

## *ALKIMIA OPERATIVA AND ALKIMIA SPECULATIVA* SOME MODERN CONTROVERSIES ON THE HISTORIOGRAPHY OF ALCHEMY

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Scholasticism with its infinitely subtle argumentation, Theology with its ambiguous phraseology, Astrology, so vast and so complicated, are only child's play in comparison with Alchemy.<sup>1</sup>

### **Spiritual Alchemy versus Chemistry**

One branch of the historiography of alchemy interprets it as the ancestor of what is today called chemistry. The scholars that contribute to this conception usually come from scholarly fields that require training in chemistry, the history of science and technology or connected disciplines. The history of alchemy is studied as part of the history of science, as pre-chemistry or proto-science, accentuating the laboratory work aspect. Another approach, an almost antithetic posture, comprises a wide range of nuances in interpreting alchemy under a relatively common comprehension that I would label "spiritual alchemy."<sup>2</sup> From this perspective it is considered that alchemy can be seen as part of religious behavior (Mircea Eliade<sup>3</sup>), as a projection of psychological content of the level of matter (Carl Gustav Jung's atypical interpretation of alchemy in psychological

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<sup>1</sup> Albert Poisson quoted by John Read, *From Alchemy to Chemistry* (New York: Courier Dover Publications, 1995), 73.

<sup>2</sup> I use the expression "spiritual alchemy" and not occult, philosophical or speculative alchemy because it is an established phrase that expresses speculative, esoteric, and non-laboratory practices. In this study "spiritual" is often a synonym for esoteric, hence it points to special knowledge of the ultimate principles that govern the physical and metaphysical realities. The knowledge of these realities is "spiritual" and implies more than laboratory research. Concerning the use of the phrase "spiritual alchemy," see, for example: Mark S. Morisson, *Modern Alchemy: Occultism and the Emergence of the Atomic Theory* (Oxford: Oxford University Press, 2007), 135–183; Daniel Merkur, "The Study of Spiritual Alchemy: Mysticism, Gold-Making, and Esoteric Hermeneutics," *Ambix* 37 (1990): 35–45; Hereward Tilton, *The Quest for the Phoenix: Spiritual Alchemy and Rosicrucianism in the Work of Count Michael Maier (1569–1622)* (Berlin: Walter de Gruyter, 2003).

<sup>3</sup> Mircea Eliade, *The Forge and the Crucible* (Chicago: University of Chicago Press, 1978).

terms<sup>4</sup>), as part of Western esotericism (Antoine Faivre<sup>5</sup>), or even as a hermetic tradition (Julius Evola,<sup>6</sup> Titus Burckhardt<sup>7</sup>), or as a hermeneutic practice (Umberto Eco<sup>8</sup>). The immediate observation after such an enumeration might be that the history of alchemy lacks a methodology of its own and that the scholars who study it import the tools of their training. Emerging from the enumeration above, the complexity of alchemy has led to different definitions of it, making it relatively difficult to avoid the risk of a one-sided understanding.<sup>9</sup>

For the present inquiry<sup>10</sup> I will review the research of Jung and Eliade, representing of the spiritual alchemy position, and the critique of their theses by historians of science. William R. Newman and Lawrence M. Principe are the most recent influential scholars to reject the spiritual face of alchemy in the history of science. In this article I discuss the standpoint which argues that alchemy is the pre-history of chemistry and in addition some problematic approaches to the thesis that the essence of alchemy is its spiritual character.

## Spiritual Alchemy

For Carl Gustav Jung, alchemy is not only part of the pre-history of chemistry, that is, not only laboratory work, but also an essential part of the history of psychology as the history of the discovery of the deep structure of the psyche

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<sup>4</sup> His research on alchemy can be found in *The Collected Works of Carl Gustav Jung*, 20 vols, (London: Routledge, 1981, first edition 1953) [Jung, *CW*], vol. 12: *Psychology and Alchemy*; vol. 13: *Alchemical Studies*; vol. 14: *Mysterium Coniunctionis*.

<sup>5</sup> The relation of alchemy to Western esotericism is analyzed by Antoine Faivre in several works. See especially his *Toison d'or et alchimie* (Milan: Archè, 1990) and *The Eternal Hermes: From Greek God to Alchemical Magus* (Grand Rapids, MI: Phanes Press, 1996).

<sup>6</sup> Julius Evola, *The Hermetic Tradition* (Rochester, VT: Inner Traditions International, 1995).

<sup>7</sup> Titus Burckhardt, *Alchemy, Science of the Cosmos, Science of the Soul* (London: Stuart and Watkins, 1967).

<sup>8</sup> Umberto Eco, *The Limits of Interpretation* (Bloomington: Indiana University Press, 1994), 18–20. Eco does not refer explicitly to alchemy, but the principles of the hermetic tradition are seen as principles of hermeneutics. Also, Hereward Tilton understands the position of Eco as “the history of alchemy as the history of the interpretation of alchemy,” see Tilton, *The Quest for the Phoenix*, 18.

<sup>9</sup> There is also the obscure pseudo-research part of the Western esoteric industry, extended through theosophists, spiritualists, and New Age enthusiasts, an issue beyond the scope of this article.

<sup>10</sup> This study is based especially on the first chapter of my MA thesis, “Spiritual Alchemy and the Function of Image: *Coincidentia Oppositorum* in Michael Maier’s *Atalanta Fugiens*” (Central European University, 2009).

and its unconscious. Jung emphasized the significance of the symbolic structure of alchemical texts, a structure that is understood as a way independent of laboratory research, as a structure *per se*. His works are peculiar pieces perceived from the perspective of the historiography of alchemy, since Jung interprets the symbolism of alchemy as a projection of internal developmental psychological stages. Using such hypotheses as a departure point, Jung analyzed the dreams of his patients through the symbolism of alchemy.

The science of alchemy thus reflects psychological content that is projected at the level of matter. In this interpretation, the *opus alchymicum* is a “reality” of the psyche, not of the physical world, as some alchemists believed. Jung operated with a distinction between laboratory and non-laboratory work. The last expression refers to secret knowledge, in a word, what is esoteric. The occult processes, according to Jung, were in fact part of the psychological transformation of the alchemist, and the laboratory work was the externalization of an internal state of the psyche.

These ideas in the historiography of alchemy offered an alternative for understanding the alchemical literature and the symbols it involves. In alchemical symbols, which have a mythological and religious character, one may find a mirror *par excellence* for psychic realities and access to the collective and personal unconscious:

The personal unconscious, as defined by Jung, is a reservoir of disowned contents and processes which can be experienced as separable parts in normal space and time, and which have location. In the process of projection, the parts of the personal unconscious are experienced as existing ‘in’ the person, or they are projected ‘out of’ the person and ‘into’ another person.<sup>11</sup>

Jung’s account emphasizes that there is a powerful connection between the end of alchemy and the rise of chemistry, and the borderline between these two disciplines separates the speculative and psychological features of alchemy from the positivist and scientific character of chemistry. The decline of speculative imagery in alchemy is closely linked with the development of the new science of chemistry. He considered that if the principles of alchemy were proved to be “an error” by chemistry, the spiritual aspect remained part of the psyche that “did not disappear.”<sup>12</sup>

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<sup>11</sup> Nathan Schwartz-Salant, *The Mystery of Human Relationship: Alchemy and the Transformation of the Self* (London: Routledge, 1998), 4.

<sup>12</sup> Jung, *Psychology and Alchemy*, 37.

