

INTRODUCING GREEK ALCHEMY TO CHRISTIANITY.
INCLUSION AND EXCLUSION OF RELIGIOUS ELEMENTS IN
STEPHANUS' S *LESSONS*

LA INTRODUCCIÓN DE LA ALQUIMIA GRIEGA EN EL CRISTIANISMO.
INCLUSIÓN Y EXCLUSIÓN DE ELEMENTOS RELIGIOSOS
EN LAS *LECCIONES* DE STEPHANUS

VINCENZO CARLOTTA
UNIVERSITÀ DI BOLOGNA
vincenzo.carlotta@unibo.it

ABSTRACT

One of the most noticeable features distinguishing Byzantine works on alchemy from the earlier Greco-Egyptian alchemical tradition is the widespread presence of Christian prayers and direct references to specifically Christian ideas and beliefs. By focusing on Stephanus's *Lessons* (7th cent.),

RESUMEN

Una de las características más notables que distinguen las obras bizantinas sobre alquimia de la anterior tradición alquímica greco-egipcia es la presencia generalizada de oraciones cristianas y referencias directas a ideas y creencias específicamente cristianas. Centrándose en las *Lecciones* de Stephanus

the first alchemical work including extensive references to Christianity, the paper will explore how alchemy was Christianised in the early Byzantine period. The first part of this study will analyse the strategies adopted by the author of the *Lessons* to frame alchemy as a Christianised discipline aiming at discovering the divine principle hidden in the natural world. In the second part, the limitations of this process of Christianisation of alchemy will be pointed out by examining if and to what extent specifically Christian ideas were included in Stephanus' treatment of alchemy and its operations, and if the introduction of a Christianised framework into an alchemical work entailed the exclusion of previous non-Christian alchemical ideas. The results of this twofold analysis will show the complexity and inextricable tensions of the process of Christianisation undergone by the alchemical discipline when it started to be practiced in the socio-cultural context of the Byzantine world.

(siglo VII d.C.), la primera obra alquímica que incluye amplias referencias al cristianismo, el artículo explorará cómo se cristianizó la alquimia a principios del período bizantino. La primera parte de este estudio analizará las estrategias adoptadas por el autor de las *Lecciones* para enmarcar la alquimia como una disciplina cristianizada destinada a descubrir el principio divino oculto en el mundo natural. En la segunda parte, se señalarán las limitaciones de este proceso de cristianización de la alquimia examinando si y en qué medida se incluyeron ideas específicamente cristianas en el tratamiento de la alquimia de Stephanus y sus operaciones, y si la introducción de un marco cristianizado en un trabajo alquímico implicó la exclusión de las ideas alquímicas no cristianas anteriores. Los resultados de este doble análisis mostrarán la complejidad y las inextricables tensiones del proceso de cristianización que experimentó la disciplina alquímica cuando comenzó a practicarse en el contexto socio-cultural del mundo bizantino.

PALABRAS CLAVE

Byzantine alchemy, Christianisation, Neoplatonism, pagan wisdom, Stephanus.

KEYWORDS

Alquimia bizantina, cristianización, Neoplatonismo, sabiduría pagana, Stephanus.

Fecha de recepción: 18/02/2022

Fecha de aceptación: 25/07/2022

GREEK ALCHEMY WAS A DISCIPLINE AIMING at achieving a complete transformation of various metallic substances into silver and gold by means of practical operations. The theoretical justification of the alchemical practice was influenced considerably by the contemporary speculative framework of natural philosophy. Greek alchemists always referred to themselves as “philosophers” (φιλόσοφοι) and some of them expanded on philosophical ideas in explaining their own discipline. Moreover, religious ideas and motives were thoroughly intermingled with both practical and philosophical aspects of alchemy across the entire Greek tradition. Zosimus of Panopolis (*ca.* 300 CE) placed alchemical knowledge within a Gnostic and Hermetic framework which was enriched by many substantive influences from Judaism. From the seventh century onwards, Byzantine alchemists presented alchemical studies as an effective way to pursue a Christian form of knowledge of God. Comprising practical, philosophical, and religious elements, Greek alchemy was consistently called by its practitioners the “divine art” (ἡ θεῖα τέχνη) or the “sacred art” (ἡ ἱερὰ τέχνη).¹

In the present article I will problematise and discuss how Byzantine alchemists started to present themselves as followers of a Christian form of the study of nature, to what extent their discussion of alchemy reflects an effort to harmonise alchemical notions with Christian ideas, or, on the contrary, if the introduction of references to Christianity was determined primarily by the socio-religious context of the early Byzantine world and remained marginal to the alchemical contents of their works. I will focus on Stephanus, the first alchemist who included extensive and direct ref-

1. On the general characteristics of Byzantine alchemy and the production and circulation of anthologies of alchemical texts in Byzantium, see Mertens, 2006 and Viano, 2018a. For the analysis of the influence of Christian ideas on another Byzantine alchemical work, I am happy to refer the interested reader to Gerasimos Merianos’ article appearing in this same volume, pp. 271-321.

erences to Christianity in his alchemical work, and a few authors whose works are closely connected to Stephanus's writings.

1. FRAMING ALCHEMY AS A CHRISTIANISED DISCIPLINE

One of the earliest and most influential alchemical works of the Byzantine period is *On the Sacred and Divine Art of Gold Making* (Περὶ τῆς ἱερᾶς καὶ θείας τέχνης τῆς τοῦ χρυσοῦ ποιήσεως), which is commonly known as *Lessons* (Πράξεις) since in the manuscript tradition it is divided into nine textual units called "lessons". In the manuscripts the work is attributed to Stephanus of Alexandria, the last exponent of the Neoplatonic school of Alexandria, who was active between the end of the 6th and the beginning of the 7th cent. As the *Lessons* were written in Constantinople during the first half of the 7th cent., many scholars have accepted the traditional attribution to Stephanus of Alexandria as authentic. However, there are solid arguments to consider the *Lessons* as one of the many instances of pseudo-epigraphic attribution in the history of alchemy. For this reason, I will henceforth refer to the author of this work as pseudo-Stephanus of Alexandria, or simply Stephanus.²

The *Lessons* are structured as a commentary on quotations from authoritative alchemists of the past, especially ps.-Democritus and Zosimus of Panopolis. Stephanus's work thus follows the model already established by *On Zosimus's According to the Operation*, an alchemical work ascribed to Olympiodorus of Alexandria (6th cent.), another member of the philosophical school of Alexandria.³ The *Lessons* focus primarily on the theoretical foundation of the alchemical practice as a procedure able to transform and purify the material substrate of physical substances at the level of their elementary composition. The arguments to justify this claim are grounded on an original combination of Platonic and Aristotelian doctrines, and on Late ancient theories of natural philosophy. Stephanus also draws special attention to the rela-

2. The complete critical edition of the *Lessons* has been published in Papathanassiou, 2017. For a partial edition of the first three *Lessons* with English translation and introduction, see Taylor, 1937-1938. For the arguments in favour of an authentic attribution of the alchemical works to Stephanus of Alexandria, see Papathanassiou, 2006. Some crucial criticisms against the authenticity of this attribution are presented in Roueché, 2016.

3. The commentary on Zosimus's treatise *According to the Operation* shows a complex case of composition and textual transmission. A core commentary written by Olympiodorus of Alexandria was substantively expanded and modified by an anonymous compiler active in the early Byzantine period. See Viano, 2018b, pp. 59-61.

tionship between the movements of the celestial bodies and the transformations of sublunary substances, thus emphasising the link between alchemy and astrology.⁴

The *Lessons* are immediately connoted as a Christian work by the presence of prayers to God at the beginning and/or at the end of most of the nine treatises; a convention which was widespread in Byzantine literature. In a recent contribution, Maria Papathanassiou has analysed in detail these prayers and pointed out the religious sources used by Stephanus.⁵ Papathanassiou's study demonstrates that Stephanus relies extensively on religious literature contemporary to the composition of the *Lessons* and on earlier authoritative works of pseudo-Dionysius the Areopagite and the patristic tradition. The prayers focus on the exaltation of God's all-encompassing and ineffable wisdom and on His love for humankind. In this way, alchemy is repeatedly presented to the readers of the *Lessons* as a form of knowledge that finds its ultimate origin in God's wisdom and, as any other form of human knowledge, should be regarded as a gift from God's grace. Alchemy, therefore, is characterised in the prayers as a suitable branch of study for a Christian audience.

