdom of the ancients. However, in 1990, Rudolph, developing an observation by Plessner, denied that the author had any critical knowledge of the ancient cultures and suggested that the *Refutatio omnium haeresium* by Hippolytus was the prime and practically the sole source of the *Turba* (Rudolph, "Christliche Theologie").

[38] Ruska, *Turba Philosophorum*, p. 34: "Arabische Alchemieschriften, die den griechischen Gedankengängen und Darstellungsformen so nahe stehen, daß sie für unsere Frage Wert haben, sind nur wenige bekannt. Vollkommen ausgeschlossen ist ein Einfluß der Ǵābirschriften. Diese entstammen einer Entwicklung mit ganz anderen Voraussetzungen."

[39] Sezgin, *Geschichte*, p. 65: "Ob Ǧābir die *Turba* kannte, läßt sich schwerlich mit Sicherheit sagen."

[40] Haq, "Alchemical manuscripts".

[41] See, for example, Anawati, "L'alchimie arabe", p. 127.

> Aristote – avec d'autres dont je passe les noms sous silence, préférant la concision – se sont réunis en vue d'une disputation dont le compte rendu serait trop long. J'ai d'ailleurs consacré un livre à part à la disputation des philosophes."[42]

Finding a passage from the *Turba* in a Jābirian treatise seems to confirm Kraus' suggestion. It means not only that it was likely that Jābir knew the *Turba*, but that he himself wrote a treatise expressly dedicated to this gathering of the ancient philosophers. One might therefore ask at this point whether the 'separate' book mentioned by Jābir among his works refers in fact to *Muṣḥaf al-jamā'a*, curiously forgotten by the later tradition but referred to by its very author in one of his own works. In the absence of further information one's judgement must remain suspended. What we can nevertheless assert is that: a) the quotation from the *Muṣḥaf* in a Jābirian treatise could substantially push back the dating of the *Muṣḥaf*; and b) the question thus shifts from the dates of Ibn Umayl and 'Uthmān b. Suwayd to the date of Jābir, and this is where our attention should now focus.

I would add a further point in the context of these reflections on the *Turba*; the treatise discussed here also contains an Arabic version of a famous allegory concerning the philosopher's stone: that of the *pisciculus rotundus* found in the *Allegoriae super librum Turbae* and the *Aenigma II*,[43] which might have a precedent in *Kyranides*[44] and which was to find such popularity among the Latin alchemists that it was eventually cited as an allegory of the self by C.G. Jung in his *Aion*.[45]

خذ سمكة تكون في النهر لها سم طبيعي وهي مدورة ليس لها عظم الا عظما واحدا

> [...] take a fish that is in the river, which has a natural poison; it is round and has only a single bone.

In our examination of the text under consideration, this quotation adds something more: not only the *Turba* but also the *Allegoriae* and *Aenigmata* passed, at some imprecise time, into the Arabic world. We note that the description of the fish found in our text differs both from

[42] Kraus, *Jābir*, vol. 2, p. 59, n. 1.

[43] "Allegoriae super librum Turbae", in Manget (ed.), *Bibliotheca Chemica Curiosa*, vol. 1, p. 494: "Est in mari piscis rotundus, ossibus et corticibus carens, et habet in se pinguedinem, mirificam virtutem". The same text is to be found in "Aenigma 2. De lapide", in Manget (ed.), *Bibliotheca Chemica Curiosa*, vol. 1, p. 496.

[44] Kaimakis (ed.), *Die Kyraniden*, 10.10-11, p. 62. In the Arabic translation of the first *Kyranis*, the passage about the round fish is missing, see Toral-Niehoff, *Kitāb Ğiranis*.

[45] Jung, *Aion*, pp. 126-127.

that found in the *Kyranides* and from the quotation in the *Allegoriae* and the *Aenigmata*. As regards the Latin text, this might also arise from some defect in the textual transmission or from some variation added over time; we limit ourselves for the present to pointing out the presence of a 'round' fish as we await further studies.

Another famous pre-Islamic text quoted in the work discussed here is the *Kitāb al-Ḥabīb*, edited and translated in Berthelot, *La chimie au moyen âge*, and considered by Ruska to be one of the sources of *Muṣḥaf al-jamā'a*.[46]

Kitāb al-Ḥabīb, in Berthelot (ed.), *La chimie*, vol. 3, p. 76-77 (French translation)	*Kitāb al-Ḥabīb,* in Berthelot (ed.), *La chimie*, vol. 3, pp. 34-35 (Arabic text)	*Miftāḥ jannāt al-khuld* (?)	*Miftāḥ jannāt al-khuld* (?)
L'agent est unique, et sans la chaleur il n'aurait pas de mouvement; or le mouvement est une supériorité. C'est pourquoi il communique à l'œuvre de la chaleur; sinon, l'œuvre exige le concours d'une chaleur étrangère.	فالفاعل واحد ولولا الحر لم تكن حركة والحركة هي الفضل فلذلك صار الى العمل من الحرارة والا هو من الحر	Know that the substance that is the 'agent' in all this world is a single one: heat, and if there were no heat it (the world) would have no movement. Movement is action (the action exerted by the agent), and this is why this work and this thing had their origin in heat.	اعلم ان الجوهر الفاعل في هذا العالم كله واحد وهو الحر ولولا الحر لم تكن حركته البتة والحركة وهي الفعل فلذلك كان هذا العمل والامر من الحر اصله

[46] See Ruska, *Turba Philosophorum*, esp. p. 45 and p. 318; and Plessner, "The Place", p. 332: "After having proven the Arabic origin of the *Turba*, Ruska tried to ascertain the date of its composition by means of Arabic parallel texts. Ruska did not come to any definite conclusion but suggested that his text must be more recent than the books of Krates the Sage and of al-Ḥabīb because, in his opinion, the *Turba* borrowed some passages from these treatises."