One should observe that Jung's departure point in studying alchemy had a pragmatic feature; he did not merely hypothesize about it, but turned to alchemy after he studied the dreams of his patients. His activity as doctor is well-known and was important for psychological research on the unconscious, implicitly on its alchemical content. The theory of projection is central to his understanding of alchemy. To know the content of the unconscious one should study a projection, and, for Jung, alchemical texts were projections of psychological content. Therefore, his research has a positivistic character; he analyzed dreams with the help of alchemical texts in which he thought that one could see possible meanings of the dreams. He spent half of his life attempting to elucidate the content of alchemical texts. His work is recognized for extensive research on the body of alchemical texts; Jung also made important manuscript discoveries that are of great use for other branches of study in the historiography of alchemy.<sup>13</sup>

On the other hand, according to Eliade, alchemy is part of religious behavior and reflects "the behavior of primitive societies in their relation to Matter,"<sup>14</sup> and it is a way "to pierce through to the mental world which lies behind them."<sup>15</sup> In *The Forge and the Crucible: The Origins and Structures of Alchemy*, Eliade offers a theoretical background for understanding alchemy from the perspective of the history of religion. Alchemy is a spiritual technique and can be understood not as an important moment in the history of science but rather as a kind of religious phenomenon with its own particular rules: "alchemical experience and magico-religious experience share common or analogous elements."<sup>16</sup> Eliade points out that the essential transmutation of matter was the obsession of the alchemist: "to collaborate in the work of Nature, to help her to produce at an ever-increasing tempo, to change the modalities of matter – here ... lies one of the key sources of alchemical ideology."<sup>17</sup>

Eliade does not insist wholly on the European climax of alchemical literature, as Jung does, but on different societies that developed alchemical thinking that is fundamentally different from chemical thinking in several ways: the search for

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<sup>13</sup> For example, the text attributed to Thomas Aquinas, *Aurora Consurgens*, was partially discovered by Jung in the monastery on Reichenau Island, Lake Constance. His collaborator later found complete manuscripts of the text in Paris, Bologna, and Venice; see Marie-Luise von Franz, *Alchemy: An Introduction to the Symbolism and the Psychology* (Toronto: Inner City Books, 1980), 177–178, and Eadem, *Aurora consurgens: A Document Attributed to Thomas Aquinas* (New York: Pantheon Books, 1966).

<sup>14</sup> Eliade, *The Forge*, 7.

<sup>15</sup> Ibidem, 8.

<sup>16</sup> Ibidem, 165.

<sup>17</sup> Ibidem.

the philosopher's stone, a hyper-religious behavior; the "transmutation" of the individual, and so forth. For Eliade, "the alchemist is the brotherly savior of Nature"<sup>18</sup> and the "*opus alchymicum* had profound analogies with mystic life."<sup>19</sup> In this regard, Eliade gave the example of a disciple of Paracelsus, who considered that the alchemist tasted the "first fruits of Resurrection in this life and had a foretaste of the Celestial Country."<sup>20</sup> In support of this view, Eliade speaks about *marriage*, *death*, and *the life of metals* as an essential part of alchemical practices.

Eliade's approach, seen as part of the development of the methodologies of religious studies, does not raise serious problems concerning the study of alchemy compared to Jung's research, where several critical questions have been raised, for example, how well can alchemical practice and dream activity be compared. My purpose here is not to discuss the suitability of such methods of the history of religions and psychology, but to argue that considering alchemy as only proto-science sets too narrow limitations.

### Alchemy as Experimental Activity

Historians of science, for whom the core of alchemy resides particularly in laboratory work, have pointed out Jung's and Eliade's apparent "ignorance" of laboratory research. The critique of the spiritual and religious interpretation of alchemy formulated by William R. Newman and Lawrence M. Principe is an ordinary rejection coming from the field of the history of science. At the moment their thesis is relatively wide-spread among the historians of chemistry and also of alchemy. It may be described as an attempt to introduce a kind of exclusivist position (it can be called *eliminativism*) into the field of scholarly research on alchemy, the assumption being that alchemy does not have a strong enough spiritual component to place it within the scope of the history of religion or similar fields of research. Through its laboratory practice, however, alchemy does have a proper place in the history of science. This position was strongly formulated in 1998 in a provocative article, "Alchemy vs. Chemistry: The Etymological Origins of a Historiographic Mistake,"<sup>21</sup> and reinforced in 2001 with a second more substantial paper entitled

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<sup>18</sup> Ibidem, 52

<sup>19</sup> Ibidem, 165.

<sup>20</sup> Ibidem, 166.

<sup>21</sup> William R. Newman and Lawrence M. Principe, "Alchemy vs. Chemistry: The Etymological Origins of a Historiographic Mistake," *Early Science and Medicine* 3 (1998): 32–65.

“Some Problems with the Historiography of Alchemy,”<sup>22</sup> which developed largely around the question about the reasons why the spiritual interpretation is not in agreement with historical reality.<sup>23</sup> In the latest edition of *The Cambridge History of Science*, Newman<sup>24</sup> fortifies their position revisiting the same ideas.

In *Alchemy vs. Chemistry*, Principe and Newman assert that there was no conceptual difference between alchemy and chemistry (*alchemia* and *chemia*) in the seventeenth century, that the usage of both terms creates “confusion among historians of science,” and that it would be better to use the term *chemia* (chemistry) for the Early Modern period. The different terms do not refer to different disciplines and were used interchangeably. Since the two terms are not separated, they propose using the word chemistry in its archaic spelling (chymistry).<sup>25</sup>

Besides this terminological issue, the most striking claim is that there is almost no connection between early modern alchemy and the Western esoteric tradition. The apparent esoteric language can be decoded as referring to chemical research. Principe and Newman judge that the reception of alchemy as a discipline separate from chemistry devolves from inadequate constructions of its historical context that “consequently have little resemblance to the topic as known and practiced in the early modern period.”<sup>26</sup> Their purpose is to “deny the validity of interpretations that artificially, unwarrantably, and most of all, ahistorically introduce a chasm between ‘alchemy’ and ‘chemistry,’”<sup>27</sup> discarding thus the idea that alchemy in the seventeenth century had broken off from chemistry;<sup>28</sup> they

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<sup>22</sup> William R. Newman and Lawrence M. Principe, “Some Problems with the Historiography of Alchemy,” in *Secrets of Nature: Astrology and Alchemy in Early Modern Europe*, ed. William R. Newman and Anthony Grafton (Cambridge: Massachusetts Institute of Technology [MIT] Press, 2001), 345–431.

<sup>23</sup> Even though the topics of the articles are quite different, Principe and Newman deal with them together as a whole as references concerning their rejection of spiritual alchemy.

<sup>24</sup> William R. Newman, “From Alchemy to ‘Chemistry,’” in *The Cambridge History of Science*, vol. 3: *Early Modern Science*, ed. Katherine Park and Lorraine Daston (New York: Cambridge University Press, 2006), 497–517.

<sup>25</sup> See also Lawrence M. Principe, “A Revolution Nobody Noticed? Changes in Early Eighteenth-Century Chymistry,” in *New Narratives in Eighteenth-Century Chemistry*, ed. Lawrence M. Principe (Dordrecht: Springer, 2007), 1–22.

<sup>26</sup> William R. Newman, Lawrence M. Principe, *Alchemy Tried in the Fire: Starkey, Boyle, and the Fate of Helmontian Chymistry* (Chicago: The University of Chicago Press, 2002), xiii.

<sup>27</sup> Newman and Principe, “Some Problems with the Historiography of Alchemy,” 417.