Stephanus's prayers contrast God's ineffable wisdom with the limited knowledge of the natural and material world acquired through alchemy. In two cases (*Lessons* I, ll. 98-103 and II, ll. 171-174), the extraordinary results of the alchemical practice are described as unworthy of wonder by contrast to God's works. Two further passages (*Lessons* V, ll. 117-122 and VIII, ll. 117-124) refer to the substances transmuted by the alchemists as intermediate results within an investigation aiming at the knowledge of the celestial substances, which are presented as the most perfect product of God's creation and ordering of the universe. These passages are the only direct references to alchemy in the prayers, which are otherwise devoid of any mention of the specific goals and operations of this art. While Stephanus's prayers normalise alchemy by presenting it as one of the many instantiations of human knowledge illuminated by God, they do not provide any information about what alchemy is and how it works. Also, the position of the prayers within the

4. On the alchemical commentaries and the influence of the philosophical tradition, see Viano, 2000. On the influence of the philosophical tradition on the *Lessons*, see Papathanassiou, 2000-2003.

5. See Papathanassiou, 2018. This study includes the Greek text with French translation of 25 texts defined as prayers. The various texts included in this selection do not all play the same role in the structure of the *Lessons* and, in my opinion, their general qualification as prayers can result sometimes confusing. In my study I label as prayers only those texts which include a clear invocation to the Trinitarian persons of God (*Lessons* I, ll. 1-7, 88-103; II, ll. 169-177; IV, ll. 1-16, 188-198; V, ll. 1-17, 117-129; VI, ll. 236-244; VII, ll. 1-6, 187-209; VIII, ll. 1-9, 125-154). The remaining passages compiled by Papathanassiou are here treated as sections showing strong religious connotations and they are presented according to their specific contents and place in the structure of the work.

structure of the *Lessons* – that is, at the beginning or the end of a textual unit – confirms that these sections play a role in providing a literary and religious framework for the work without relating directly to its specific contents.⁶

Another section framing the *Lessons* as Christian literature is the dedication of the work to the Byzantine emperor Heraclius (r. 610-641). At the beginning of the ninth book (*Lessons* IX, ll. 1-34), Stephanus praises God as the all-powerful ruler of the universe and the emperor as His counterpart on Earth. This long section dwells on the idea that everything attainable by humans is first and foremost accessible to their supreme ruler, who is – for the author of the *Lessons* – Heraclius. Every form of knowledge is also intended primarily for the emperor, and, on this premise, Stephanus declares that:

(Text 1) “Once again, I will go back to what I have already said and fulfil your desire, excellent emperor. I will make my words entirely clear, so that you might deem worthy such desire to express in hymns God’s goodness beyond goodness, as you have rejected the multiplicity of material (substances) and are urged by the firmness of (your) passion.”⁷

Alchemy, which teaches how to produce a unique operative substance from various and diverse ingredients, is here presented as a form of rejection of the multiplicity inherent in the material world and opposed to the simplicity of the divine. Accordingly, the study of alchemy and the praise of God’s goodness and wisdom are linked together, following a model of justification of alchemy already established in the prayers included in the *Lessons*. Moreover, as the emperor is praised as God’s closest image on Earth, his claimed desire to learn about alchemy demonstrates the utmost importance of this discipline for Christian intellectual circles. In this context, alchemy is presented as an essentially Christian form of knowledge in order to receive imperial patronage, and in turn the emperor’s alleged interest in the discipline corroborates the Christian character of the alchemical studies.⁸

6. See Papathanassiou, 1996, especially p. 253.

7. Ps.-Stephanus of Alexandria, *Lessons* IX, ll. 30-34 (Papathanassiou, 2017): πάλιν ἐπὶ τὸ προκείμενον ἐπανελεύσομαι καὶ τὸν πόθον σου, ὦ πανάριστε βασιλεῦ, ἀναπληρώσω· καὶ ἐπιφανῶς τὰς ῥήσεις ποιήσομαι, ἵνα τοσοῦτον ἔρᾶν ἀξιωθῆς μεθ’ ὑμνωδίας θεολογεῖν τὴν ὑπεράγαθον τοῦ θεοῦ ἀγαθότητα, τὴν πολυπληθεῖαν τῶν ἐνύλων ἀπωσάμενος καὶ ὑπὸ τῆς εὐσπλαχνίας τοῦ πάθους ἐπιειγόμενος.

8. Scholars have interpreted the dedication of the *Lessons* to Heraclius as proof of the authenticity of its attribution to Stephanus of Alexandria; see at least Papathanassiou, 2006, pp. 163-165. However, Roueché has shown that there is no substantial evidence that Stephanus of Alexandria was ever at the imperial court in Constantinople or even active during Heraclius’s reign; see Roueché, 2016, pp. 541-556. Moreover, many alchemical works were attributed or dedicated to rulers in order to legitimise their

Biblical references and terminology are also incorporated in the discussion of alchemical problems and operations throughout the *Lessons*. In all these cases, though, terminology directly related to the Christian faith is used almost exclusively to praise the achievements of the ancient alchemists and the value of the challenges faced by their interpreters. An exemplary case is provided by the beginning of the first treatise of the *Lessons*: an opening invocation to God's guidance in writing the book (I, ll. 1-7) is followed by the enunciation of ps.-Democritus's famous saying about nature⁹ and a long series of rhetorical exclamations introducing the main alchemical notions that the author will discuss in the *Lessons* (I, ll. 8-40). Then, Stephanus introduces a loose quotation from ps.-Democritus's *Natural and Secret Questions* and addresses his readers as follows:

(Text 2) "To you who think wisely, I dedicate this great gift, to you who dress yourselves in virtue, adorned with the theoretical practice and established in the practical theory. [...] I am grateful for the grace of the illumination from above, which is bestowed to us by the Father of lights. Hear you, intellects equal to the angels! Set aside the material theory so that you might be deemed worthy to see the hidden secret with your intellectual eyes".¹⁰

Stephanus's audience is praised for their moral qualities and for their expertise in both practical and theoretical aspects of alchemy. The moral requirements set for the practitioners of alchemy imply that alchemy should be attainable only by people whose life is guided by virtue (ἀρετή). This moral qualification of the alchemists, though, do not replace the intellectual conditions attached to the theoretical study of the natural world and the expertise in the practice of alchemical operations. Moreover, as this passage follows immediately a quotation from ps.-Democritus, its

contents. In particular, three lost alchemical treatises were attributed to Heraclius himself; see CMAG, vol. 2, p. 20. The importance of the link between alchemy and ruling power in Byzantine culture is still evident in the 15th-cent. praise of alchemy written by John Kanaboutzes, see Sakorrafou & Merianos, 2014.

9. Ps.-Democritus, *Natural and Secret Questions*, ll. 61-63 (Martelli, 2014): ἡ φύσις τῆ φύσει τέρπεται, καὶ ἡ φύσις τὴν φύσιν νικᾷ, καὶ ἡ φύσις τὴν φύσιν κρατεῖ ("nature delights in nature, nature conquers nature, nature masters nature").

10. Ps.-Stephanus of Alexandria, *Lessons* I, ll. 42-50 Parathanassiou: ὑμῖν τοῖς εὖ φρονοῦσιν ἀνατίθημι τὸ μέγα τοῦτο δῶρον, τοῖς τὴν ἀρετὴν ἠμφιεσμένοις, τοῖς θεωρητικῆ πράξει κεκοσμημένοις καὶ πρακτικὴν θεωρίαν ἐνιδρυμένοις. [...] ὁμολογῶ τῆς ἀνωθεν φωτοδοσίας τὴν χάριν, ἢ παρὰ τοῦ πατρὸς τῶν φῶτων ἡμῖν δεδῶρηται. ἀκούσατε ὡς ἰσάγγελοι νόες. ἀπόθεσθε τὴν ὑλῶδη θεωρίαν, ὅπως τοῖς νοεροῖς ὑμῶν ὀφθαλμοῖς ἰδεῖν ἀξίωθῆτε τὸ ἀποκεκρυμμένον μυστήριον. The passage quoted before this text is based on ps.-Democritus, *Natural and Secret Questions*, ll. 223-229 (Martelli, 2014).

religious connotations justify implicitly why a Christian readership should continue to take into consideration the pagan alchemists who are commented by Stephanus as authoritative sources for the study of this discipline.