Sachez que l'essence est formée d'une chose qui s'élève dans les airs et qu'elle n'a pas de matrice; elle réside dans les matrices et elle varie, suivant sa quantité et suivant la durée du séjour qu'elle fait dans la matrice. Elle est comme un morceau de fer qu'on introduit dans le feu, où il s'échauffe ; lorsqu'il se refroidit ensuite, le feu monte dans l'air et abandonne le morceau de fer.	فاعلم ان الجوهر هو من الصاعد الى العلو وانه لا رحم له ولكنه يسكن في الارحام على قدرها وقدر مكثه فيها كالحديدة تدخل النار فتسخن فيها فاذا بردت صعدت النار الى العلو وتركت الحديدة	Know also that the substance that rises upwards (i.e. the agent, heat and movement) has no womb of its own, but rests in wombs according to their capacity [to receive it] and the duration of its remaining there. It is like a piece of iron: [the iron] enters the fire and the fire quietens down in it, then when [the iron] goes from the fire, the fire rises upwards again and abandons the piece of iron.	واعلم ايضا ان الجوهر الصاعد الى العلو وانه لا رحم له ولكنه يسكن في الاحرام على قدرها وقدر مكثه فيها كالحديدة تدخل في النار فتكن النار فيها فاذا خرجت من النار عادت النار صعدت الى العلو وتركت الحديدة
De même tout être reçoit de chaque chose sa qualité, proportionnellem ent à la quantité qu'il en renferme; ou bien il la repousse, en raison des qualités opposées qu'il contient.	كذلك كل جوهر انما تقبل كل شئ على قدر ما فيه منه ويتركه على قدر ما فيه من مخالفته	Equally, every substance simply receives everything according to the quantity of it that is in it, and leaves it (does not receive it) according to the quantity of its opposite that is in it.	كذلك كل جوهر انما يقبل كل شيء على قدر ما فيه منه ويتركه على قدر بما فيه بمخالفته

And further on:

Kitāb al-Ḥabīb, in Berthelot (ed.), *La chimie*, vol. 3, p. 77 (French translation)	*Kitāb al-Ḥabīb*, in Berthelot (ed.), *La chimie*, vol. 3, p. 35 (Arabic text)	*Miftāḥ jannāt al-khuld* (?)	*Miftāḥ jannāt al-khuld* (?)
Sachez aussi que si vous prenez un homme complet, que vous piliez ensemble son esprit, son âme et son corps, pour les mettre dans votre chaudière, vous ne pouvez pas prendre ensuite une partie de ses os, de sa chair, de son sang, de ses cheveux, ou de l'un de ses membres, et y retrouver son âme ou son esprit. En effet, dès que l'homme a été mis en pièces, l'âme, qui est un de ses éléments, a disparu et il ne reste entre vos mains qu'un être mort, obscur, qui n'a plus ni éclat, ni lumière.	واعلم ايضا فانك لا تقدر ان تأخذ انسانا تاما فتدقه في قدرك بنفسه وروحه وجسده فان اخذت بعضه من عظم او لحم او دم او شعر او سائر اعضائه فليس في عضو منه روح ولا نفس لانه اذا انفصل ذهبت الروح التي هي ضياؤه وبقي في يدك ميت مظلم لا نور له ولا ضياء	Know that this is another aspect: you cannot take a human (an entire human)[47] and throw him into your cauldron with his soul, his spirit and his body. You can only take a part of him: bone or flesh or blood or hair or other limbs; but in only a single organ there is neither spirit nor soul. When a part is detached (disjoined), the spirit that is its light, its flower, its best part, goes away, and it remains in your hand as a dark earth that has neither light nor splendour.	واعلم ان هذا وجه اخر انك لا تقدر على ان تاخذ انسانا فتقذفه في قدرك بنفسه وروحه وجسده وانما اخذت بعضه من عظم او لحم او دم او شعر او سائر اعضائه فليس في عضو واحد مفرد روح ولا نفس اذا فصل الفصل ذهبت الروح التي هي نوره وزهره وصفاءوه وبقي في يدك ترابا مظلما لا نور له ولا ضياء

[47] In MS Istanbul, Süleymaniye Kütüphanesi, Hacı Selim Ağa 881.1, we read of a *nāmiyan* ("one who grows"), which in the context makes no sense; for this reason, in 2009, I took this to be *nā'iman* ("one who sleeps"), thinking of the soul that in sleep withdraws from the body (Carusi, "Il Miftāh al-ḥikma", p. 77). A reading of the passage in the *Kitāb al-Ḥabīb* now makes it clear that the word that should be added here is *tāmman*.

Agissez (avec prudence), jusqu'à ce que vous connaissiez ce qui enlève et lave les impuretés des corps; je vous l'indiquerai plus loin, s'il plaît à Dieu.	فاعمل ... حتى تعرف الذي يجلو ويغسل الاوساخ من الاجساد وسأنبه لك ان شاء الله	But you, my son, work in your youth to your fullest extent with your intellect and with your heart, so that you may learn what expels and washes away the impurities from bodies; I shall explain this to you, if God Most High so wills.	ولكن يا بني اعمل في الشباب بمقدار عقلك ولبك حتى تعرف الذي يجلو ويغسل الاوساخ من الاجساد وسوف ابين لك ذلك ان شاء الله تعالى

The quotations from sources that I have presented here are those that have so far been identified in our text; others will perhaps emerge in due course as our research proceeds. In the meantime, we are now in a position to assert the antiquity of the works known and quoted by our author, and, apropos of the quotations and the antiquity of the sources, another point can be made. Together with the many traces that hark back to the tradition of alchemy in the Greek language – including quotations from authors and the use of terms that seem clearly to have been taken from the Greek – the treatise presents certain evidence that the sources passed through Syriac and perhaps also Indian tradition.[48] This is something that Kraus had already observed in his rigorous examination of the Jābirian corpus[49] and to which Plessner (see above the mention of the translation of Shānāq al-Hindī's *Book on Poisons*) gave new insights.[50]

[48] In our treatise, as we have noted above, an Indian king is quoted who discusses alchemy with a sage, and in several allegories, India and even China are mentioned as examples of very distant countries; with regard to Jābir and his corpus, see also *supra* in the text the quotation from *Kitāb al-mujarradāt*, where Kaṭrāmīša' and Kankah are both almost certainly Indian names.