<sup>28</sup> In an earlier publication Principe also put forward the experimental character of alchemy, saying that “some phenomena described in alchemical texts – even those dealing with the *arcana maiora* – can be successfully reproduced in the modern chemical laboratory,”

consider alchemy as a phenomenon mainly bound to experimental activity. In the scholarship on alchemy this thesis has been received almost without significant reservations, as, for example: “It is therefore a healthy response for historians such as William R. Newman to remind us that alchemists were *chiefly* concerned with physical processes and material goals.”<sup>29</sup>

## An Ahistorical Approach

From a historiographical point of view and from a scholarly perspective, the most problematic issue in the Jungian approach is that he does not have a clearly defined historical approach. He puts together medieval and Renaissance alchemical ideas in an almost infra-historical understanding. His differentiation between medieval and Renaissance alchemy is seen as pointing to the difference between unconscious and conscious mystical implications of processes for an alchemist. He is not interested in the “history of alchemy” as part of historiography; for Jung, alchemy is a science that can stand in a way beyond its historical manifestation and its contextualization does not clarify too much concerning aspects of the cryptic symbols as androgyny or the animus–anima relation. This poses serious problems for historical approaches, because Jung “found no difficulty in linking together ideas from different times and cultures, and in viewing these ideas as arising, not from any specific historical conditions, but rather from underlying universal dispositions within the psyche itself.”<sup>30</sup>

These issues were noted by Principe and Newman in their rejection of a psychological Jungian interpretation. Their approach – focused especially on early modern alchemy – follows, among others, the critique of art historian Barbara Obrist,<sup>31</sup> who, referring to medieval alchemy, claims that Jung’s perspective is “a perspective which... had acquired the status of a self-evident truth and was no longer questioned by historians of alchemy.”<sup>32</sup> Obrist considers that the Jungian conception “does not take into account the specific political, social and intellectual

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Lawrence M. Principe, *The Aspiring Adept: Robert Boyle and His Alchemical Quest* (Princeton: Princeton University Press, 1998), 161.

<sup>29</sup> Leah DeVun, *Prophecy, Alchemy, and the End of Time: John of Rupescissa in the Late Middle Ages* (Columbia: Columbia University Press, 2009), 105. Emphasis mine.

<sup>30</sup> John James Clarke, *In Search of Jung: Historical and Philosophical Enquiries* (London: Routledge, 1992), 51.

<sup>31</sup> Barbara Obrist, *Les débuts de l'imagerie alchimique (14e–15e siècles)* (Paris: Le Sycomore, 1982), 14–36.

<sup>32</sup> Tilton, *The Quest for the Phoenix*: 8

contexts of the periods and societies in which alchemy has functioned.”<sup>33</sup> For her, as for almost all historians, “alchemy is not a trans-historical myth, but a construct which is culturally produced.”<sup>34</sup> In this context, Principe and Newman build their argument not only on Obrist’s critique of the Jungian approach, but also on the writings of Robert Halleux, an important historian of medieval alchemy who had similar ideas about Jung’s interpretation.<sup>35</sup> It should be noted that this critique does not fully undermine Jungian research, taking into account that his purpose was almost totally different from that of a historian.

### **Victorian Occultism and Spiritual Alchemy**

For Principe and Newman, the research done by Jung and Eliade should not be considered as part of scholarly research, as they “were directly influenced by late nineteenth-century occultism.”<sup>36</sup> Consequently “in spite of their origins outside of properly historical studies,”<sup>37</sup> the theses of spiritual alchemy “have all permeated the historiography of alchemy to such an extent that many historians have adopted them without being aware of either their origins or their unsuitability.”<sup>38</sup> Therefore, the understanding of alchemy as basically spiritual, distinct from “chemistry,” is “an ahistorical formulation which postdates the early modern period and was fully developed only in the context of nineteenth-century occultism.”<sup>39</sup>

After a review of the history of the spiritual interpretation of alchemy by authors such as Mary Anne Atwood (1817–1910), Ethan Allen Hitchcock (1798–1870), and Arthur Edward Waite (1857–1942) as representatives of the esoteric school which impacted equally on “the general and the learned perceptions of historical alchemy,” Principe and Newman consider that writers such as Julius Evola (1898–1974) and Titus Burckhardt (1908–1984) “extended the movement through the twentieth century.”<sup>40</sup> In this context, “the prevalence of the esoteric interpretation in the late nineteenth and early twentieth centuries seems to have had even greater indirect effects”<sup>41</sup> on modern research on alchemy. Thus “the

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<sup>33</sup> Ibidem.

<sup>34</sup> Urszula Szulakowska, *The Alchemy of Light. Geometry and Optics in Late Renaissance Alchemical Illustration* (Leiden: Brill 2000), 10.

<sup>35</sup> Newman and Principe, “Some Problems with the Historiography of Alchemy,” 406.

<sup>36</sup> Ibidem, 417.

<sup>37</sup> Ibidem.

<sup>38</sup> Ibidem.

<sup>39</sup> Ibidem, 400.

<sup>40</sup> Ibidem, 396.

<sup>41</sup> Ibidem, 400.



currency of the notion of an internal alchemy whose goal was the transformation of the soul cannot have failed to influence the construction formulated by Carl Gustav Jung, with which it shares an emphasis on psychic states and spiritual self-development.”<sup>42</sup>

An element that Principe and Newman use to reinforce their arguments against Eliade, and in consequence against the spiritual alchemy hypothesis, is, as in the rejection of Jung, marked with biographical elements. They sustain the peculiar idea that “in his student years, he was a devotee of Rudolph Steiner’s ‘Anthroposophy,’” and for this reason, Eliade was closer to a spiritual (theosophist?) understanding of alchemy. While in the case of Jung the biographical element might have some kind of relevance (indeed, Jung had been involved in some spiritualist sessions in his youth), in the case of Eliade it seems that the biographical element is only a bibliographical issue, mandatory for someone dealing with the history of religion.<sup>43</sup>

### The Limitations of the Proto-science Thesis

Researching alchemy through the eyes of only analytical psychology or the history of religion has its limits. The attempt to fully explain that the perception of alchemy as a spiritual discipline was “developed only in the context of nineteenth-century occultism” because the alchemist himself was not aware of the spiritual character of his research, however, gives rise to many methodological problems.

What makes the ideas of Principe and Newman not fully justified? First, their attitude seems to be dramatically inflexible in the rejection of spiritual alchemy, which is difficult to sustain in the case of many alchemical texts as, for example, *Aurora Consurgens*, the *Ripley Scroll* or authors such as Michael Maier

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<sup>42</sup> Ibidem.

