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Continuing the pioneering efforts of generations of scholars, the recent DACALBO\(^1\) project has established the survey of the Greek alchemical tradition in the age of digital humanities. Among DACALBO’s principal achievements are: the creation of an updated electronic inventory comprising existing catalogues and newly discovered\(^2\) Byzantine and post-Byzantine manuscripts and printed materials from Greek libraries; the discovery of hitherto neglected alchemical material in the Greek medical corpus; compiling an extensive bibliography on Greek alchemy, and the replication of alchemical experiments described in sources from the database. The project has tackled key *desiderata* and reflects major developments in the historiography of alchemy in particular, and of science in general. The present volume contains studies based on the project’s results and relevant research from scholarship on the history of alchemy.

Alain Touwaide’s contribution (“The Alchemical Manuscript Tradition. An Overview”, pp. 45-58) proposes to outline an approach towards the assessment of the manuscript transmission of Greek alchemical literature. The body of texts that has come down to us appears to have taken shape between the 7th and the 10th c. AD. It probably originated from small clusters of texts, which were successively grouped together in larger compilations, in a fashion resembling the formation of the Greek medical corpus. The earliest extant alchemical manuscript, *Marc. gr. 299*, dates from the 10th c. Works by mediaeval authors such as Michael Psellus (11th c.) and Nicephorus Blemmydes (13th c.) became part of the canon subsequently.

\(^{1}\) Digital Archive Concerning Alchemy in Byzantium and in Greek-Speaking Communities of the Ottoman Empire (http://dacalbo.hpdst.gr).

\(^{2}\) Thirty-nine new manuscripts have been identified.
In the course of the intellectual and scientific revival during the Palaeologan Renaissance (14th - 15th c.), the alchemical corpus received increased attention and was subjected to rigorous editorial activity: older manuscripts were collected and collated, and new, revised recensions came into circulation. In fact, philological intervention had a significant impact on the nature of alchemical literature since the early stages of its transmission: heightened interest in texts on gold making and the practice of selective abridgement were among the factors which determined the variety, quantity and quality of the surviving material.

The post-Byzantine transmission of Greek alchemy begs the question ‘whether, and how, the process of appropriation in the Latin West of Arabic alchemy was affected by the Renaissance Byzantine migrations’ (p. 40). Didier Kahn’s essay (“Alchemical Interpretations of Ancient Mysteries”, pp. 149-158) points out that Renaissance alchemists devoted their attention to the alchemical exegesis of classical and Egyptian mythology rather than to Greek alchemical texts. On the other hand, the authors3 of the Introductory Remarks (“Graeco-Egyptian, Byzantine and Post-Byzantine Alchemy”, pp. 11-43) draw our attention to the fact that the Elizabethan polymath and noted esotericist John Dee (1527 – 1608/9) was familiar with doctrines of Stephanus of Alexandria (6th c. – 7th c.). The understudied continuity of the Greek tradition in the Ottoman Empire is of no lesser significance: Matteo Martelli’s (“Byzantine Alchemy in Two Recently Discovered Manuscripts”, pp. 99-118) and Rémi Franckowiak’s (“Athanasius Rhetor and the Greek Chemistry in the 17th Century Ottoman Empire”, pp. 131-147) surveys of important yet overlooked manuscripts provide valuable insights into the intellectual scope and dynamics of this tradition, contacts with the West and the activities of networks of practitioners.

The texts transmitted in the Greek corpus reveal a history of alchemical discourses ‘intended to create, and most often, to negotiate the meaning of what the practitioners of alchemy do’ (p. 17). Egypt is the focal point of many traditional narratives concerning the origins of alchemy. Such narratives invoke as revelatory sources and transmitters of alchemical knowledge mythical figures, prophets and philosophers. As a melting pot of Mediterranean and Near Eastern civilisations, Graeco-Roman Egypt provided fertile ground for the cross-cultural exchange of practical skills as well as theoretical and spiritual concepts. Technical exchange, for instance, is illustrated by the similarity of dyeing techniques documented in Mesopotamian cuneiform tablets, the Graeco-Egyptian papyri preserved in Leiden

3. Vangelis Koutalis, Matteo Martelli and Gerasimos Merianos.
and Stockholm, and the four treatises attributed to Democritus. The primary goal of the procedures described in these sources was to create artificial products ‘which we would nowadays call chemical compounds’ (p. 14). The factual cooperation of workshops and temples, craftsmen and priesthood in ancient Egypt might allow for a certain extent of historicity in alchemical narratives such as Zosimus of Panopolis’ account, where priests are presented as adepts of alchemy.