Another example of the same strategy can be pointed out at the beginning of the fourth book of the *Lessons*. The opening prayer (IV, ll. 1-16) is followed by a reference to the alchemical knowledge handed down by the ancient authors:

(Text 3) “Thus, we must break down the (arguments) entangled in various metaphors by ancient and virtuous men, and unveil the sparks (of knowledge) in their writings. Thanks to the love for us (coming) from above, (we must) examine, uncover, and bring to light such concealed secret”.¹¹

After further exhortations to study ps.-Democritus’s works (IV, ll. 22-28) and before presenting and commenting on a quotation that Stephanus ascribes to him (IV, ll. 35 ff.),¹² the audience of the *Lessons* is addressed directly:

(Text 4) “Yet, o sacred flock and lovers of wisdom, may those who desire to find this (knowledge) struggle for the intellectual contemplation of God through the adornment of virtues in themselves. And may they irrigate themselves with a great river of tears, as they are set firmly in faith, humility, and love of God, so that nothing of the material (world) might surprise or marvel you, except for God who loves us”.¹³

The alchemists of the past and, also in this case, ps.-Democritus are described as “ancient and virtuous men” who transmitted their knowledge of alchemy in a secretive way. The possibility to gain access to this secret knowledge is subordinated to God’s grace illuminating the understanding and interpretation of the works of

11. Ps.-Stephanus of Alexandria, *Lessons* IV, ll. 17-21 (Parathanassiou, 2017): δέον οὖν ἡμῖν ἐστί, τὰ παρὰ τῶν ἀρχαίων καὶ ἐναρέτων ἀνδρῶν ἀλληγορικῶς καὶ ποικίλως ἐμπελεγμένα ἀνασκεύασαι, καὶ τοὺς αὐτῶν σπινθήρα ἐν τοῖς τούτων συγγράμμασιν ἀναγυμνῶσαι· διὰ τῆς ἄνωθεν ἡμῖν χάριτος ζητῆσαι τε καὶ ἀνακαλύψαι καὶ ἀναφάναι τὸ τοιοῦτον ἀποκεκρυμμένον μυστήριον.

12. Stephanus here ascribes to ps.-Democritus the famous alchemical saying “the All is One, through which All is” (*Lessons* IV, l. 36: “Ἐν τὸ πᾶν, δι’ οὗ τὸ πᾶν”). This passage cannot be found in ps.-Democritus’s works, but the same quotation is ascribed by Greek alchemists to various ancient authors, such as Chymes or Hermes. See Mertens, 1995, pp. 180-183, n. 1.

13. Ps.-Stephanus of Alexandria, *Lessons* IV, ll. 29-34 (Parathanassiou, 2017): ἀλλ’ ὃ ἱερά ποιμνη καὶ σοφίας ἐρασταί, οἱ τοῦτο εὐρεῖν βουλόμενοι τῇ πρὸς τὸν θεὸν ἐννοήσει διὰ τῆς τῶν ἀρετῶν ἐπικοσμήσεως ἐν ἑαυτοῖς ἀγωνιζέσθωσαν, καὶ τῇ πολλῇ ῥοῇ τῶν δακρῶν ἑαυτοὺς ἀρδευέτωσαν, ἐν πίστει καὶ ταπεινοφροσύνῃ καὶ ἀγάπῃ θεοῦ στηριζόμενοι, ἵνα μηδὲν τῶν ἐνύλων ὑμᾶς ξενίσῃ καὶ θαυμάσῃ, πλὴν τοῦ ἀγαπήσαντος ἡμᾶς θεοῦ.

ancient alchemists. As at the beginning of the first treatise of the *Lessons* (text 2), the author recommends the pursuit of virtue as a condition to obtain alchemical knowledge, but in this case (text 4) he specifies this moral requirement as a well-established practice of “faith” (πίστις), “humility” (ταπεινοφροσύνη), and “love of God” (ἀγάπη Θεοῦ). Stephanus does not address his work to alchemists who are generically virtuous, but to people embracing specifically Christian virtues. As in text 3, the pagan alchemists of the past are also presented as “virtuous” (ἐνάρετοι), their moral characterization results inevitably influenced by Stephanus’s praise of the Christian virtues of his audience. Ps.-Democritus, in particular, is described also in the second treatise of the *Lessons* as a guide for all practitioners of alchemy because he was “the most outstanding (person) and advisor of all virtue”.¹⁴ Stephanus never portrays as Christian either ps.-Democritus or any other pagan alchemists he quotes and comments on, such as Hermes or Agathodaemon. Nonetheless, the inclusion of sections praising the Christian virtues of Stephanus’s audience in close connection to quotations from his pagan sources, who are also describes as eminently “virtuous”, produces a conflation of these two sets of virtues and Christianises these pagan authors inasmuch as their works guide the study of alchemy carried out by Stephanus and the Christian readers of his work.

2. RELIGIOUS ELEMENTS IN PS.-STEPHANUS OF ALEXANDRIA’S DISCUSSION OF ALCHEMY

Stephanus’s prayers and exhortations to the practice of alchemy clearly frame the *Lessons* as a Christian work addressed to a Christian readership. However, it remains unclear from the passages discussed above if the specific contents of alchemy could acquire a religious value to their readership and whether Stephanus incorporates Christian elements in his discussion of alchemical problems and operations. These questions are crucial to assess whether Stephanus construed alchemy as a specifically Christian discipline carrying intrinsic religious connotations, although it was based on mostly pagan sources, or whether the *Lessons* simply provided a Christian framework to a discipline which was originally alien to Christianity and did not incorporate any distinctively Christian idea into its core contents.

References to God and the divine connotation of the alchemical practice are found in many passages serving a programmatic function in the structure of the *Les-*

14. Ps.-Stephanus of Alexandria, *Lessons* II, l. 115 (Papathanassiou, 2017): ὁ ἐξοχώτατος καὶ πάσης ἀρετῆς σύμβουλος.

sons. These passages deal with the general characteristics of alchemy and clarify the divine features of the “divine and sacred art”, as alchemy was called by Stephanus. At the beginning of the third treatise, the so-called *Letter to Theodorus*, Stephanus expands on a distinction between legendary (μυθική) and secret (μυστική) alchemy which was briefly introduced by ps.-Democritus. He defines these two kinds of alchemy as follows:

(Text 5) “The legendary alchemy is engulfed by a multitude of words, but the secret alchemy is operated in accordance with the word [*logos*] of the creation [*dēmiourgia*] of the world. Hence, the man who is holy [*theophrōn*] and born of God [*theogenēs*] may learn about the enmattered world by direct operation and by theological and secret words”.¹⁵

While “legendary alchemy” remains unintelligible as it is expressed by obscure terms unrelated to the natural world, “secret alchemy” can be understood because of its consistency with the *logos* of the divine creation and ordering of the universe. Since alchemy cannot be studied only through “direct operation”, but also requires a correct understanding of the divine order of the world, Stephanus affirms that the alchemist must be a person who is “holy”, or more precisely “godly-minded”, and “born of God”. These two terms, despite not being very common in Byzantine sources, seem to offer a characterisation of the ideal alchemist as a devout Christian. The expression “the word of the creation of the world”, however, includes terms such as *logos* and *dēmiourgia* that can certainly be found in Christian literature of the Byzantine period, but are also distinctively Platonic within the philosophical tradition.

In another famous passage from the sixth treatise of the *Lessons* which discusses how alchemy is related to the study of nature, Stephanus claims:

(Text 6) “There is a close affinity among theoretical principles, especially between God and the philosophic soul. What is, indeed, philosophy if not the assimilation to God according to our potential as humans? [...] For such a man [*i.e.*, having a philosophic soul] – as he can observe and recognize the works of nature – questions the theories on all of them by scrutinising every nature and the proportional blending of the substances blended together. When he analyses intellectually the entangled substances and their countless compositions, he establishes the abovementioned entanglement according to

15. Ps.-Stephanus of Alexandria, *Lessons* III, ll. 22-24 (Papathanassiou, 2017): ἡ μὲν μυθικὴ πολυπληθὴς λόγων συγχέεται, ἡ δὲ μυστικὴ λόγῳ δημιουργίας κόσμου μεθοδεύεται, ἵνα ὁ θεόφρων καὶ ὁ θεογενὴς ἄνθρωπος διὰ τῆς εὐθείας ἐργασίας καὶ θεολογιῶν καὶ μυστικῶν λόγων μάθῃ. The distinction is first introduced in ps.-Democritus, *Natural and Secret Questions*, ll. 168-169 (Martelli, 2014).

the art (*i.e.*, alchemy), and he brings this relation to a unity which is the image of the One [*eis henoeidē monada*]. In this respect, he will clearly ensure theoretical and diagnostic exactness. For the many-coloured blossoming of the bodies [*i.e.*, the alchemical transmutation] marks the fulfilment of what has been described well and in depth”.¹⁶

The “philosophic soul” is here presented as the main quality characterizing the alchemist. Stephanus explains the relationship between God and the “philosophic soul” by referring to the famous definition of philosophy as “assimilation to God”, as it was formulated in Plato’s *Theaetetus* (172c-177c). The highest understanding of natural substances required to the alchemist in order to transmute them successfully is described as an understanding of nature like “a unity which is image of the One”, and also as a “theoretical and diagnostic exactness”. While the former expression is connoted by a distinctively Platonic terminology, the latter is grounded on the Late ancient commentary tradition on Aristotle.¹⁷ Thus, Stephanus’s most detailed treatment of the fundamental characteristics of the alchemical study of nature can be fully grasped only within the Neoplatonic and Aristotelian philosophical tradition of Late antiquity. By the seventh century, the Platonic idea of assimilation to God, as well as most of the philosophical vocabulary about “unity” and the “One”, had already been adapted and fully incorporated in the Christian theological literature. While the passage remains grounded on the philosophical debate of Stephanus’s time, its language also reflects the high degree of harmonisation between philosophical speculation and Christian thought achieved by the Christian philosophers of the 6th and 7th centuries.¹⁸