<sup>43</sup> Newman, Principe, “Some Problems in the Historiography of Alchemy,” 404. They also revisit the idea in Newman, Principe, *Alchemy Tried in the Fire*, 36, where they affirm that: “Eliade [was] immersed in the anthroposophy of Rudolph Steiner.” Here is not the place to critique the easy manner of making this kind of assumption without bibliographical references, but I add only that, indeed, Eliade read several books by Steiner, Mircea Eliade, *Autobiography: 1907–1937. Journey East – Journey West* (Chicago: University of Chicago Press, 1990), 86, and “during his university years... acquired an interest in Anthroposophy... for its combination of the spiritual and the logical in its approach to religious material,” David Cave, *Mircea Eliade’s Vision for a New Humanism* (Oxford: Oxford University Press, 1993), 7, but still he was by no means ever “devoted to” or “immersed in” it. Also, close readings of his *Autobiography* and *Journal* clearly show his reserved attitude towards anthroposophy.

or Jakob Böhme, to name only some works and authors that cannot fit into the thesis of those two historians of science. Their manner of presentation is fallacious; they assert that Jung was a kind of “victim” of the occultism of the nineteenth century. There are extensive studies on Jung, out of which they chose to use a bizarre book as their authority, that of Richard Noll, *The Jung Cult*, which rather comes from tabloid literature than from the academic world.<sup>44</sup> Much of their thesis concerning the Jungian conception of alchemy is based on “Richard Noll’s fundamental study,”<sup>45</sup> and also on an additional volume by Noll, offensively entitled *The Aryan Christ*, on the cult that developed around Jung.<sup>46</sup>

Principe and Newman assert that the conceptions of Jung and Eliade are disseminated through a “common perception” of alchemy. I would argue the contrary, namely, that it is difficult to understand how a Jungian image-archetype works and what a psychological interpretation of alchemical stages presupposes with the tools of “common perception.” Also, it is improbable that Eliade’s suggestion that the alchemist tried to recreate at the level of matter the primordial conditions when God created the world is so widespread in the common perception of alchemy. The “common perception” is of “medieval zealots rummaging through ancient books and scrolls in dark hot basements, seeking the secrets of transmutation in the dim firelight of brick furnaces and archaic laboratory equipment.”<sup>47</sup> The alchemist in ordinary perception is a man of the laboratory and only a few are familiar with the writings of Eliade or Jung. Only through esotericism or the traditionalist theses of Evola or Burchardt has the spiritual and hermetic interpretation of alchemy been spread. What is important, and Principe and Newman did not note when claiming that Eliade and Jung are victims of the occult interpretation, is that Evola and Burckhardt rejected the Jungian thesis.<sup>48</sup> The Jungian concept is not acceptable for the esoteric school because of his psychological reading of alchemy, which somehow left alchemy without its metaphysical components and placed it in the psyche, as a product of

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<sup>44</sup> Richard Noll, *The Jung Cult* (Princeton: Princeton University Press, 1994).

<sup>45</sup> Newman and Principe, “Some Problems with the Historiography of Alchemy,” 404.

<sup>46</sup> Richard Noll, *The Aryan Christ* (New York: Random House, 1997), 25–30, 37–41. Both of Noll’s books support the idea that Jung believed to be himself an “Aryan Jesus” and that he could be compared with pseudo-spiritual leaders such as David Koresh or Jim Jones. These types of comparisons are irrelevant for scholarly research and instead give the discussion an overall vulgar and proselytizing tone.

<sup>47</sup> Morrisson, *Modern Alchemy*, 3.

<sup>48</sup> Evola considered that Jung was too modern and scientific in his psychological approach, see Evola, *The Hermetic Tradition*, 97; Burckhardt, also an adept of tradition, rejected the psychological interpretation of alchemy, see Burckhardt, *Alchemy*, 8.

it. Therefore, it is not esoteric knowledge that has its root in a transcendent reality. For religious and esoteric temperaments Jung is too positivist in approaching religion, and for the scientist he is too spiritual in approaching the history of science. However, Jung seems to have been caught up in the pseudo-spiritual movements typical of New Age adepts who are militant for syncretism, the theory of synchronicity (also elaborated by Jung), and ultra-spiritual attitudes. Jung's perspective as part of New Age spirituality, with its integration of alchemical symbolism, is nevertheless a misunderstanding and crude simplification of his thesis. Research on Jung is currently in decline, to the extent that some aspects of his theory of archetypes have been ridiculed and considered inappropriate for research on the nature of the psyche. As I argue in this paper, Jung's contribution to understanding the emergence of science in the early modern period has been increasingly overshadowed. The unfortunate consequence of this leads to disregarding a massive intellectual effort to make sense of the dynamics of symbols in alchemy.

Hereward Tilton, a scholar whose research is mainly focused on Michael Maier and early modern alchemy, scrutinizing the thesis of Principe and Newman, considers that there are "a number of methodological and factual errors in their analyses."<sup>49</sup> Tilton underscores that they are not so accurate in the review of Jungian reception, underlining that Robert Halleux, one of the authors on the basis of which Principe and Newman rejected Jung, eulogized "Jung's scrupulous adherence to the fruits of erudition concerning the dating and authorship of texts"<sup>50</sup> and "contrary to Principe and Newman, Halleux's opinions on the matter of medieval alchemy are diametrically opposed to those of Obrist."<sup>51</sup> Tilton considers that "the misappropriation of Halleux by Principe and Newman could be explained as a simple matter of error in translation."<sup>52</sup> Tilton rightfully adds that in reading Principe and Newman, "newcomers to the subject are liable to gain a false impression concerning the acceptability of certain conceptions in the academic milieu."<sup>53</sup> Therefore,

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<sup>49</sup> Tilton, *The Quest for the Phoenix*, 10.

<sup>50</sup> Ibidem.

<sup>51</sup> Ibidem. Tilton emphasizes that, commenting on the texts of pseudo-Arnoldus de Villanova, Halleux talked about a "close connection of religion with alchemy in the medieval period," while Obrist (in *Le Debuts*, 21) says that "nothing allows us to speculate on the religiosity of an author when he uses a consciously rhetorical process."

<sup>52</sup> Tilton, *The Quest for the Phoenix*, 11.

<sup>53</sup> Ibidem.

if we follow Principe and Newman in counterposing a positively valued ‘correct chemical analysis’ carried out by ‘serious historians of alchemy’ with a negatively valued ‘analysis of unreason’, we not only run the risk of committing a violence against the texts at hand, but we also perform a disservice to contemporary scholarship on the subject of alchemy.<sup>54</sup>

To subsume alchemy in chemistry seems to be the greatest difficulty in accepting Principe–Newman’s position. In this regard, Tilton argues against their misconception, that alchemy is “a subject study in the field of the history of Western esotericism,” and, as a corollary, “the term ‘alchemy’ becomes entirely indispensable.”<sup>55</sup> If Jung’s distinction between “spiritual” alchemy and “physical” chemistry, also used by modern writers on the history of Western esotericism, is fallacious, as Principe and Newman are trying to argue, then all contemporary studies on Western esotericism should review the subject of their studies, and, also, alchemy should not be within the purview of religious studies.

### *Alkimia Speculativa*

Despite the campaign of Principe and Newman, the distinction is still used at the moment in scholarly research: “it is now clear that alchemy was a scientifically and spiritually serious pursuit.”<sup>56</sup> Or, in a different tone, alchemy

in the sixteenth century promised much more than producing gold from base metals. The successful alchemist gained control of life’s forces and uncovered secret wisdom – the essence of all truths and religions.<sup>57</sup>

I suggest that a more moderate thesis, such as that of Bruce T. Moran, a historian of chemistry who argues that alchemists and early chemists switched thoughts and methods until alchemy gradually lost its spiritual or religious aspect and became chemistry at the time of the so-called scientific revolution,<sup>58</sup> is more practical and proper for studying this ambiguous discipline that is alchemy. The statement is close to Eliade’s suggestion that chemistry “was born from

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<sup>54</sup> Ibidem.

<sup>55</sup> Ibidem, 2.

<sup>56</sup> Morrisson, *Modern Alchemy*, 3.

<sup>57</sup> Sally Metzler, “Artists, Alchemists and Mannerists in Courtly Prague,” in *Art and Alchemy*, ed. Jacob Wamberg (Copenhagen: Museum Tusculanum Press, 2006), 131.