The gradual formation of Greek alchemy’s theoretical frameworks under a plethora of influences was secondary to artisanal and experimental practice and initiated by a late antique commentary tradition. The writings of early authors such as Zosimus did not approach the transformation of matter theoretically and were not subordinated to a coherent system of thought. The seminal commentator Stephanus of Alexandria assessed alchemical literature from a philosophical, Christian perspective which combined patristic, Aristotelian and Neoplatonic influences with geometry, astronomy and medicine. Maria Papathanassiou's contribution (“Stephanos d’Alexandrie. La tradition patristique dans son oeuvre alchimique”, pp. 71-97) demonstrates that Stephanus understood his intellectual endeavour as that of a philosopher on a quest to discover the secrets of nature, because ‘la philosophie n’est qu’une ressemblance à Dieu autant qu’il est possible à l’homme’ (p. 72). In Stephanus' discourse alchemy was transformed into a complex system of philosophical cosmology.

Gianna Katsiampoura's essay (“The Relationship Between Alchemy and Natural Philosophy in Byzantine Times”, pp. 119-129) outlines the long process of amalgamation of ancient, particularly Aristotelian natural philosophy, alchemical and Christian discourses which continued throughout Byzantine intellectual history, and of which Stephanus is a quintessential example. The cross-pollination of scientific and theological theories of matter and an awareness of alchemical practices is evident in the writings of many authors. Aeneas of Gaza (5th c.–6th c.), for instance, makes a parallel between the transmutation of metals and the transfiguration of Christ. Michael Psellus' conflict with Patriarch Cerularius reveals that alchemical expertise was generally viewed as a legitimate enquiry in a scholarly, philosophical context, and condemned in association with aurific pursuits. In Psellus' and Blemmydes’ thought alchemical procedures were natural processes conducted according to the laws of matter and subjected to and supported by the will of God, since God as creator has authorised humans to manipulate matter. Cristina Viano's multi-faceted analysis (“Olympiodore, l'alchimiste et la taricheia”, pp. 59-68) of the process of maceration of golden ores demonstrates how archaeological evidence
from ancient Egyptian mines can aid the philological interpretation of alchemical sources. Viano's observation that the mining facilities were designed to emulate natural processes and reflect the Aristotelian principle that human intervention should proceed in agreement with nature and enable natural processes to take their course brings us back to the alchemical outlook of Psellus and Blemmydes described by Katsiampoura.

Just like archaeological evidence, the actual replication of alchemical procedures with the help of modern chemical equipment provides opportunities for the empirical reconstruction of the ‘chemical reality of ancient texts’ (p. 17). The contributions of Lawrence Principe (“Texts and Practices: The Promises and Problems of Laboratory Replication and the Chemical Explanation of Early Alchemical Processes”, pp. 159-169), Kostas Exarchakos and Kostas Skordoulis (“The Educational Applications of the Historical Material and on the Reproduction of Alchemical Procedures”, pp. 171-185) show the difficulties which accompany the attempts to re-create the conditions and possible results of alchemical operations. These attempts reveal inconsistencies and misunderstandings in the texts resulting from the mistakes of ancient and modern interpretations and have important philological repercussions for editions, translations and analyses. Engaging empirically with ancient sources demonstrates the scientific value of alchemy and helps bridge the gap to chemistry that has persisted in the historiography of science until recently. Including alchemy in educational programmes devoted to the history of science expands the scope of the curriculum and stimulates the critical thinking and creativity of the students.

The collection of essays presented above is a further important step contributing towards the on-going rehabilitation of alchemy in the broader field of history of science. The variety and depth of the individual chapters explore diverse aspects of and approaches to the history of alchemy, whose combination provides the possibility of an innovative reappraisal of alchemy’s significance as a highly complex discipline spanning across millennia and civilisations.

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