The final sentence of text 6 presents the practice of alchemical transmutation as a form of certification of a correct theoretical understanding of the natural world. Like in the *Letter to Theodorus* (text 5), Stephanus emphasises that the study of nature entails a form of communion of the alchemist with God as the divine principle governing the world. At the same time, though, the alchemist must complement this theoretical study with operations capable of bringing about specific transformations

16. Ps.-Stephanus of Alexandria, *Lessons VI*, ll. 33-45 (Papathanassiou, 2017): πολλήν οὖν συγγένειαν ἔχει τῶν θεωρημάτων, μάλιστα τοῦ Θεοῦ πρὸς φιλόσοφον ψυχὴν. τί γὰρ ἐστὶ φιλοσοφία, ἀλλ’ ἢ ὁμοίως Θεῷ κατὰ τὸ δυνατόν ἀνθρώπου; [...] τότε γὰρ ὁ τοιοῦτος θεωρητικὸς ὦν καὶ καταληπτικὸς τῶν τῆς φύσεως πραγμάτων, ἀνακρίνει πάντων τὰς θεωρίας, πᾶσαν μὲν ἐξετάζων φύσιν καὶ ἀναλόγως αὐτῶν συγκρινῶν τὴν σύγκρασιν· τὰς τε ἐμπλοκάς καὶ μυρίας αὐτῶν συνθέσεις νοητικῶς ἀναλύων, καὶ τὴν εἰρημένην ἐντέχνως κατασκευάζει περιπλοκὴν, καὶ εἰς ἐνοειδῆ μονάδα περισυνάγει τὴν σύναψιν. εἴσεται δὲ σαφῶς ἐν αὐταῖς τὴν θεωρητικὴν καὶ διαγνωστικὴν ἀκρίβειαν. αἱ γὰρ τῶν σωμάτων ποικιλόχροοι ἐξανθήσεις σημαίνουσι τὰς τῶν ἐν βᾶθει καλῶς διηγουμένων πληρώσεις.

17. See especially Viano, 1996.

18. See Papathanassiou, 2000-2003.

of the natural substances. While Stephanus claims that both theory and practice of alchemy depend ultimately on the divine illumination of the alchemist's intellect, text 6 defines the theoretical study of nature as a philosophical endeavour based on the analysis of the various natural substances and their reciprocal interactions. As for the practice of alchemy, the specific operations are discussed throughout the *Lessons* in the form of a commentary on authoritative alchemical sources. The exegesis of each text is based primarily on quotations from other passages by the same author who is commented on, or from other Greek alchemists. Alternatively, Stephanus offers interpretations of alchemical operations based on his original treatment of philosophical theories about natural substances, or on other disciplines conceived of as similar to alchemy, such as medicine and pharmacology.¹⁹

Although the study of alchemy is ultimately directed to the knowledge of God through nature, the theoretical issues of alchemy remain firmly grounded on the Neoplatonic and Aristotelian tradition of natural philosophy, while its practical operations are discussed within the context of the earlier alchemical tradition. The principles enunciated by Stephanus in these programmatic sections (texts 5 and 6) are followed in the argumentative structure of the *Lessons* and do not imply any direct influence of religious, or specifically Christian, ideas on the theoretical and practical contents of alchemy. There are, however, two topics discussed in the *Lessons* which could show some influence of Christian ideas on the alchemical contents of Stephanus's work: 1) the commentary on the riddle of the word having nine letters and four syllables, and 2) the treatment of the separation of the soul of the natural substances from their body. These two cases will be analysed closely to evaluate the validity of the model established above and its possible limitations.

2.1. FIRST CASE-STUDY

Stephanus devotes much of the sixth treatise of the *Lessons* to the commentary on the riddle of the word having nine letters and four syllables (*Lessons* VI, ll. 56-235). The riddle is also attested in the first book of the *Sibylline Oracles*; this book is a Late Antique account of the history of the world compiled by a Christian author who harmonised elements of Greek mythology with the Biblical account.²⁰ The riddle, whose solution

19. See Papathanassiou, 1990.

20. Ps.-Stephanus of Alexandria, *Lessons* VI, 50-55 (Papathanassiou, 2017): ἐννέα γράμματα ἔχω, τετρασύλλαβός εἰμι, νόμι με· αἱ πρῶται δύο γράμματα ἔχουσιν ἐκάστη, ἡ λοιπὴ δὲ τὰ λοιπά, καὶ εἰσιν ἄφωνα τὰ πέντε. τοῦ παντὸς δὲ ἀριθμοῦ ἑκατοντάδες εἰσι δις ὀκτώ καὶ τρεῖς τρισκαιδεκάδες καὶ τέσσαρες. γνοῦς δὲ τίς εἰμι, οὐκ ἀμήτορος ἔση τῆς παρ' ἐμοῦ ὠφελείας ("I have nine letters, I am four-

remains unclear, is supposed to reveal God's name and is spoken directly by God to Noah. However, an almost identical version of the riddle can also be read in the monumental funerary inscription of a certain Diliporis (Διλίπορις) from Bithynia (2nd-3rd cent. CE), where it refers to the name of the deceased.²¹ In the alchemical tradition, the riddle of the word having nine letters is first mentioned by Zosimus of Panopolis to signify the name of the herald of the "deceiving daemon" (ὁ ἀντίμιμος δαίμων). In an account of salvation showing significant Gnostic and Judeo-Christian influences, Zosimus claims that the herald of the Antichrist will fascinate humankind with tales about Destiny, and indeed the solution to the riddle proposed by Zosimus seems to be the word "destiny" (εἰμαρμένη).²² The riddle is also briefly mentioned by Olympiodorus, who claims that the washing of a certain muddy earth produces a mineral substance which was called by the ancient alchemists "litharge" (λιθάργυρος) and the consideration of this substance should lead to the solution of the riddle.²³ The Byzantine anthologies of alchemical works also preserve a work entitled *Riddle of the Philosophers' Stone by Hermes and Agathodaemon*, but it is an excerpt from Stephanus's sixth book of the *Lessons*.²⁴ It is clear that the riddle of the word having nine letters and four syllables exerted a great fascination on the Greek alchemists, but it conveyed varying religious connotations. In Zosimus's case, the riddle receives a Gnostic interpretation. Olympiodorus's mention of it is too scanty to draw any precise conclusion, but it is clear that he linked the interpretation of the riddle to the wisdom of ancient alchemists, especially of Zosimus

syllabled: understand me! The first (three) syllables have two letters each, while the remaining (syllable) has the remaining (letters), and five (letters) are consonants. In their total number, the hundreds are twice eight, and (there are) three times thirteen, and four. Know who I am! You shall not be uninitiated anymore thanks to my help!"). See also *Sibylline Oracles*, p. 12, l.141 – p. 13, l. 146 (Geffcken, 1902). The two texts are almost identical with minor differences due primarily to the hexametric prosody of the *Sibylline Oracles*, which is not present in the prose of the *Lessons*. The dating of the *Sibylline Oracles* is extremely uncertain. Most scholars place its last revision around the 6th cent. CE, but it compiles earlier Jewish and Christian sources. The first book was certainly revised after 70 CE, as it correctly dates to that year the destruction of the Second Temple of Jerusalem; see Lightfoot, 2007.

21. See IK 9 / 10.1232 from Akçakaya / Geyve. The possible relationship between this inscription and the Judeo-Christian tradition of the *Sibylline Oracles* remains unclear. See Graef, 1892; see also Corsten, 2006.

22. See Zosimus of Panopolis, *Authentic Memoires* I, ll. 133-145 (Mertens, 1995), especially ll. 143-145. See also Mertens, 1995, pp. 106-109, n. 93.

23. See Olympiodorus alch., *On Zosimus's According to the Operation*, in CAAG, p. 71 ll. 1-11, especially ll. 10-11.

24. See CAAG, vol. 3, p. 267, l. 16 – p. 268, l. 2. Berthelot and Ruelle published just the title and the beginning of the work, but in codex *Parisinus graecus* 2327 the full text starts at fol. 234r and ends at fol. 237r.

and Maria. The treatise *Riddle of the Philosophers' Stone*, despite being an excerpt from Stephanus's work, shows that during the Byzantine period the riddle was also attributed to Hermes and Agathodaemon, two pagan authors of the alchemical tradition.