<sup>58</sup> Bruce T. Moran, *Distilling Knowledge: Alchemy, Chemistry, and the Scientific Revolution* (London: Harvard University Press, 2005).

the disintegration of the ideology of alchemy,”<sup>59</sup> or Charles Webster’s similar thought, that there is “an almost perfect correlation between the rise of science and the decline of magic.”<sup>60</sup>

Nevertheless, the roots of the spiritual/laboratory distinction can be found in medieval alchemy and not only in nineteenth century occultism, as Principe and Newman suggested. Roger Bacon, in chapter XII of *Opus tertium* (1267),<sup>61</sup> seems to be one of the earliest alchemical authors who made the distinction between *alkimia operativa et practica* and *alkimia speculativa*.<sup>62</sup> The first was dedicated to a mundane purpose, the making of gold, for example, while the latter was the true *scientia*, metaphysical knowledge. An early description by Petrus Bonus of Ferrara in *Pretiosa margarita novella* (1330) stands as another testimony for the fact that it was not only a chemical discipline; it supports the idea that alchemy had a double character – it was a *science* (the mundane facet), but also a *donum Dei* (a supernatural facet). In this context Petrus connected *lapis* with Christ, which means a *lapis divinus*.<sup>63</sup> In the Renaissance, the distinction became sharper than in the Middle Ages, and one sees an abundance of speculative alchemical literature, up to the point that it lost any kind of contact with laboratory realities.

The conception of alchemy as a discipline that only precedes chemistry and is “quite alien to the image of alchemists as primarily seekers of a *unio mystica*”<sup>64</sup> is almost scandalous, considering the fact that there are many authors who called themselves alchemists, such as Vilanova, Ripley, Fludd, Maier, and others, who had an obsession with *unio mystica*. For this reason it is hard to accept that spiritual alchemy has “very little reference to the historical reality of the subject,”<sup>65</sup> and to try to reduce the whole massive speculative alchemical corpus to only chemical research would create serious methodological problems, leaving

<sup>59</sup> Eliade, *The Forge and the Crucible*, 9.

<sup>60</sup> Charles Webster, *From Paracelsus to Newton: Magic and the Making of Modern Science* (Cambridge: Cambridge University Press, 1982), 1.

<sup>61</sup> Roger Bacon, “Opus tertium,” in Roger Bacon, *Opera quaedam hactenus inedita. I Opus tertium, II. Opus minus, III. Compendium philosophiae* (London: Longman, Green, Longman and Roberts, 1859), 39–40.

<sup>62</sup> *Alkimia speculativa, quae speculatur de omnibus inanimatis et tota generatione rerum ab elementis... alkimia operativa et practica, quae docet facere metalla nobilia, et colores, et alia multa melius et copiosius per artificium, quam per naturam fiant.* Roger Bacon also speaks of a *medicina* of metals that is also a *medicina* of the body, an elixir of life. *Medicina* thus became the ultimate way of making perfectible things.

<sup>63</sup> Leah DeVun, *Prophecy, Alchemy, and the End of Time*, 109.

<sup>64</sup> Newman, Principe, *Alchemy Tried in the Fire*, 38.

<sup>65</sup> *Ibidem*, 37.

essential compounds of alchemy unresolved and developing a research trend based on false premises.

Conversely, Principe and Newman, in a book published in 2002, *Alchemy Tried in the Fire*, revised their opinion to a certain extent; they claim that they do not “deny that alchemy is replete with a singular lushness of symbolism and overlapping levels of meaning or that it presents important resonances with religious speculations.”<sup>66</sup> But, this does not mean that “alchemy is nothing but the manipulation of such symbolism or texts without reference to laboratory activities.”<sup>67</sup> This supposition is somehow appropriate, but with serious exceptions, especially in cases where alchemy is connected with cabala,<sup>68</sup> with moral life,<sup>69</sup> spiritual life,<sup>70</sup> divine inspiration, the similitude theory of sympathy and correspondences between what is down and what is above or, in Michael Maier’s case, with musical fugues. This religious and esoteric spider-web is

because Renaissance alchemy believed that the changes in the external world moved in parallel with those in the soul, as throughout the occult sciences – cosmology, psychology, astrology, numerology – a continuous two-level model is used.<sup>71</sup>

During the Renaissance many alchemists were also physicians, and they were under the influence of Paracelsian medicine, a medical-alchemical conception that was closer to a sacred than a secular understanding of the body. The mystical conception of the body linked alchemy strongly with Christianity. Szulakowska<sup>72</sup> has shown that Christian eschatology was an intimate part of alchemy in the late sixteenth and early seventeenth century and Tilton has concluded that

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<sup>66</sup> Ibidem.

<sup>67</sup> Ibidem.

<sup>68</sup> Many relations of alchemical imagery with cabala, theological discourse, and Christ-Anthropos are thoroughly analyzed in Urszula Szulakowska, *The Sacrificial Body and the Day of Doom: Alchemy and Apocalyptic Discourse in the Protestant Reformation* (Leiden: Brill, 2006).

<sup>69</sup> “After all, the alchemical operation was to be valid also for them; it was a religious function requiring of the alchemist a pure, often ascetic life,” Thomas Steven Molnar, *God and the Knowledge of Reality* (New Brunswick, NJ: Transaction Publishers, 1993), 86.

<sup>70</sup> For example, the acrostic of Basile Valentin present in many alchemical emblems and cited in many alchemical treatises: V.I.T.R.I.O.L. (*Visita Interiora Terrae Rectificando Invenies Occultum Lapidem*. “Visit the interior of the earth and by rectifying find the hidden stone”), beside its possible connection with the matter, has an important spiritual meaning, a *descensus ad inferos*, which may be linked with “saturnine melancholy” and the symbolism from Durer’s *Melancholia*; see more in Eliade, *The Forge*, 162.

<sup>71</sup> Brian Vickers, *Occult and Scientific Mentalities in the Renaissance* (Cambridge: Cambridge University Press, 1984), 129.

<sup>72</sup> Szulakowska, *The Sacrificial Body*, passim.

“there exists an ideological congruence in the history of esotericism pertaining to matters of alchemy.”<sup>73</sup> Thus, the emphasis on the laboratory side of alchemy cannot completely uncover the complicated state of Renaissance alchemy and the obvious influence of Neoplatonism, cabala or any other type of spiritual science. Accordingly, the questions that are reached by Western esotericism

cannot be fully answered on basis of the objective or positivistic techniques of traditional approaches to the history of science. We also need help from religious studies and historical anthropology. The concept of self-fashioning also seems useful, leading us, to some extent, to the territory of psychology as well.<sup>74</sup>

Therefore, is alchemy part of the history of science or part of Western esotericism? Or of both? In order to suggest a reply and to express my serious reservations on the Principe–Newman thesis, I will briefly review further, as case studies, the alchemical ideas of two complementary figures of alchemical literature: Michael Maier (1552/1576–1612), an alchemist who over-spiritualized his discipline, and Jakob Böhme (1575–1624), a mystic who alchemized his mysticism.

Almost the entire opus of Maier falls under the rubric of the spiritual understanding of alchemy. First of all, Maier, “the most prominent alchemical physician in Germany since Paracelsus,”<sup>75</sup> followed a tendency developed by Melchior Cibinensis, to make alchemy a religion. In *Processus sub forma missae* (1525),<sup>76</sup> published in 1602 in *Theatrum Chemicum III*, Melchior<sup>77</sup> took the transubstantiation of the bread and wine in Christianity as a replica for alchemical transmutation. In *Symbola aureae mensae duodecim nationum* (1617), Maier published: “a defense and legitimization of the alchemical tradition with the practitioners of twelve nations,”<sup>78</sup> a work considered sometimes its *magnum opus* – the alchemical mass of

<sup>73</sup> Tilton, *The Quest for the Phoenix*, 253.