[49] Kraus, *Jābir*, vol. 2.

[50] In 1954, in his "The Place" (see also *supra* in the text), Plessner fixed as *terminus post quem* for the *Turba philosophorum* the date of the translation of an Indian scientific text, the *Book on Poisons* by Shānāq al-Hindī, of which some traces appear in the *Turba*. If Indian sources can already be identified in the *Turba*, even a Jābirian author following the *Turba* might have used Indian terms and allegories.

The influence of Syriac tradition is revealed in the first instance in a fleeting but explicit moment in the text:

فاذا تم فله ثلثما ئة وخمس وستون اسما على عدد ايام السنة ولذلك شبه بالسنة واسمه بالسريانية اثنى عشر حرفا

> When it is perfect it has 365 names, according to the number of days of the year, and for this reason it has been assimilated to the year, and its name, in Syriac, is twelve letters.

Other clues to the influence of a Syriac tradition are to be found in a passage that follows:

فاما الخزاءين السبع ومقامه على ابوابها اربعين يوما وان الشيخ المصري دله عليها فقد اخبرتك بالشيخ المصري والخزاءين وما فيها من المنفعة لان هذا الحجر يصلح للشمس وللقمر وللجواهر كلها ولا خزانة اكثر منه فاما ابوابها فالوانه التي تظهر فيه في كل تسقية واخرها باب القاطرون وسماه ارسطاطاليس مراءة الاقيطرون وهو جميع الالوان وذلك في تمامه لانه اذا تم قد صبغ الشمس والقمر والزمرد واليواقيت كلها في الوانها والزجاج وغيره والجواهر كلها

> As regards the 'seven treasures' and his remaining 40 days before their doors, the Egyptian master signals them, and I shall give you news of the Egyptian master and of the treasures, and of that in them that is useful: because this stone is suited to the sun, to the moon and to all the substances, and there is no treasure that has more uses than it. Their (the treasures') doors are its colours that appear in it at every imbibition, and the last one is the door of electrum (*al-qāṭ.rūn*) which Aristotle called the mirror of electrum (*al-aq.ṭīrūn*); and it is all colours: this is when it is in its state of perfection, because when it is perfect it tints the sun, the moon, the emerald and all the rubies in their colours, and glass and other things and all the substances.

It seems that this contains the echo of two passages to be found in a Syriac manuscript preserved at Cambridge University Library, edited and translated by Berthelot in 1893. The first is a very damaged passage, which Berthelot presents under the title *Conjuration magique*, while the second could be from Zosimus' *The Book of the Electrum*, in which appear at the same time a temple with seven doors and Alexander's mirror of electrum, which in our treatise might have become *Aristotle's* mirror, because Aristotle was Alexander's teacher.

> […] je lui persuadai d'être mon maître et de me diriger dans la route qui conduit (aux trésors cachés). Il comprit ma volonté ; mais il craignait les dieux immortels et il ne voulait pas voyager avec moi ; … je promis … que je lui donnerais le double. … nous arrivâmes ainsi aux trésors cachés. Il me fit signe de la main

> (d'offrir) de ma part les sacrifices que réclament les dieux ; j'accomplis son désir et je donnai âme pour âme et corps pour corps. Mais même ainsi, il ne consentit pas à suspendre le jeûne - et je perdis la vie. … Ensuite je demeurai quarante (jours). … . Un second dieu m'ouvrit (la demeure des) sages, recouverte par un monticule d'herbe et de rosée, vêtement du corps et de l'âme. Je frappai, après être demeuré chaque fois quarante jours devant chaque porte. Alors j'entrai (?) par la porte. … après avoir offert des présents nombreux et convenables.[51]

According to our text, the author of this passage is 'the Egyptian master', probably Zosimus, both because he is cited on a number of occasions and because in the second much longer passage the reference seems to be to *The Book of the Electrum,* a work attributed to the self-same Panopolitan alchemist. Given its length, I shall quote only part of it here:[52]

> Le miroir fut apporté ensuite chez les prêtres, dans le temple appelé *Les sept portes*. Ces miroirs étaient fabriqués à la taille des hommes et leur montraient qu'ils devaient se purifier. Tout cela était exposé en forme de mystère, comme je te l'ai fait connaître (à toi, femme!) dans le livre qui est appelé *Cercle des prêtres*.
>
> Le miroir n'était pas disposé dans ce but, qu'un homme s'y contemplât matériellement; car aussitôt qu'il quittait le miroir, à l'instant il perdait la mémoire de sa propre image. Qu'était-ce donc que ce miroir? Écoute.
>
> Le miroir représente l'esprit divin; lorsque l'âme s'y regarde, elle voit les hontes qui sont en elle, et elle les rejette; elle fait disparaître ses taches et demeure sans blâme.[53]

The presence of Syriac traces in our text should prompt one to reflect on an important fact that tends to be forgotten: that the passage of alchemical texts through Syriac culture is not only a transition across languages, but it is at the same time a passage through Christian contexts. In the Syriac *Book of the Electrum*, there appear in an obscure form, for example, the Word, the Spirit and the Trinity. Obviously this does not mean that alchemy must be a 'Christian' discipline, but we must take into account the fact that at least in part the exposition of its theories and the elaboration of its allegories may show the influence of a tradition that is neither ancient, pagan and Greek, nor Muslim and Arabic. This is a complex matter that is sometimes ignored, but one should remember the great number of relevant passages that have been remarked on hitherto: as, for example, the overlaps, mentioned by

[51] Berthelot, *La Chimie*, vol. 2, pp. 320-321 (French translation).
[52] The whole passage can be found in Berthelot, *La Chimie,* vol. 2, pp. 260-266.
[53] Berthelot, *La Chimie*, vol. 2, p. 262.