In the sixth treatise of the *Lessons*, the riddle is introduced as “the problem of the wisest intellect”²⁵ and, after its enunciation, the commentary begins as follows:

(Text 7) “The abyss [*abyssos*] is beyond measure! The word surpasses any calculation! The question is profound! So, you will show the merits of your crown. So, you will show the works of nature. You will show, o wisest person, how we can examine the precise sight of the depth, so that we can reach the maximum depth of such great measure; how the four-syllabled (word) with nine letters puts forward this knowledge”.²⁶

Later on, Stephanus adds:

(Text 8) “O question (object) of the teaching, which bears the signs of the whole wisdom! You want that we live – by means of our intellect and knowledge – a higher (kind of) life and theory, and you give more and more evidence of (our) intimacy with God”.²⁷

Stephanus's entire commentary on the riddle is a complex intertwining of arithmetical considerations on the numerical values mentioned in the riddle, philosophical discussion of the relationship between these numbers and the principles of natural philosophy, and, in the last part of the book, comparisons with other processes taking place in the natural world, such as the generation of a human child, the digestion and excretion of food, the formation of stones and fruits, and the produc-

25. Ps.-Stephanus of Alexandria, *Lessons* VI, l. 50 (Papathanassiou, 2017): τῆς σοφωτάτης ἐννοίας τὸ πρόβλημα.

26. Ps.-Stephanus of Alexandria, *Lessons* VI, ll. 56-60 (Papathanassiou, 2017): ἀμέτρητος ἡ ἄβυσσος· τὸ ῥηθὲν ὑπερβαίνει λογισμόν· βαθὺ τὸ ἐρώτημα. ὦδε δεῖξον τοῦ σοῦ στεφάνου τὸν ἔπαινον. ὦδε δεῖξον τὰ τῆς φύσεως ἔργα. δεῖξον, ὦ σοφώτατε, πῶς τὴν τοῦ βᾶθους σκοπήσωμεν διοπτίαν, ἵνα τοῦ τοιοῦτου μέτρον τὸ βαθύτατον καταφθάσωμεν; πῶς τοῖς ἐννέα γράμμασι προβάλλει τὸ τετρασύλλαβον τοῦτο νόημα; It can be noted that the Greek word for “crown” is “*stephanos*”, therefore the praise of the crown is a word-play about the merits of Stephanus's own work. Also, Papathanassiou renders the punctuation of a series of direct interrogative clauses, but I think that the Greek pronoun denoting direct questions (“*pōs*”, that is “how?”) is here used in a series of indirect interrogative clauses to emphasise Stephanus's exhortation to his audience. The English translation follows my reading of the grammatical structure of the text.

27. Ps.-Stephanus of Alexandria, *Lessons* VI, ll. 83-85 (Papathanassiou, 2017): ὦ διδασκαλίας ἐρώτημα, πάσης σοφίας ἔχον τὰ σύμβολα! νοερώς ἡμᾶς καὶ ἐπιστημονικῶς θέλει ζῆν ὑπερτέραν ζωὴν καὶ θεωρίαν, καὶ οἰκειότητα πρὸς Θεὸν μᾶλλον μαρτυρεῖ.

tion of bread and bricks. While the two former topics are mostly based on Neoplatonic sources, the latter depends primarily on Aristotelian natural philosophy. This concluding section is introduced as follows:

(Text 9) “As I have explained the whole power of the secret, I shall cover the rest by bringing forward also the most natural theory [*i.e.* the theories more immediately linked to the natural world]. In this way, when also (our) young sons have tasted the sweets of this (theory), have sucked milk from the breast of wisdom, and have been reared up well, they may advance to the higher [notions], can penetrate through the entrance of the vestibule, and see the secrets emerging from the sanctuary. As they figure out the great works of the Almighty and (His) so-vast glory, may they celebrate God’s wisdom beyond the abyss [*hyperabysson*].”²⁸

Stephanus declares that, by commenting on the riddle, his teachings can introduce to a higher knowledge of God (text 8) and show to beginner alchemists (“(our) young sons”) how the study of nature leads to the veneration of God’s works (text 9). The commentary on the riddle, therefore, is closely linked to the religious implications of the study of alchemy. The beginning of the commentary (text 7) presents the riddle as “the abyss beyond measure” (ἀμέτρητος ἡ ἄβυσσος), while in text 9 God’s wisdom is qualified as “beyond the abyss” (ὑπεράβυσσος). As Maria Papathanassiou pointed out, Stephanus takes the image of the abyss to describe God’s ineffable wisdom from Paul (*Epistle to the Romans* 11,33) and the patristic tradition.²⁹ Mentions of the abyss are present in some of Stephanus prayers (*Lessons* I, l. 96; V, l. 2; VII, ll. 15-16) and in the dedication to Heraclius (*Lessons* IX, l. 24). Accordingly, the riddle of the word having nine letters and four syllables is directly linked by Stephanus to the abyss of God’s wisdom. Among the possible sources of the riddle, Stephanus seems to depend primarily on the *Sibylline Oracles*, where the riddle is spoken by God to signify His name. The commentary of the sixth book of the *Lessons*, therefore, is the only case in which Stephanus exposes his alchemical teachings by commenting on a passage which is not taken from the earlier alchemical works, but from a Christianised account of the history of the world.

28. Ps.-Stephanus of Alexandria, *Lessons* VI, ll. 176-183 (Papathanassiou, 2017): ὅλην οὖν τοῦ μυστηρίου περιφράσας τὴν δύναμιν, μετελεύσομαι λοιπὸν καὶ φυσικωτάτην φέρων θεωρίαν, ἵνα καὶ νεαροὶ παῖδες γευσάμενοι τῆς αὐτῆς γλυκασίας καὶ τῶν τῆς σοφίας μαζῶν γάλα ἐκθηλάσαντες καὶ καλῶς ἐτραφέντες ἐπὶ τὰ κρείττω προβῶσι καὶ εἰσελθεῖν δυνέσωνται εἰς τὰ τῶν προαυλίων προπύλαια καὶ τῶν ἀδύτων προανακύψαντες τὰ μυστήρια ἰδεῖν δυνηθῶσι, τὰ μεγαλεῖα τοῦ παντοκράτορος καὶ τὴν τοσαύτην δόξαν ἐκπλαγέντες, ὑμνήσωσι τὴν ὑπεράβυσσος τοῦ Θεοῦ σοφίαν.

29. See Papathanassiou, 2018, p. 75.

The commentary on the riddle could suggest, at first glance, that Stephanus not only used religious sources to present alchemy as a fully Christianised discipline, but he also incorporated religious elements in his discussion of alchemy. However, there are a few considerations that advise caution in drawing this conclusion. First, the *Sibylline Oracles*, despite being a largely Christianised work, are the alleged account of the prophecies spoken by the pagan Sibyls, whose authority is invoked to establish the value of the work. When Stephanus quotes from the *Sibylline Oracles*, he introduces a Judeo-Christian text whose contents were presented as originating from pagan wisdom. Second, Stephanus's commentary on the riddle consists of arithmological and philosophical notions deeply grounded in the Aristotelian and, especially, Neoplatonic philosophical tradition. The riddle itself is used by the author of the *Lessons* as a source of inspiration for alchemical knowledge, but the contents of this knowledge are primarily provided by Stephanus's philosophical sources. Third, earlier authoritative alchemists, such as Zosimus and Olympiodorus, previously referred to the riddle of the word having nine letters. In the case of Zosimus, in particular, the riddle is discussed within a religious context, but shows clearly Gnostic connotation. In the *Lessons*, the interpretation of the riddle is framed within a clearly Christian context, but the riddle itself was already relevant for the alchemical tradition besides its specific religious significance. This is confirmed by the treatise *Riddle of the Philosophers' Stone by Hermes and Agathodaemon*: in that case, a Byzantine compiler extrapolated sections of Stephanus's commentary and presented them as an interpretation of a riddle attributed to two pagan alchemists.