<sup>74</sup> György E. Szőnyi, *John Dee's Occultism: Magical Exaltation through Powerful Signs* (New York: State University of New York Press, 2004), xiii.

<sup>75</sup> Christopher McIntosh, *The Rosicrucians: The History, Mythology, and Rituals of an Esoteric Order* (York Beach: Weiser Books, 1988), 32.

<sup>76</sup> See Farkas Gábor Kiss, Benedek Láng, Cosmin Popa-Gorjanu, “The Alchemical Mass of Nicolaus Melchior Cibinensis: Text, Identity and Speculations,” *Ambix* 53 (2006): 143–159.

<sup>77</sup> His identity is still a controversial topic. See the chapter *The Identity of Nicolaus Melchior* in Benedek Láng, *Unlocked Books: Manuscripts of Learned Magic in the Medieval Libraries of Central Europe* (Pennsylvania: Penn State Press, 2008), 158–161; Szulakowska, *The Sacrificial Body*, 40; Jung, *Psychology and Alchemy*, 396.

<sup>78</sup> Tilton, *The Quest for the Phoenix*, 139.



Melchior. But Maier added to Melchior's mass an illustration made by Matthieu Merian depicting an alchemical mass, copied from the Roman Catholic one with elements of the Book of Revelation.<sup>79</sup> It is assumed that even if Melchior did not want to identify the *lapis philosophorum* with Christ in his alchemical mass, Maier clearly did.<sup>80</sup> In this framework, the highly marked religious character of Melchior's and Maier's alchemy is clear. And these are not unique examples: "Fludd, Boehme and Franckenberg regarded the Eucharist as a metaphysical type of chemical process" as well.<sup>81</sup>

In a better-known work published in the same period, *Atalanta Fugiens* (1617), Maier completed his spiritual understanding of alchemy with "more overt references to the alchemical sacrament," connecting this with "both the sacrament of Baptism and also that of the Eucharist."<sup>82</sup> This book deserves special attention in order to dispell doubts concerning the spiritual character of alchemy. It is the first alchemical *Gesamtkunstwerk* that comprises music, images, poetry, and prose together in one piece. As is stressed on the frontispiece of the book, all the senses are involved in contact with this treatise: *partim oculis et inteffectui... partim auribus et recreationi... videnda, legenda, meditanda, intelligenda, dijudicanda, canenda et audienda*. In this respect, *Atalanta* is a book that requires a rather contemplative exercise and which seems to lack a direct connection with laboratory work, "providing a series of meditations on the spiritual significance of alchemy."<sup>83</sup> The use of myths in *Atalanta* and in Maier's other works, like *Arcana Arcanissima* (1614),<sup>84</sup> as analogies for alchemical realities – one of Maier's attempts was to reconstruct the entire mythical space through alchemical principles – developed a kind of alchemy that chose a mythological reading of alchemy and an alchemical reading of mythology.

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<sup>79</sup> For a comprehensive commentary on this peculiar illustration and its contextualization see Szulakowska, *The Sacrificial Body*, 41–44.

<sup>80</sup> Ibidem, 43.

<sup>81</sup> Ibidem, 54.

<sup>82</sup> Ibidem.

<sup>83</sup> Urszula Szulakowska, *The Alchemy of Light. Geometry and Optics in Late Renaissance Alchemical Illustration*, 156.

<sup>84</sup> This is his first published book that can be considered an immersion in Classical mythology in order to make sense of it with the help of alchemy. Here one can see Maier's incipient interest in mythology and hermetism, the book being "a combination of scientific and hermetic research with a particular sensitivity to literature, humanistic rhetoric, and classical mythology, often treated satirically," see György E. Szőnyi, "Occult Semiotics and Iconology: Michael Maier's Alchemical Emblems" in *Mundus Emblematicus: The Neo-Latin Emblem Books*, ed. Karl Enenkel and Arnoud Visser (Turnhout: Brepols, 2003), 304.



This is referred to in scholarly literature as *Mythoalchemy*.<sup>85</sup> One can see that Maier's aim was not only to underline the alchemical character of religion, but also that of mythology. Later, Jacob Tollius (1626–1696), philologist and alchemist, in a book published in the same year as Newton's *Principia* (1687), asserts a similar thought that the true meaning of myths is related to alchemy.<sup>86</sup>

But, the most striking thing is not the ultra-spiritualization of alchemy through the sacraments or the alchemical hermeneutics of myth, but the introduction of musical scores in *Atalanta* as part of alchemical science.<sup>87</sup> There is no testimony from the author himself concerning the choice of the musical scores, one can only make hypotheses.<sup>88</sup> One can say that the musical scores must serve a religious and magical purpose since music, especially fugues, because of the rules of counterpoint,<sup>89</sup> rely in the highest way on carefully thought-out mathematical and metaphysical principles.<sup>90</sup>

<sup>85</sup> See Friedmann Harzer, "Arcana Arcanissima: Emblematis und Mythoalchemie bei Michael Maier" in *Polyvalenz und Multifunktionalität der Emblematis/Multivalence and Multifunctionality of the Emblem*, ed. Wolfgang Harms and Dietmar Peil (Frankfurt am Main: Peter Lang, 2002), 319–332.

<sup>86</sup> Jacob Tollius, *Fortuita: In quibus, præter critica nonnulla, tota fabularis historia Græca, Phœnicia, Aegyptiaca, ad chemiam pertinere asseritur* (Amsterdam: Jansson-Waesberg, 1687). The book has no reference to Maier's *Atalanta* or *Arcana arcanissima*.

<sup>87</sup> There are important studies on the musical scores from *Atalanta fugiens*, for example: Christoph Meinel, "Alchemie und Musik," in *Die Alchemie in der europäischen Kultur und Wissenschaftsgeschichte*, ed. Christoph Meinel (Wiesbaden: Otto Harrassowitz, 1986), 201–227. Franz Liessem, *Musik und Alchemie* (Tüzing: H. Schneider, 1969). Another study concerns the relation between the musical fugues and alchemy of David Yearsley, "Alchemy and Counterpoint in an Age of Reason," *Journal of the American Musicological Society* 51 (1998): 201–243, unfortunately Maier's book is not so discussed. I think that the question of Maier's musical education is still unresolved. The problem is more delicate taking into account that his fugues were compared with the high level of Bach's fugues.

<sup>88</sup> The hypotheses are that the music was performed at the court of Rudolf II; as an accessory for laboratory practice; as part of a theatrical play, and so forth. The following presumption is notable for laboratory practice: "Maier intended these alchemical 'incantations' to be sung by an alchemic choir at critical moments during the concoction of Philosopher's Stone, under the simultaneous influences of prayer and the heavenly bodies," Read, *From Alchemy*, 73. One could say that its function is similar to that of talismans.

<sup>89</sup> "One of the most challenging exercises in counterpoint," see: Joscelyn Godwin, "The Deepest of the Rosicrucians. Michael Maier (1569–1622)" in *The Rosicrucian Enlightenment Revisited*, ed. Ralph White (Hudson: Lindisfarne Books, 1999), 120.

<sup>90</sup> An important study on the magic of music is Gary Tomlinson, *Music in Renaissance Magic: Toward a Historiography of Others* (Chicago: University of Chicago Press, 1994). Unfortunately, Tomlinson did not take into account the musical scores of *Atalanta*.