Plessner in 1954 and noted more recently by Rudolph, between *Muṣḥaf al-jamā'a* and the *Refutatio* by Hippolytus.[54]

4. The contents

Regarding the contents of the treatise under examination, I shall briefly discuss here two points that characterise it and which make it significant for the history of alchemy.

The first is its very close connection with the tradition of the artists and the activity of the workshop and laboratory, which first comes to the fore in Greek alchemy and then later in a large part of Islamic alchemy, especially in the first centuries. The second point concerns the references to alchemical physical theories, in which some contacts with Islamic theology may perhaps be traced.

4.1. Connections with the arts

The treatise presents itself, both as a whole and in its details, as closely bound up with the metallurgic and artistic tradition of pre-Islamic alchemy. The tradition that the author knows and defends is that of the smelters, the dyers, the glassworkers, the experts in pigments and the techniques for their use. This emerges both in general from the whole tenor of the argument and also from explicit references to the fields with which alchemy is concerned. A very clear example from the treatise is one of the finest that I have had the good fortune to find in alchemical literature:

واعلم ان الحكماء لم يكتموا هذا العلم حسدا ولا تفاشوا به لان العلماء والحكماء والانبياء عم ازهدوا في الدنيا ومالها من ان يضنوا بها ولكنهم نظروا الى جميع ما يحتاج اليه الناس من هذه الاشياء التي في ايديهم من عمل الزجاج والغضار والصنعة والصبغ ونقشه والصفر والاسفيدورية والحديد والشابرقان والفولاد والصيني واصباغ النقوش والزنجفر والزنجار والاسرنج والاسفيداج وغير ذلك من الاعمال فلما عرفوها افشوها الى الناس لعمارة الدنيا فنظروا فاذا ان قيام الدنيا بالدنانير والدراهم فاذا ان الناس والصناع والمعاملة لا يعملون الا لرغبة او دهبة فعلموا انهم ان افشوا هذا السر حتى يعلموا لكل احد لم يتم امر الدنيا وخربت ولم يعمل احد لاحد فتخرجوا من ذلك فكتموه

[54] See Plessner, "The Place"; Rudolph, "Christliche Theologie".

> Know that it was not through envy that the wise masters kept this knowledge hidden and did not spread it abroad. For the *'ulamā'*, the wise ones and the prophets, abstained from the world and its riches, using them only sparingly; however, they did speculate on everything that men needed, of these things on which men direct their work: glass, ceramics – their manufacture, glazing and painting; bronze, white copper (*isfīdūriya*) and iron – *shabarqān*, steel, and Chinese (iron); and on the colours for painting: cinnabar (*zunjufr*), malachite (*zinjār*), red lead (*usrunj*),[55] white lead/ceruse (*isfīdāj*) and other preparations of this kind; and when they had found these things out, they spread them among men for the benefit of the world.
>
> But note that [these masters] observed that this world is built upon coins of gold (*danānīr*) and silver (*darāhim*), and that men, artisans and businessmen, only work driven by greed or fear; and they knew that if they had divulged this secret so as to make it known to everyone, the situation of the world would not have improved but would have gone to ruin, because no one would have worked for anyone else. And so they refrained from this (from revealing the secret) and concealed it (the secret).[56]

This passage is a clear confirmation of the fields in which alchemy distinguishes itself. These relate to the world of technology and art and are exactly the same as those contemplated in pre-Islamic alchemical and technical works in the Greek and Syriac languages, such as the *Physika kai mystika* by pseudo-Democritus, the recipes contained in the two papyri of Leiden and Stockholm[57] and likewise the various *Physika* and *Taktika* in Greek and Syriac, from which the Jābirian corpus sometimes borrows.[58] This link to the practical arts is the origin and also the history of alchemy: a discipline which even when it takes on more spiritual connotations can never be divorced from matter.

If we go on to consider the allegories, this attention to laboratory practice in our treatise extends to one of the most 'sacred' images of alchemy: that of the *ouroboros*. Following in the wake of what is already to be found in the Greek and Syriac texts, the renowned snake devouring its own tail is here proposed in the most explicit manner as the

[55] As happens in many cases in the chemistry of the Middle Ages, it is difficult to identify this particular pigment with any certainty; whether it is minium (Pb_3O_4) or litharge (PbO), it seems in any case to be a lead oxide that is red in colour.

[56] I would like to recall the reader's attention to the fact that the collation is currently in progress and that the texts quoted are not yet definitely established.

[57] Halleux (ed. and trans.)*, Papyrus*. See also: Martelli, *The Four Books*, and Id., *Scritti alchemici*.

[58] Recipes for the preparation of artificial precious stones, inks, etc., are contained in the *Kitāb al-Khawāṣṣ*, see Kraus, *Jābir*, vol. 2, pp. 61-95. A partial edition of this work is given by Kraus in *Jābir ibn Ḥayyān, Essai*, pp. 224-332.

effective representation of a laboratory procedure. The head of the snake, writes the author, is the earth, to which (in the procedure) water that is 'hot' (for this reason called 'air') and enflamed (for this reason called 'fire') is brought back, i.e. the earth drinks the water that has gone out of it. The snake, which is a single thing containing a multiplicity, represents a procedure – the laboratory procedure – in which a substance, first subjected to a treatment so that 'parts' are freed from it (e.g. dehydration followed by decomposition), is reunited with the parts that have been freed. In this case too, as can be seen, the *ouroboros* is brought back to its most ancient interpretation: that of the techniques and secrets of a chemical art. To conclude these reflections, here is a quotation from our treatise:

واعلم انه من لم يجرب لم يعلم وقالت الفلاسفة جميعا من قرأ الكتب ولم يعمل فهو محروم او ناقص العقل

> Know that a person who does not experiment does not learn, since all the philosophers said: a person who reads the books but does not operate has little or no intellect.