At the beginning of the seventh book of the *Lessons*, the opening prayer (*Lessons* VII, ll. 1-6) is followed by an introduction about the centrality of God's wisdom and illumination for the study of alchemy (*Lessons* VII, ll. 7-24). Then, Stephanus states:

(Text 10) "May we have come to what I have already said. May we have learnt the riddles of the philosopher, so that we can have intellection of how deep the abyss of wisdom is. Why are there people who pretend to do philosophy, but do not possess the works of philosophy, people who also seek the virtue of this one configuration while their god is their belly, who also look to the transient opinion, who are unready and careless, who do not wholly desire to walk in the trace of virtue? People of this sort are blind and uneducated: for they say that making gold is an operation hard to manage, because they operate without reason. How can they say that making gold is hard to manage? Learn and know that there is nothing hard to manage for wisdom: indeed, wisdom can everything. For the same (wisdom) looks clearly at invisible things and it can do impossible things. And how can those who (only) imagine gold say that making gold is an operation hard

to manage? Haven't you listened to the philosopher himself [*i.e.* ps.-Democritus] saying that it is indeed easy to manage?"³⁰

In this passage, the image of the abyss of God's wisdom is directly linked to "the riddles of the philosopher". Since the entire treatise focusses primarily on the interpretation of quotations from ps.-Democritus,³¹ and Stephanus usually refers to him as the philosopher *par excellence* (one of many examples appears also at the end of this passage), the expression "riddles of the philosophers" alludes here to ps.-Democritus's alchemical teachings. The unworthy alchemists are those who carry out alchemical operations without the necessary theoretical foundations and lack the virtues required to the ideal alchemists. In response to this position, Stephanus reiterates the utmost importance of wisdom as guidance in the study and practice of alchemy, but in this case any allusion to God's wisdom is undistinguishable from the reference to the wisdom of ancient alchemists. The closing quotation from ps.-Democritus's *Natural and Secret Questions* marks the beginning of the commentary on passages from the same work. The resulting structure of the introduction to the seventh book suggests that the same kind of divine wisdom is conveyed by the most authoritative works of the alchemical tradition and by the riddle commented in the sixth book of the *Lessons*. Although the quotation from the *Sibylline Oracles* comes from a Christianised source, it does not receive any special treatment in comparison to ps.-Democritus's pagan works. Clearly, the importance ascribed by Stephanus to a specific source of alchemical knowledge does not depend on its religious contents, but on Stephanus's ability to frame that source as a work leading to a better understanding of the agency of God's wisdom in the natural world.

30. Ps.-Stephanus of Alexandria, *Lessons* VII, 25-38 (Papathanassiou, 2017): ἔλθωμεν ἐπὶ τὸ προκειμένον. μάθωμεν τοῦ φιλοσόφου τὰ αἰνίγματα, ἵνα δυναθῶμεν νοῆσαι πηλίκη ἐστὶν ἡ τῆς σοφίας ἄβυσσος. τί δὲ οἱ δοκοῦντες φιλοσοφεῖν, ἔργα δὲ φιλοσοφίας μὴ ἔχοντες, οἱ καὶ τὴν ἀρετὴν τοῦ σχήματος ἐνὸς τούτου μετερχόμενοι, ὧν ὁ θεὸς μὲν αὐτῶν ἡ κοιλία, οἱ καὶ τὴν πρόσκαιρος ἀποσκοποῦντες δόξαν, οἱ ὀκνηροὶ καὶ ῥάθυμοι, οἱ μὴ τε ὄλως κατ' ἴχνος ἀρετῆς βαδισαὶ ἐθέλοντες; ἀνόμματοι οἱ τοιοῦτοι καὶ ἀπαιδεῦτοι· λέγουσι γάρ, ὅτι δυσχερὲς πρᾶγμα ποιῆσαι χρυσόν, οἱ ἀλόγως ποιοῦντες. πῶς λέγουσι, ὅτι δυσχερὲς ἐστὶ τὸ ποιῆσαι χρυσόν; μάθετε καὶ γνῶτε, ὅτι οὐδὲν τῇ σοφίᾳ δυσχερὲς· πάντα γὰρ ἡ σοφία δύναται. αὐτὴ γὰρ τὰ ἀθεώρητα προφανῶς βλέπει καὶ ἀδύνατα δύναται. καὶ πῶς οἱ τὸν χρυσὸν φανταζόμενοι λέγουσι, ὅτι δυσχερὲς πρᾶγμα ποιῆσαι χρυσόν; ἄρα οὐκ ἤκουσας αὐτοῦ τοῦ φιλοσόφου λέγοντος, ὅτι πᾶρ ἐστὶν εὐχερὲς;

31. For example, the quotation at the end of text 10, which describes alchemy as an operation "easy to manage" ("εὐχερὲς"), is followed by a reference to *molybdochalkon* losing its liquidity (see *Lessons*, VII, ll. 50-51). Both passages are taken from ps.-Democritus, *Natural and Secret Questions*, ll. 117-131 (Martelli, 2014).

2.2. SECOND CASE-STUDY

A second topic showing the possible influence of Christian ideas on the *Lessons* is Stephanus's treatment of the separation of the "spirit" (πνεῦμα) or "soul" (ψυχή) of a natural substance from its "body" (σῶμα). The idea that natural substances have a soul and a body, and the former can be separated from the latter and combined with another body is present in many Greek alchemical works. One of its earliest and most detailed formulations can be traced back to Zosimus of Panopolis, who employs this image to explain various alchemical processes of distillation or sublimation. According to Zosimus, the soul of a substance has a colouring power and can retain it after the destruction of its body. When this soul is combined to a different body, it produces a change in colour, which leads to the complete transmutation of a substance into another. Commenting on Zosimus and other authors of the alchemical tradition, Stephanus seeks to explain the characteristics of this fundamental step in the alchemical practice in various sections of the *Lessons*.³²

In the third treatise, Stephanus describes the separation of the soul from the body by comparison with the reduction of plants into ashes, which preserve the original properties of the vegetal substances and can act on different kinds of bodies. Stephanus relates this process to pharmacology and the production of drugs from plants and refers to it as the "re-birth" (παλιγγενεσία) of the substance burnt away. Through an alchemical quotation ascribed to Hermes, Stephanus generalises the process of re-birth also to metals and other mineral substances, claiming that they can all be reduced into ashes while retaining their own qualities.³³ While there are no occurrences of the term "re-birth" in the alchemical works attributed to Hermes, the same word is attested extensively in the Hermetic treatise entitled *Secret Revelation on the Mountain of Hermes Trismegistus to His Son Tat on Re-Birth and the Promise of Secrecy* (CH 13). Stephanus's use of this specific source is also suggested by the fact that, in the same book of the *Lessons*, he offers various examples of re-birth which can be found in CH 13 too. As Hermes Trismegistus was regarded by many Greek alchemists as the founder of their discipline, and there were alchemical works circulating under his name, a treatise from the *Corpus Hermeticum* could easily have been considered as an authoritative source for the interpretation of an alchemical procedure. Nonetheless, it should be noted that CH 13 describes the process of re-birth primarily as the new birth of the human soul in an incorruptible body. This process

32. See at least Festugière, 1944, pp. 309-354 and Halleux, 1985.

33. See Ps.-Stephanus of Alexandria, *Lessons* III, ll. 41-155. For the relation between "re-birth" and separation of the soul from the body, see especially *Lessons* III, ll. 53-71.

presents strong similarities with the Christian idea of a general resurrection of the dead, although Hermes claims that the re-birth can take place during the earthly life of person if she is initiated to the Hermetic teachings. Christian authors also used the term “re-birth” with reference to resurrection (see esp. Matthew, 19.28), so that the religious connotation of this word was not limited to the Hermetic tradition and was certainly not exclusive to Christian literature.³⁴

The separation of the soul from the body is also discussed by Stephanus in the ninth and last treatise of the *Lessons* in order to explain a quotation ascribed to Agathodaemon: “take from the substance drawn from the highest, so that its power – having become divine and full of spirit – will complete the divine operation”.³⁵ First, Stephanus discusses in details the physical characteristics of this “divine” substance in consideration of his own philosophical account of the natural world. Then, he concludes that this substance can be accounted for as the unified soul of the substances combined by the alchemists in order to produce an agent capable of transmuting silver into gold. In describing the separation of this soul from the ingredients mixed together and its subsequent union with the body of silver, Stephanus invokes Plato’s authority by citing him by name.³⁶ Even though Stephanus’s reference to the Platonic works is very short, this is the only case in which an author other than an alchemist is mentioned by name to clarify a step of the alchemical practice. This exceptional mention of Plato confirms that in the *Lessons* the exegesis of passages concerning alchemical operations and procedure is carried out by taking into account only (1.) texts accepted by the author as part of the alchemical tradition and (2.) philosophical sources contributing to the theoretical foundation of alchemy.

34. Although Stephanus’s use of the term “re-birth” appears to be linked to the Hermetic tradition and certainly does not refer to a specifically Christian concept, the semantic complexity of this term requires further studies. A more detailed analysis of this fascinating term exceeds the limitations of the present paper, as it should also focus on the precise meaning of “re-birth” in the medical tradition and its use in the transmission of philosophical ideas, especially those linked to Stoicism and its Late ancient reinterpretation.

35. Ps.-Stephanus of Alexandria, *Lessons* IX, ll. 42-44: βάλε ἐκ τῆς οὐσίας τῆς ἀρυθείσης ἀπὸ τοῦ ὑψίστου, ἵνα θεωθεῖσα ἢ δύναμις καὶ ἐμπνευματωθεῖσα θεῖον ἔργον ἀποτελέσῃ.

36. See Ps.-Stephanus of Alexandria, *Lessons* IX, ll. 42-95. At ll. 85-88 there is the passage attributed directly to Plato; the quotation is loosely based on *Phaedo*, 64c ff., and especially 70d.