Each musical score has three melodic lines, where Maier notes at the beginning:

- *Atalanta seu vox fugiens* (first voice)
- *Hippomenes seu vox sequens* (second voice)
- *Pomum obiectum seu vox morans* (third voice)

Every voice symbolically corresponds to the volatility, flightiness, and fugitiveness of Mercury (Atalanta), Sulphur's virtue (Hippomenes), and Salt (the golden and delaying apples of the Hesperides).<sup>91</sup> Also, these melodic lines match the triad: spirit – soul – body. Atalanta can stand for Nature and for Alchemy herself, while Hippomenes is the alchemist desiring to understand Nature or the science of alchemy. Through the golden apples of the Hesperides, the alchemical Salt, Maier illustrated the way to catch Mercury (Atalanta), which is in eternal polarity with Sulphur (Hippomenes).

The parallelism of the alchemical triad with the myth of Atalanta seems to be interpreted in diverse ways by different scholars. For example, Lyndy Abraham says that Sulphur is symbolized by the golden apples.<sup>92</sup> If one assumes this, then the music also should be thought of in another way: *cantus firmus* would not be only *pomum morans*. I would argue that Maier's alchemical conception is illustrated in the structure of the music. The relation of Mercury and Sulphur (as a unity of opposites) with the third element, which is Salt, apparently expresses his Paracelsian<sup>93</sup> understanding and the way in which an alchemist should research the spiritual and natural levels, and, even more, how to achieve the Great Work.<sup>94</sup>

If, for Maier, the ultra-spiritual character of alchemy is more than evident, in Böhme's work one can say that it is almost the other way around, at first sight

<sup>91</sup> Carolien Eijkelboom, "Alchemical Music by Michael Maier," in *Alchemy Revisited*, ed. Z. R. W. M. von Martels (Leiden: Brill Archive, 1990), 98.

<sup>92</sup> Lyndy Abraham, *A Dictionary of Alchemical Imagery* (Cambridge: Cambridge University Press, 2001), 13.

<sup>93</sup> Paracelsus attached a new conception about matter to the Aristotelian four elements – *tria principia* or *tria prima* – adding two medieval principles of matter (sulfur and mercury) and a third element, which is salt, with an enormous influence on alchemy.

<sup>94</sup> One of the modern editors of *Atalanta*, Joscelyn Godwin, converted the fifty canons into modern score notations, see Joscelyn Godwin, *Michael Maier's Atalanta Fugiens (1617). An Edition of the Fugues, Emblems and Epigrams* (Magnum Opus Hermetic Sourceworks, 22) (Grand Rapids MI: Phanes Press, 1989). The edition, now a rarity, was published in 250 copies with a seventy-minute recording of the complete canons. A reviewer of the edition compared the recording with Machaut, Gesualdo, and Stravinsky; Douglas Leedy, "Atalanta Fugiens: An Edition of the Fugues, Emblems and Epigrams by Michael Maier; Joscelyn Godwin," *Notes* 47, No. 3 (1991): 737.

it seems that he used alchemical language for a purpose that is beyond alchemy – the spirituality of the world. In other words, if for Maier alchemy was the ultimate science, for Böhme it was mediation to mysticism. In several works he used alchemical principles and symbols without hesitation to demonstrate theological realities. Borrowing alchemical terminology in order to explain religious and mystical frameworks, Böhme assumed that alchemical language is not only a metaphor for laboratory research. Alchemy is a metaphysical science because he understood that matter is contaminated with spirit.

The deeply mystical and alchemical character of Böhme's work is not so obvious for Principe and Newman, who claim that:

Even if Böhme's work were taken as evidence of the 'spiritual alchemy' promoted by esoterics and occultists, it would remain to be proven by historical argument that he falls into the mainstream of early modern alchemical thought, and that extrapolations about alchemy in general could be reliably or usefully made from him.<sup>95</sup>

For a historian it is perhaps the hardest and most challenging task to prove the non-alchemical-spiritual character of Böhme's work. It is questionable whether it is representative of early modern alchemical thought, especially because of its esoteric and mystical extravagance concerning the conception of nature at a time when "positivist" alchemical thinking was becoming increasingly popular. One can say that a mystic like Böhme fits, and at the same time does not fit, in the "the mainstream of early modern alchemical thought," and surely his work does not fit, as I will argue below, in the scope of the tendencies of chemical thought as conceptualized by Principe and Newman.<sup>96</sup>

It is generally accepted by scholars that the Paracelsian conception of "the healing purposes of alchemy" had "considerable significance" in Böhme's corpus.<sup>97</sup> In *The Three Principles of the Divine Essence* (1612), one of his first works, Böhme claims in a subchapter called "The Gate of the Highest Depth of the Life of the Tincture" "that neither the doctor, nor the alchemist, hath the ground

<sup>95</sup> Newman and Principe, "Some Problems with the Historiography of Alchemy," 399.

<sup>96</sup> One can see that the Early Modern period has two strong opposite tendencies, more or less well expressed: an esoteric and mystical one, and an experimental and positivist one that sometimes agree with each other (e.g., Böhme versus Boyle), or overlap (e.g., Athanasius Kircher or Newton). But even so, the gap between chemical thought and alchemy is too profound to research them with the same methodology.

<sup>97</sup> Andrew Weeks, *Boehme: An Intellectual Biography of the Seventeenth-Century Philosopher and Mystic* (Albany: SUNY press, 1991), 50.

of the tincture, unless he is born again in the spirit.”<sup>98</sup> Here it is clearly assumed that the research conducted by the alchemist only in the laboratory, like a mere metallurgist, without any spiritual aim, remains profane and meaningless. And this is not a unique case in Böhme’s corpus. Another example of his confidence in alchemy can be found in *De Signatura Rerum* (1621), which abounds in examples of alchemical imagery, speaking about all things (the sun, the elements or all creatures) as a revelation of eternity.

In a later work, *Mysterium Magnum* (1623), an interpretation of the Book of Genesis, Boehme discusses the relation of alchemy to mystical experience. One can see “Boehme’s alchemical understanding of salvation”<sup>99</sup> where he translates his anthropological theology into alchemical language. For example, for Böhme,

the true Adamic man whom God made out of the Earth-matrix in whom stands the covenant and gift is similar to a tincture in coarse lead; the tincture consumes in itself, through its own desire, the coarseness of the lead as the coarse Saturn, kills the saturnine will, leads his own will, understood as the tincture-will and selfhood up into lead and through the lead is transformed into gold.<sup>100</sup>

For Arlene A. Miller, the interpretation of this fragment in a spiritual framework does not raise significant problems: “What this passage means is simply that lead or Saturn, here used synonymously... through a tincturing process, here associated with the love and grace of God, become gold, the reborn sinner.”<sup>101</sup> Miller added that here Böhme should not be interpreted merely through the Eckhartian *unio mystica*,<sup>102</sup> but rather close to alchemical realities: “it is akin only to the alchemical conception of a gross metal losing its gross accidental properties to a new spiritual core of gold within the gross metal, a new metal which emerges through fire and the tincturing process.”<sup>103</sup> Böhme is unable to see only *vulgar* and material realities in alchemical processes. Everything is linked until the moment when doing alchemy is the same thing as doing theology:

<sup>98</sup> Jakob Böhme, *Concerning the Three Principles of the Divine Essence* (London: John M. Watkins, 1910), 207.

<sup>99</sup> Arlene A. Miller, “The Theologies of Luther and Boehme in the Light of Their Genesis Commentaries,” *The Harvard Theological Review* 63 (1970): 278.

<sup>100</sup> *Mysterium Magnum; oder Erklärung über das erste Buch Mosis in Theosophia Revelata...* (Hamburg, 1715), chapter 51, in Miller, “The Theologies of Luther and Boehme,” 278.