4.2. Alchemical theories and theology

An examination of the theoretical contents and the non-technical aspects of our *Miftāḥ* shows that the practicalities of the laboratory are accompanied by references to physical theories, such as the definition of heat as the supreme agent active in the generation of the world[59] and the triplicity of body–soul–spirit,[60] which are important foundations of the oldest alchemy and pillars of the alchemical doctrines of later alchemists. The treatise also contains a possible, if rather loose, reference to Aristotle's *Meteorology*.[61] The treatise therefore fits perfectly into

[59] See the first citation of the *Kitāb al-Ḥabīb* above, and also *Miftāḥ al-ḥikma* by pseudo-Apollonius (Carusi, "Il trattato").

[60] As well as in the *Kitāb al-Ḥabīb* and in the treatise under discussion, the triplicity of body–spirit–soul is referred to in the *Kitāb al-Qirātīs*, in Ostanes and in the Jābirian *Kitāb al-Raḥma* and *Kitāb Usṭuqus al-uss*. See Berthelot, *La Chimie*, vol. 3, and Jābir b. Ḥayyān, *Dix traités*, p. 257.

[61] *Miftāḥ jannāt al-khuld* (?): "Aristotle said that salt [or "the sea" (ἅλς?)] is raised from the earth by the heat of the earth; the sun strikes it, and it sprouts (*yanbutu*) and rises

the alchemical tradition that proceeds from the first alchemy through to its more mature form. It is worth recalling once again the admiration with which al-Ṭughrā'ī, in his *Mafātīḥ al-raḥma*, quoted it word for word and commented upon it.[62]

Added to this – which is of greatest interest in this particular study – is the presence of physical theories known from theology, and in particular in the Mu'tazilite al-Naẓẓām. The suggestion of possible links between alchemy and theology, especially Mu'tazilite theology, is far from new and has been addressed by scholars approaching the question from both fields of study. Historians of science have investigated links, as postulated by Kraus,[63] between Jābir and Job of Edessa, and between Job of Edessa and al-Naẓẓām; the possible connection between alchemical physics and *kumūn*, to which Newman drew attention;[64] and the quotation from al-Naẓẓām and use of his terminology, in Haq.[65] Van Ess' writings address the question from the perspective of theology;[66] in his *Theologie und Gesellschaft* he investigates what would seem to be some obvious connections between the alchemical theories present in 'Jābir' and in the *Turba philosophorum* and Mu'tazilite physical theories (al-Naẓẓām), although he reaches no firm conclusions.

by virtue of that heat. The risings [sublimations, exhalations?] are twofold: the first is the rising of the water because of the heat, which is in the lower part of the earth. This vapour rises into the air through the power of God Most High, and becomes a cloud, then He makes it become a cumulus, and you see the rain that comes from the rents in the cumulus, and God Most High gives it to those of His servants that He wills for them to drink; and the second [rising] is the rising of that which is in the earth itself: the salts, the *bawāriq*, the sulphurs and the bodies (or: the metals) and substances in the mines, and the subtle and invisible substances (*al-rūḥānīya*) inside the beings (bodies) that enclose them (*al-rūḥānīyīn*), and the fruits and the leaves in the trees and suchlike things." This passage might contain some distant echoes from *Meteorology* II (the evaporation of the sea water and the two exhalations); reworked, as usual, by the alchemist, probably mixed with other sources and adapted to his theories.

[62] See *supra*, note 18.

[63] Kraus, *Jābir*, vol. 2, pp. 174-175.

[64] Newman, "The occult".

[65] Haq, *Names*, p. 27. The author cites in particular the use by 'Jābir' of the term *ma'nā* in the sense given to it by al-Naẓẓām and by some of the first Mu'tazilites and concludes his observations by saying: "Given this climate, it does not seem surprising to find a *kalām* concept finding its way into the works of Jābir, and this is yet another indication that he was drawing upon traditions which antedate the *Bayt al-Ḥikma*."

[66] van Ess, *Theologie und Gesellschaft*, vol. 3, p. 333: "Auch die Alchimisten dürften noch hierher gehören; die Querverbindungen zur *Turba philosophorum* oder zum *Corpus Ǧābirianum* sind frappant, wie auch immer man über die Zeitstellung dieser Texte denken mag." See also pp. 365-366.

There are some traces that might indeed recall al-Naẓẓām in the text under investigation. Firstly, we find some terms, such as *khilqa*, being used here as they are by al-Naẓẓām (and also in *Sirr al-khalīqa*) to indicate the natural disposition that each creature possesses. We might note other traces in the assertion that water does not solidify except through the effect of "vigorous" (*qawīya*, *šaddād*) bodies; or in the observation (see the quotation from the *Kitāb al-Ḥabīb*, which we repeat here) regarding the withdrawal of the soul from any parts of a man that are cut off in order to emphasise that the soul is a subtle fluid diffused through the whole body:

فهو ينبغي لنا ان نعلم اذا قال الحكيم اخلط اجمد في الكحل النحاسي ان في ذلك الكحل النحاسي الاجساد القوية المقابلة للنار عنه لان الماء لا يجمد الا بالاجساد الشداد

> We therefore need to know why the sage said: mix and coagulate [the mercury] in the lead-copper: in that lead-copper are the bodies endowed with potences that in place of it receive the fire, because water does not coagulate (solidify) except by virtue of 'vigorous' bodies.[67]
>
> Know that this is another aspect: you cannot take a man (an entire man) and throw him into your cauldron with his soul, his spirit and his body. You can only take a part of him: bone, flesh, blood, hair or other limbs; but in only a single organ there is neither spirit nor soul. When a part is detached (disjoined), the spirit that is its light, its flower, its best part, goes away, and all that remains in your hand is a dark earth that has neither light nor splendour.[68]

[67] Cf. al-Jāḥiẓ, *Kitāb al-Ḥayawān*, vol. 5, p. 89: "Their adversaries say that if water does not solidify it is only because there are not in it the potences (*quwā*) acquired and received from the potences of the substances. Water is the substance that receives all the potences; therefore, through one kind of the potences that it receives, it becomes oil; and through another kind it becomes vinegar, and through another, blood, and through yet another, milk. All these things differ only in the potences that intervene in them, but the substance that is transformed into all liquid bodies is simply water, which, at the moment of its reception, becomes either oil or milk."