3. CONCLUSIONS. PLACING THE *LESSONS* WITHIN THE CONTEXT OF BYZANTINE ALCHEMY

The author of the *Lessons* grounded the exegesis of alchemical sources on the works of previous alchemists and the philosophical speculation about the natural world. This position is consistent with the general principle for the study of alchemy enunciated in the *Lessons* (text 6) and with the false attribution of this work to Stephanus of Alexandria. The same author also included many prayers to the Holy Trinity, while the introductions and conclusions of many treatises of the *Lessons* are marked by exhortations to the audience teeming with invocations to God's guidance and praises of alchemy as a path leading to a form of knowledge of God. However, the study of nature undertaken by the alchemist is directed to God only inasmuch as it achieves a deeper understanding of the natural world through the study of physical substances. In this respect, the depiction of the alchemist as a godly person is no different from the image of the Late Antique philosopher grasping a form of knowledge of the divine essences through the study of nature. The interpretation of alchemical operations is also devoid of any specific reference to Christian beliefs and practices. In commenting on the practical aspects of alchemy, Stephanus relies on alchemical sources which originate for the most part from the pagan tradition, and he does not temper with the terminology or contents of these sources in order to harmonise them to the Christian framework of the *Lessons*. The only partial exception to this model is represented by the commentary on the riddle of the word having nine letters. The riddle is quoted from an already Christianised account of pagan traditional knowledge, that is, the *Sibylline Oracles*, and presented as an expression of God's ineffable wisdom. As I have pointed out, though, Stephanus's commentary on the riddle does not introduce any Christian notion in his discussion of the alchemical practice, but rather depends on the philosophical sources used throughout the *Lessons*. Moreover, the riddle circulated in the alchemical tradition – both before and after the composition of the *Lessons* – with varying religious connotations. Ps.-Stephanus of Alexandria certainly provided a Christian framework for the commentary on this text, but the strategy employed to this end is not different from his treatment of ps.-Democritus or any other authoritative source of alchemical knowledge.

Stephanus's inclusion and exclusion of religious elements can be better appreciated by taking into account another Byzantine work which is deeply indebted to the *Lessons* in its treatment of alchemy: the *Dialogue of the Philosophers and Cleopatra*. The *Dialogue* was probably written during the 7th cent. and conveys the alchemical teachings ascribed to Cleopatra VII. Cleopatra discusses at length the problem of the separations of the soul of a substance from its original body and its subsequent

union with a new body. In the *Dialogue* there are no explicit references to Christianity, probably because it is framed as a fictional dialogue between the queen of Egypt and a group of alchemists among which stands out the Persian magus Ostanes. Nonetheless, the author of the *Dialogue* was almost certainly Christian since the work contains several references to Paul's epistles, especially in the section about the separation of the soul from the body. Moreover, the process is denoted as "resurrection" (ἀνάστασις) of the body: a terminology which can be found primarily in Christian sources.³⁷ In comparison to the *Lessons*, the *Dialogue* does not include any Christian prayer or explicit profession of faith. Nonetheless, Cleopatra's teachings about the practice of alchemy are defined by the use of Christian terminology and quotations, while Stephanus never incorporates Christian notions in his commentary on passages directly related to the alchemical operations. While religious motives and exhortations provide the *Lessons* with a comprehensive Christian framework, encompassing the discussion of pagan authors of the ancient alchemical tradition, the *Dialogue* highlights by contrast the marginality of precise references to Christian notions and ideas in Stephanus's discussion of alchemical practices.

Ps.-Stephanus of Alexandria's presentation of alchemy as a Christianised discipline had a profound influence on later Byzantine alchemists. As an example, the manuscript anthologies of Greek alchemical works preserve four poems in iambic verse attributed falsely to Theophrastus, Hierotheus, Archelaus, and Heliodorus. These poems were written by a single author, possibly at the beginning of the eighth century, and put into verse previous alchemical works, and especially the contents of the *Lessons*.³⁸ As in their model, the alchemical poems praise the ideal alchemist for her moral qualities, while the acquisition of alchemical knowledge is linked to the alchemist's connection with God. The religious connotations of these works are even stronger than the *Lessons*'. The clearest example is offered by a passage at the beginning of ps.-Archelaus's work:

(Text 11) "Train your intellect in contemplation of the entire notion of the ancient wise men – a sophistic notion entangled in riddles –; (train) your knowledge of the technical experience of the practical operation; (train) wise experience and judgement to learn the mixture, the composition, and the quality of the elements, to mix one of them with

37. See *Dialogue of the Philosophers and Cleopatra*, ll. 107-124 (Carlotta, forthcoming). See also Reitzenstein, 1919. On the resurrection of the dead as discussed in the *Dialogue* and the identification of most Biblical references in this treatise, see Festugière, 1939. For the semantics of "resurrection" in the Christian tradition, see Cook, 2017.

38. See Goldschmidt, 1923 and Browne, 1946-1948.

another, to twine and bind them together, to bring something into unity, which is the end of the discipline and is useful to earn profit. [...] Finding inspiration in the light coming from above, you will not fail in practice what you strive for, and the operation will be easy for you, just as expected. It will surely bring a handsome profit to you, once you have wisely brought order in your soul and body by means of chastity, fast and purification of the mind, by escaping from the turmoil of life and staying alone, by devoting your time to prayers and placing yourself at God's service as a prayer, by asking to obtain from the Almighty the knowledge of the manual operations, in order that you, being initiated, may know this practice which is quickly completed through a single form".³⁹

The text follows closely Stephanus's *Lessons* in presenting alchemy as study of the mixture of natural substances which are brought to a form of unity; a study that must be complemented by alchemical operations. Ps.-Archelaus, however, offers a significantly stronger depiction of alchemy as a Christian discipline not only by invoking God's guidance at every step of the process, but also, and more importantly, by defining the lifestyle required to the alchemist in terms of chastity, fast, and solitary life devoted to prayers. The practice of alchemy, in this case, is subordinated to the adoption of the same form of life followed by a Christian monk, if not to becoming a monk. The poem, however, is falsely attributed to Archelaus, Socrates's teacher. In this respect, this work seems to adopt and reinforce Stephanus's idea that the study of alchemy requires the adherence to a practice of virtue which is characterised primarily as Christian but is also shared to some degree by the pagan authors of the past.

Ps.-Stephanus of Alexandria's work maintained a central role in the Byzantine alchemical tradition, where it was quoted and discussed extensively. The *Lessons* was the first work on alchemy to be firmly established in the framework of Christian literature by incorporating numerous prayers and invocations to God, and by presenting alchemy as a legitimate path to the knowledge of God's wisdom through nature. The

39. Ps.-Archelaus, *On the Same Divine Art in Iambic Verse*, vv. 21-58 (Goldschmidt, 1923): τὸν νοῦν προγύμνασον γὰρ εἰς θεωρίαν / πάσης σοφιστικῆς τε τῶν εἰνιγμάτων / καὶ συμπλοκῆς ἐννοίας ἀρχαίων σοφῶν / γνῶσίν τε πείρας πράξεως τεχνουργικῆς / ἐμπειρίαν σοφῆν τε καὶ διάκρισιν, / τῶν στοιχείων τὸ κράμα καὶ τὴν σύνθεσιν / καὶ ποιότητα μαθάνειν καὶ πανσόφως / συγκρινᾶν εἰς ἄλληλα καὶ ὁμοῦ πλέκειν / συνδεῖν τε καὶ πρὸς ἓν τι τῆς τέχνης τέλος / εὐχρηστον ὠφελείας εἰς κέρδος φέρειν. [...] ἔχων ἄνωθεν ἔμπνευσιν φάους / οὐκ ἄστοχῆσεις πείρα τοῦ ποθουμένου / καὶ εὐχερώς σοι ἔργον, ὡς περ προσδοκᾶς, / ἔστα φέρον σοι κέρδος ὄλβιον πάνυ, / ψυχὴν ὅταν καὶ σῶμα κοσμήσης σοφῶς / ἀγνεία καὶ νηστεία καὶ ῥύψει φρενῶν, / τύρβας βίου φεύγων τε καὶ μένων μόνος, / εὐχαῖς σχολάζων καὶ θεῶ δὲ προσφέρων / λατρείαν ὡς δέησιν, ἐξαιτούμενος / τῷ ἐν χεροῖν τὴν γνῶσιν ἐξ ὕψους χάριν / δοῦναι, ὅπως γνῶς, μύστα, θάττον ἐξ ἐνός / εἶδους τὸ ἔργον τοῦτο ἐκπληροῦμενον.

contents of the *Lessons* and the selection of sources operated by Stephanus remained largely unaffected by the Christian connotations of the work. However, the author of the *Lessons* linked directly the pagan sources of the alchemical tradition with a form of Christian wisdom and moral virtue. By doing so, Stephanus provided his Christian audience with a justification for the study of the pagan authors of the alchemical tradition without embedding new Christian notions into their works or excluding any element bearing strong connections to the pagan origin of these sources.