[68] See *supra* in the text. Cf. Ibn Mattōya, *Muḥīṭ*, and Maqdisī, cited in van Ess, *Theologie und Gesellschaft*, vol. 6, pp. 114-115. Naẓẓāmian theology shares with alchemy the idea of the soul understood as a subtle body (*laṭīf*), see, for example, Ibn Mattōya, *Muḥīt*, and Ka'bī, *Maqālāt*, cited in van Ess, *Theologie und Gesellschaft*, vol. 6, pp. 112-113. Quoting the passages that concern this position regarding the soul (subtle body dispersed in all limbs), van Ess, *Theologie und Gesellschaft*, vol. 3, p. 369, note 6, observes that the same idea is found in the *Kitāb Sirr al-khalīqa* attributed to Pseudo-Apollonius (Weisser, *Geheimnis der Schöpfung*, p. 219); and it is perhaps superfluous to recall here once again that the Jābirian corpus is greatly inspired by Pseudo-Apollonius (Balīnās).

The statement that the soul withdraws from parts of the body that have been cut off raises an interesting question. This statement, appearing as it does in the treatise we are investigating, is present in the theory of the soul held by al-Naẓẓām and his pupils; but we have previously shown that it also appeared, for instance, in a word-for-word quotation in the *Kitāb al-Ḥabīb*, the Arabic alchemical treatise that was perhaps a source for the *Turba.* One receives the impression that al-Naẓẓām and the Jābirian author have drawn on common sources. This is not an isolated case; the idea of the soul as a subtle fluid dispersed in the human body as oil in sesame and olives, which appears in the theology of al-Naẓẓām, is found later in Ibn Umayl al-Tamīmī (4th/10th century) and still later (5th-6th/11th-12th centuries) in al-Ṭughrā'ī, in both cases attributed to Hermes, that is to say, an 'alchemical' source. But we shall return to this question in a later study.

5. Conclusion

In bringing this study to a close we can perhaps draw some conclusions. The treatise we have been dealing with is attributed to Jābir in almost all the manuscripts known at this point, and the one document that attributes it to another author, al-Iznīqī, suggests an author so late as to be totally implausible. If the attribution to Jābir is accepted at least for the present, there are yet other relevant factors that come into play: factors that could support the antiquity of the text, which include:

– a very strong connection with the pre-Islamic alchemy of the artisans;

– the absence of quotations from Muslim authors, except for Khālid, which is characteristic of the most ancient alchemical treatises;

– the absence of Shiite traces, which are not found in some of the more ancient treatises in the corpus, such as the *Kitāb al-Raḥma*.

Furthermore, there are factors that help pinpoint a period for the composition of the treatise; including:

– the use of words of Syriac origin, such as *kiyān* (nature),[69] and

[69] Cf. Haq, *Names*, p. 26: "In Jābir's *Kitāb al-Qadīm* (Book of the Eternal, Kr 981), Aristotle's *Physica* appears as '*Kitāb Sam' al-Kiyān*' (MS Paris 5099 f. l72b). Note the archaic character of the Arabic title: the term *kiyān* is an Arabicization of the Syriac *kʿyānā*

the quoting of Syriac texts, which for the most part arrived in the Islamic world at the beginning of the 3rd/9th century;[70]

– the possible reference to the theology of al-Naẓẓām (d. between 219/835 and 230/845);

– the probable reference to the Aristotelian *Meteorology*, a work known to have been translated at the beginning of the 3rd/9th century by Yaḥyā b. al-Biṭrīq (d. 219/835?), even if it must be acknowledged that the reference here has nothing to do with Yaḥyā's translation.[71]

All of these factors lead to Abbasid Iraq in the first half of the 3rd/9th century: the Jābirian author of our treatise could have lived at that time and in that place, and therefore he could have composed at least some of the many works attributed to Jābir b. Ḥayyān.[72] Further information cannot be derived from citations of our treatise in subsequent works: the author of the *Kitāb al-Shawā'id fī l-ḥajar al-wāḥid* is likely to have been active between the 3rd/9th and 4th/10th centuries, and the long and admiring citations by al-Ṭughrā'ī (d. 515/1121) follow at a distance of almost two centuries. Our hypothesis nevertheless receives support firstly from the dates provided in the Islamic tradition, commencing with Ibn al-Nadīm and repeated by numerous scholars, among them Sezgin[73] and later Anawati,[74] according to whom Jābir lived in Iraq in the first half of the 3rd/9th century; and secondly, from the dating that results from the citation by Maslama al-Qurṭubī (d. 353/964), who in his *Rutbat al-ḥakīm*, *maqāla 4* declares that Jābir lived more than 150 years before him.[75]

(= Gr. *phusis*), a term which had already been abandoned by the time the Ḥunayn school emerged, having being replaced by the word '*ṭabī'a*' derived from an Arabic root". Another non Syriac but rather Arabic archaic term used by our author is *nadāwa*, and here again cf. Haq, *Names*, p. 44, note 176: "Other archaic terminology is also found in Jābir – for example, in the *Kitāb al-Ṣafwa* (Book of the Elite, Kr 384) the term used for the Aristotelian quality moisture is *nadāwa* (MS Paris 5099, f. 117a)".

[70] Cf. Gutas, *Greek Thought*, p. 22: "The bulk of the Greek scientific and philosophical works were translated into Syriac as part of the 'Abbāsid translation movement during the ninth century."

[71] See above, note 61; Aristotle, *The Arabic version.*

[72] According to Kraus, *Jābir*, vol. 1, the Jābirian corpus comprises about 3,000 works: 2,982 to be exact (an observation repeated in Jābir b. Ḥayyān, *Dix traités d'alchimie*, p. 51). In 1994, Haq, *Names*, reduced the corpus to little more than 500 treatises.

[73] Sezgin, *Geschichte*, esp. pp. 185-186.

[74] Anawati, "L'alchimie arabe", pp. 122-123.

[75] Cf. MS Paris, Bibliothèque nationale de France, Ar. 2612, fols. 88r-88v. The author of the treatise traces the history of alchemy and cites the most important authors up until the time "when Jābir finally appeared" (*ilā an nasha'a Jābir ibn Ḥayyān*).

It is possible at this point to question whether the genuine nucleus of the Jābirian corpus cannot rightly be placed in the first half of the 3rd/9th century. The placing of Jābir obviously prompts one to consider *Muṣḥaf al-jamā'a*, which is here cited for the first time in a Jābirian work. On the basis of the dating and placing of 'Jābir', this treatise too could have been disseminated in Iraq in the first years of the 3rd/9th century as part of the large number of translations made available at that time and place, and it could therefore be dated much earlier than the time of 'Uthmān b. Suwayd and nearer to that of Shānāq al-Hindī. In the absence of further facts, these questions are obviously – and unfortunately – destined to remain open; yet it could be that we are now not far from the truth.

Sources and Bibliography

Sources

Aristotle, *The Arabic version of Aristotle's Meteorology*, Casimir Petraitis (ed.), Beirut, Dar el-Machreq, 1967.

Berthelot, Marcellin, *La chimie au moyen âge*, Paris, Imprimerie nationale, 1893, 3 vols.

Halleux, Robert (ed. and trans.), *Papyrus de Leyde. Papyrus de Stockholm. Fragments de recettes*, Paris, Les Belles Lettres, 1981, Les alchimistes grecs, 1.

Heilmann, Johann Jacob (ed.), *Theatrum Chemicum, praecipuos selectorum auctorum tractatus de chemiae et lapidis philosophici antiquitate, veritate, jure, praestantia, & operationibus continens […]*, vol. 5, Argentorati [Strassburg], Zetzner, 1660. [Reprint Turin, Bottega d'Erasmo, 1981.]

Ibn al-Nadīm, *The Fihrist of al-Nadīm*, Ayman Fu'ād Sayyid (ed.), London, al-Furqān Islamic Heritage Foundation, 2009, 2 vols. in 4.

Jābir b. Ḥayyān, *Dix traités d'alchimie. Les dix premiers traités du Livre des Soixante-dix*, Pierre Lory (trans.), Paris, Sindbad, 1983.

Jābir b. Ḥayyān, *Essai sur l'histoire des idées scientifiques dans l'Islām*, Paul Kraus (ed.), Paris - Cairo, Maisonneuve - el-Khandgi, 1935.

al-Jāḥiẓ, *Kitāb al-Ḥayawān*, Beirut, Dār al-jīl, 1996, 8 vols.

Manget, Jean-Jacques (ed.), *Bibliotheca Chemica Curiosa*, vol. 1, Geneva, Chouet et al., 1702. [Reprint Sala Bolognese, Arnaldo Forni editore, 1976.]

Weisser, Ursula (ed.), *Buch über das Geheimnis der Schöpfung und die Darstellung der Natur: Buch der Ursachen (Pseudo-Apollonios von Tyana)*, Aleppo, Institute for the History of Arabic Science, University of Aleppo, 1979.

Bibliography

Anawati, George C., "L'alchimie arabe", in Roshdi Rashed (ed.), *Histoire des sciences arabes, vol. 3: Technologie, alchimie et sciences de la vie*, Paris, Seuil, 1997, pp. 111-141.

Artun, Tuna, *Hearts of gold and silver: The production of alchemical knowledge in the early modern Ottoman world*, PhD thesis, Princeton, 2013.

Ashraf, Muhammad, "List of Arabic Medical Manuscripts in the Salar Jung Oriental Library, Hyderabad", *Bulletin of the Department of the History of Medicine*, 2, 1 (1964), pp. 33-39.

Awad, Gurgis, "Arabic Manuscripts in the American Libraries", *Sumer*, 7, 2 (1951), pp. 237-277.

Brockelmann, Carl, *Geschichte der arabischen Litteratur*, 2nd ed., Leiden, Brill, 1937-1949, 2 vols. and 3 suppl. vols. [Reprint 1996.]

Carusi, Paola, "Il *Miftāḥ al-ḥikma* attribuito a Iznīqī: primi studi e interrogativi", *Rendiconti Accademia Nazionale delle Scienze detta dei XL*, s. 5, v. 32, p. 2, t. 2, Memorie di Scienze Fisiche e Naturali, 126 (2009), pp. 67-80.

Carusi, Paola, "Il trattato di filosofia alchemica *Miftāḥ al-ḥikma*, ed i suoi testimoni presso la Biblioteca Apostolica", in *Miscellanea Bibliothecae Apostolicae Vaticanae*, 9 (2002) (Studi e Testi, 409), pp. 35-84.

Dānishpazhūh, Muḥammad Taqī, *Fihrist-i nuskhahā-yi khaṭṭī-yi Kitābkhāna-yi khuṣūṣī-yi Aṣghar Mahdawī*, Tehran, Dānishgāh-i Tihrān, 1341sh/1962.

Dībājī, Ibrāhīm, *Fihrist-i nuskhahā-yi khaṭṭī-yi Kitābkhāna-yi Nūrbakhsh (Khanaqāh-i* (*Ni'matullāhī*), Tehran, Chāpkhāna-yi Firdawsī, 1350-1352sh/1972-1973, 2 vols., Intishārāt-i Khānaqāh-i Ni'matullāhī 46 and 51.

van Ess, Josef, *Theologie und Gesellschaft im 2. und 3. Jahrhundert Hidschra*, Berlin, de Gruyter, 1991-1997, 6 vols.