Greek alchemy was a discipline characterised by a mixture of operative practices and philosophical reflections on nature that resonated and interacted with the varying mosaic of Late ancient religious ideas aiming at discovering the divine principle hidden in the natural world. When alchemy started to be practiced in the socio-cultural context of the Byzantine world, this discipline, like many other ancient disciplines that were originally non-Christian, was progressively Christianised and, eventually, Christian ideas and notions started to be adapted and included in the alchemical works. Within this long and complex process of assimilation and transformation of the discipline, ps.-Stephanus of Alexandria's *Lessons* played a crucial role in presenting, for the first time, alchemy as a Christian form of knowledge of the natural world, while framing the continuing importance of its authoritative sources within a new religious context. The *Lessons*, thus, offered a long and sophisticated treatment of alchemy as a Christianised discipline whose contents were not yet truly harmonised with Christian beliefs and practices, but remained established in a technical and philosophical tradition strongly grounded in the Greco-Roman religious landscape.

ACKNOWLEDGEMENTS

This publication is part of the research project *Alchemy in the Making: From Ancient Babylonia via Graeco-Roman Egypt into the Byzantine, Syriac, and Arabic Traditions*, acronym *AlchemEast*. The *AlchemEast* project has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme (G.A. 724914).

BIBLIOGRAPHY

- CAAG (edition) = Berthelot, Marcellin & Ruelle, Charles-Émile (1887-1888). *Collection des anciens alchimistes grecs*, 3 vols. Paris: Georges Steinheil.
- Bekker-Nielsen, Tønnes (ed.) (2006). *Rome and the Black Sea Region: Domination, Romanisation, Resistance*. Aarhus: Aarhus University Press.
- Browne, Charles A. (1946-1948). Rhetorical and Religious Aspects of Greek Alchemy. *Ambix*, 2.2-3 (1946), pp. 129-137 & *Ambix*, 3.1-2 (1948), pp. 15-25.
- Cook, John G. (2017) The use of ἀνίστημι and ἐγείρω and the “Resurrection of a Soul”. *Zeitschrift für die neutestamentliche Wissenschaft*, 108.2, pp. 259-280.
- Carlotta, Vincenzo (edition) (forthcoming). *The Alchemical Teachings of Cleopatra* (Sources of Alchemy and Chemistry).
- Corsten, Thomas (2006). The Role and Status of the Indigenous Population in Bithynia. In Bekker-Nielsen, 2006, pp. 85-92.
- Festugière, André-Jean (1939). La Création des âmes dans la Korè Kosmou. In Klauser & Rucker, 1939, pp. 102-116.
- Festugière, André-Jean (1944). *La révélation d’Hermès Trismégiste*, vol. 1. Paris: Les Belles Lettres.
- Geffcken, Johannes (edition) (1902). *Die Oracula Sibyllina*. Leipzig: J. C. Hinrichs.
- Goldschmidt, Günther (edition) (1923). Heliodori carmina quattuor ad fidem codicis Casse-lani. *Religionsgeschichtliche Versuche und Vorarbeiten*, 19.2, pp. 1-59.
- Goulet-Cazé, Marie-Odile, Dorandi, Tiziano, Goulet, Richard, Hugonnard-Roche, Henri, Le Boulluec, Alain & Ornato, Ezio (eds.) (2000). *Le Commentaire entre tradition et innovation (Actes du Colloque international de l’Institut des Traditions Textuelles, Paris et Villejuif, 22-25 septembre 1999)*. Paris: Vrin.
- Graef, Botho (1892). Grabdenkmal aus Bithynien. *Mitteilungen des Kaiserlich Deutschen Archäologischen Instituts. Athenische Abteilung*, 17, pp. 80-81.
- Halleux, Robert (1985). Méthodes d’essai et d’affinage des alliages aurifères dans l’Antiquité et au Moyen Âge. In Morisson, 1985, pp. 39-77.
- Katsiampoura, Gianna (ed.) (2014). *Scientific Cosmopolitanism and Local Cultures: Religions, Ideologies, Societies (Proceedings of the 5th International Conference of the European Society for the History of Science, Athens 1-3 November 2012)*. Athens: National Hellenic Research Foundation.
- Keyser, Paul T. & Scarborough, John (eds.) (2018). *Oxford Handbook of Science and Medicine in the Classical World*. Oxford: Oxford University Press.
- Klauser, Theodor & Rucker, Adolf (eds.) (1939). *Pisciculi. Studien zur Religion und Kultur des Altertums. Franz Joseph Dölger zum sechzigsten Geburtstag dargeboten von Freunden, Verehrern und Schülern*, Klauser. Münster (Westphalia): Achendorff.
- Lightfoot, Jane L. (edition) (2007). *The Sibylline Oracles / with Introduction, Translation and Commentary on the First and Second Books*. Oxford: Oxford University Press.

- Magdalino, Paul & Mavroudi, Maria (eds.) (2006). *The Occult Sciences in Byzantium*. Geneva: Le Pomme d'or.
- Martelli, Matteo (edition) (2014). *The Four-Books of Pseudo-Democritus (Sources of Alchemy and Chemistry: Sir Robert Mond Studies in the History of Early Chemistry)*. London: Maney Publisher.
- Mertens, Michèle (edition) (1995). *Zosime de Panopolis, Mémoires authentiques*. Paris: Les Belles Lettres.
- Mertens, Michèle (2006). Graeco-Egyptian Alchemy in Byzantium. In Magdalino & Mavroudi, 2006, pp. 205-230.
- Morrisson, Cecile (ed.) (1985). *L'or monnayé. Vol. 1: Purification et altérations de Rome à Byzance*. Paris: CNRS.
- Nicolaidis, Efthymios (ed.) (2018). *Greek Alchemy from Late Antiquity to Early Modernity*. Turnhout: Brepols.
- Papathanassiou, Maria K. (1990). Stephanus of Alexandria: Pharmaceutical Notions and Cosmology in His Alchemical Work. *Ambix*, 37.3, pp. 121-33.
- Papathanassiou, Maria K. (1996). Stephanus of Alexandria; on the Structure and Date of His Alchemical Work. *Medicina nei secoli, Arte e Scienza*, 8.2, pp. 247-66.
- Papathanassiou, Maria K. (2000-2003). L'oeuvre alchimique de Stéphanos d'Alexandrie: structure et transformations de la matière, unité et pluralité, l'énigme des philosophes. *Chrysopoeia*, 7, pp. 11-31.
- Papathanassiou, Maria K. (2006). Stephanos of Alexandria: A Famous Byzantine Scholar, Alchemist and Astrologer. In Magdalino & Mavroudi, 2006, pp. 163-203.
- Papathanassiou, Maria K. (edition) (2017). *Stephanos von Alexandria und sein alchemistisches Werk*. Athens: Cosmosware.
- Papathanassiou, Maria K. (2018). Stéphanos d'Alexandrie. La tradition patristique dans son oeuvre alchimique. In Nicolaidis, 2018, pp. 71-97.
- Reitzenstein, Richard (1919). Zur Geschichte der Alchemie und des Mystizismus. In *Nachrichten von der Königlichen Gesellschaft der Wissenschaften zu Göttingen*. Berlin: Weidmannsche Buchhandlung, pp. 1-37.
- Roueché, Mossman (2016). A Philosophical Portrait of Stephanus the Philosopher. In Sorabji, 2016, pp. 541-556.
- Sakorrafou, Sandy & Merianos, Gerasimos (2014). John Kanaboutzes' Commentary on Dionysios of Halikarnassos. A Perception of Alchemy in a Fifteenth-Century Greek Text. In Katsiampoura, 2014, pp. 86-94.
- Sorabji, Richard (ed.) (2016). *Aristotle Re-Interpreted. New Findings on Seven Hundred Years of the Ancient Commentators*. London & New York: Bloomsbury Academic.
- Taylor, F. Sherwood (1937-1938). The Alchemical Works of Stephanos. *Ambix*, 1.2 (1937), pp. 116-139 and *Ambix*, 2.1 (1938), pp. 38-49.
- Viano, Cristina (1996). Aristote et l'alchimie grecque. La transmutation et le modèle aristotélicien entre théorie et pratique. *Revue d'histoire des science*, 49, pp. 189-213.

- Viano, Cristina (2000). Quelques aspects théoriques et méthodologiques des commentaires alchimiques gréco-alexandrins. In Goulet-Cazé *et al.*, 2000, pp. 455-464.
- Viano, Cristina (2018a). Byzantine Alchemy, or the Era of Systematization. In Keyser & Scarborough, 2018, pp. 943-964.
- Viano, Cristina (2018b). Olympiodore l'alchimiste et la *taricheia*. La transformation du minéral d'or: *technê*, nature, histoire et archéologie. In Nicolaidis, 2018, pp. 59-69.