Gutas, Dimitri, *Greek Thought, Arabic Culture: the Graeco-Arabic Translation Movement in Baghdad and early 'Abbāsid society (2nd-4th/8th-10th centuries)*, London, Routledge, 1998.

Haq, Syed Nomanul, "Alchemical manuscripts: the specific case of corpus jabirianum", in Ibrāhīm Shabbūḥ (ed.), *The Earth and its Sciences in Islamic Manuscripts*, London, Al-Furqān Islamic Heritage Foundation, 2011, pp. 221-232.

Haq, Syed Nomanul, *Names, Natures, and Things. The Alchemist Jābir ibn Ḥayyān and his* Kitāb al-Aḥjār *(Book of Stones)*, Dordrecht, Kluwer, 1994.

Holmyard, Eric John, "Jābir ibn Ḥayyān", *Proceedings of the Royal Society of Medicine (Section of the History of Medicine)*, 16 (1923), pp. 46-57.

Jung, Carl Gustav, *Aion. Researches into the Phenomenology of the Self*, R. F. C. Hull (transl.), 2nd ed., London, Routledge and Kegan Paul, 1970. [German Original 1951.]

Kaimakis, Dimitris (ed.), *Die Kyraniden*, Meisenheim am Glan, Verlag Anton Hain, 1976.

Kraus, Paul, *Jābir ibn Ḥayyān. Contribution à l'histoire des idées scientifiques dans l'Islam*, Cairo, IFAO, 1942-1943, 2 vols., Mémoires présentés à l'Institut d'Égypte, 44-45. [Reprint Hildesheim, Olms Verlag, 1989.]

Martelli, Matteo, *Scritti alchemici con il Commentario di Sinesio*, Milano-Paris, Archè, 2011.

Martelli, Matteo, *The Four Books of Pseudo-Democritus*, L.M. Principe J.M. Rampling (eds.), Leeds, Maney Publishing, 2013 (*Ambix*, 60, suppl. 1).

Newman, William Royall, "The occult and the manifest among the alchemists", in F. Jamil Ragep et al. (eds.), *Tradition, Transmission, Transformation. Proceedings of Two Conferences on Pre-Modern Science held at the University of Oklahoma*, Leiden, Brill, 1996, pp. 173-198.

Plessner, Martin, "Beiträge zur islamischen Literaturgeschichte I: Studien zu arabischen Handschriften aus Stanbul, Konia und Damaskus", *Islamica*, 4 (1931) pp. 525-561.

Plessner, Martin, "The Place of the Turba Philosophorum in the Development of Alchemy", *Isis*, 45 (1954), pp. 331-338.

Plessner, Martin, *Vorsokratische Philosophie und griechische Alchemie in arabisch-lateinischer Überlieferung. Studien zu Text und Inhalt der Turba philosophorum*, Wiesbaden, Steiner, 1975.

Rudolph, Ulrich, "Christliche Theologie und vorsokratische Lehren in der *Turba philosophorum*", *Oriens*, 32 (1990), pp. 97-123.

Ruska, Julius, "Studien zu Muḥammad Ibn Umail al-Tamīmī's Kitāb al-Mā' al-Waraqī wa'l-Arḍ an-Najmīyah", *Isis*, 24, 2 (1936), pp. 310-342. [Reprint in Fuat Sezgin (ed.), Ibn Umayl, Abū 'Abdallāh Muḥammad (fl. c. 300/912): Texts and Studies, Frankfurt a. M., Institute for the History of Arabic-Islamic Science, 2002, Publications of the Institute for the History of Arabic-Islamic Science: Natural Sciences in Islam, 75, pp. 238-270.]

Ruska, Julius, *Turba Philosophorum. Ein Beitrag zur Geschichte der Alchemie*, Berlin, Springer, 1931. [Reprint Berlin, Springer-Verlag, 1970.]

Schullian, Dorothy May and Francis Erich Sommer, *A Catalogue of Incunabula and Manuscripts in the Army Medical Library*, New York, Henry Schuman, [1948?].

Sezgin, Fuat, *Geschichte des arabischen Schrifttums, vol. 4: Alchimie, Chemie, Botanik, Agrikultur, bis ca. 430 H.*, Leiden, Brill, 1971.

Stapleton, Henry Ernest and Muḥammad Hidāyat Ḥusain, "Muḥammad bin Umail: his date, writings, and place in alchemical history", *Memoirs of the Asiatic Society of Bengal*, 12 (1933), pp. 1-213, 117-143. [Reprint in Fuat Sezgin (ed.), Ibn Umayl, Abū 'Abdallāh Muḥammad (fl. c. 300/912): Texts and Studies, Frankfurt a. M., Institute for the History of Arabic-Islamic Science, 2002, Publications of the Institute for the History of Arabic-Islamic Science: Natural Sciences in Islam, 75, pp. 127-153.]

Strauss, Bettina, *Das Giftbuch des Šānāq: eine literaturgeschichtliche Untersuchung*, Berlin, Springer, 1934, Quellen und Studien zur Geschichte der Naturwissenschaften und der Medizin, 4, 2.

Toral-Niehoff, Isabel, *Kitāb Ǧiranis*, München, Herbert Utz Verlag, 2004.

Ullmann, Manfred, *Die Natur- und Geheimwissenschaften im Islam*, Leiden, Brill, 1972, Handbuch der Orientalistik, 1. Abt., Erg.bd. 6, 2.

Witkam, Jan Just, *Catalogue of Arabic manuscripts in the Library of the University of Leiden and other collections in the Netherlands, Fasc. 3*, Leiden, Brill, 1985, Codices manuscripti 21.

Recibido: 01/06/2015
Aceptado: 02/09/2016