<sup>101</sup> Ibidem.

<sup>102</sup> I suppose that here Miller emphasizes the priority of the transmutation more than the transcendence of the matter in Boehme’s alchemical thought.

<sup>103</sup> Ibidem.

the sun gives its tincture to the metallic essence and the metallic essence gives its desire to the sun's tincture so that out of these two a beautiful gold is born... the same spiritual essence is the inner, new man, as a new house or residence of the soul in which it [the soul] lives in accordance with the heavenly world.<sup>104</sup>

Understanding alchemy as a mirror for mysticism can be found from the beginning, in his first book, *Aurora* (1612). At this time, discussing the notion of *Salitter*, it is assumed, as in *De signatura rerum*, that there are two complementary layers: a transcendent and a corrupt *Salitter*. These two forms were “idealized by Böhme to represent the duality of the pure and the spoiled divine substance.”<sup>105</sup> As a corollary, the “entire work” consists of these two realities, holy and earthly, each of them a representation of eternity. This is why, for Böhme, alchemy is a sign, a divine mark, of the sacred reality, and can be understood as a metaphysical discipline.

The most representative example of the presence of a spiritual understanding of alchemy is exactly where one would expect, least. Isaac Newton's (1643–1727) manuscripts provide evidence that he gave considerable thought to alchemy as emblematic of a purely scientific explanation of nature and was in fact deeply involved in conceiving alchemy as spiritual. Next to Eirenaeus Philalethes (George Starkey, d. 1665), Michael Sendivogius (1556–1636), and Jan de Monte Snyder, Michael Maier was one of Newton's preferred alchemists, *authores optimi*.<sup>106</sup> Newton believed that alchemical writings “if properly interpreted, would reveal the wisdom handed down by God in the distant past.”<sup>107</sup> Like Maier himself, he considered that there “was a close connection between spiritual and experimental domains.”<sup>108</sup> Newton “seems to have been particularly interested,”<sup>109</sup> in Maier; the “interest in Maier's writings also supports the view... that his alchemy cannot be seen solely in connection with his chemical experiments but was also a link between his religious beliefs and his scientific aims.”<sup>110</sup> One of Newton's earliest

<sup>104</sup> *Mysterium Magnum*, chapter 52 in Miller, “The Theologies of Luther and Boehme,” 295.

<sup>105</sup> See Weeks, *Boehme: An Intellectual Biography*, 67.

<sup>106</sup> I. Bernard Cohen and George E. Smith, “Introduction,” in *The Cambridge Companion to Newton*, ed. I. Bernard Cohen and George Edwin Smith (Cambridge: Cambridge University Press, 2004), 24.

<sup>107</sup> Ibidem.

<sup>108</sup> Ibidem.

<sup>109</sup> Frances Amelia Yates, *The Rosicrucian Enlightenment* (London: Routledge, 2002), 256.

<sup>110</sup> Cf. Karin Figala, “Newton's Alchemy,” in *The Cambridge Companion to Newton*, ed. I. Bernard Cohen and George Edwin Smith (Cambridge: Cambridge University Press, 2004), 375.

manuscripts, from about 1669, includes extracts from an important book by Maier, *Symbola Aureae Mensae* (Keynes MS 29).<sup>111</sup> As Yates noted, “Newton had entered that world of Maier’s alchemical revival, had studied the alchemical sources which it brought together, and had pored over the strange expression of its outlook in the alchemical emblems.”<sup>112</sup>

Like Maier, who saw an alchemical discourse in mythology, Böhme considered that all sciences (i.e., the traditional and esoteric disciplines, such as cabala) speak about the same mystical reality. Considering the fact that Böhme’s insight into alchemical terminology seems to be that of someone who knows this discipline well, it is hard to presuppose that his speculation concerning the mystical character of alchemy is unfounded. Even Principe, discussing the notion of *Salitter* in Böhme’s work, agrees that Böhme “demonstrates knowledge of both theoretical and practical alchemy,” and his “notion of the *Salitter* bridges the gulf between Hermetic naturalism and mechanistic science.”<sup>113</sup> As a result, I agree with Andrew Weeks, who considered that “Böhme’s own approach to alchemy stressed its spiritual allegory.”<sup>114</sup>

Of course, there are differences in the perception of the spirituality of alchemy. If for Maier alchemy is the ultimate speculative and spiritual discipline, for Böhme it is a tool to create analogies with his mystic theology, while Newton saw in alchemy the possibility of understanding the divine plan. Maybe there was no unitary understanding of alchemy as spiritual, but it is sure that, in the light of this spiritual feature, a pure empirical approach was insufficient. As I have argued until now, one should seriously take into consideration Paracelsus’ assertion that

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<sup>111</sup> Ibidem, 374–375. The manuscript Keynes Ms. 32 also contains the abstracts of five works by Maier (from the early 1690s), one of which is *Atalanta fugiens*, see *Newton Manuscript Catalogue*. For more information see John Harrison, *The Library of Isaac Newton* (Cambridge: Cambridge University Press, 1978), 188–189 and Betty Jo Teeter Dobbs, *The Janus Faces of Genius* (Cambridge: Cambridge University Press, 1991), 122–123.

<sup>112</sup> Yates, *The Rosicrucian Enlightenment*, 257.

<sup>113</sup> Lawrence M. Principe and Andrew Weeks, “Jacob Boehme’s Divine Substance Salitter: Its Nature, Origin, and Relationship to Seventeenth Century Scientific Theories,” *The British Journal for the History of Science* 22 (1989): 61. I cannot comment on whether one can see here a contradiction between assuming Böhme’s “knowledge of both theoretical and practical alchemy” and the later consideration that “it would remain to be proven by historical argument that he [Böhme] falls into the mainstream of early modern alchemical thought.” See Newman and Principe, “Some Problems with the Historiography of Alchemy,” 399.

<sup>114</sup> Weeks, *Boehme: An Intellectual Biography*, 193.

“the discipline’s worth is to be evaluated in terms which have nothing to do with the ennobling of metals.”<sup>115</sup>

## Concluding Remarks

It is not the purpose of this study to defend or to support Jung’s and Eliade’s research, but I certainly would like to emphasize the arbitrary character of labeling alchemy as primarily a scientific and positivistic inquiry. The argument of Principe and Newman that alchemy is not as spiritual as one would suppose is not consistent and it is also based on controversial biographical features of Jung and Eliade. As I have argued, however, Principe’s and Newman’s sources do not have academic relevance for either the life or scientific research of Jung and Eliade.

My suggestion is not that the Jung–Eliade thesis could perfectly account for the topic in the history of science or of Western esotericism, but I claim that the Principe–Newman thesis is sterile and does not satisfactorily demonstrate exactly how the so-called spiritual approach of alchemy failed.<sup>116</sup> The proto-chemical thesis is not necessarily inappropriate, but this position (which I would call “positivistic ideological”) reduces something that in almost all cases is too complex to be limited solely to the activity of laboratory research.<sup>117</sup> The Principe–Newman thesis implies reductionism, while Jung or Eliade never dismissed the scientific character of alchemy. This is the reason why, for the historians of ideas,

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<sup>115</sup> Massimo L. Bianchi, “The Visible and the Invisible. From Alchemy to Paracelsus,” in *Alchemy and Chemistry in the 16th and 17th Centuries*, ed. Piyo Rattansi and Antonio Clericuzio (Dordrecht: Kluwer, 1994), 17.

<sup>116</sup> Newman tried to show that the title of *Decknamen* includes reference to a chemical process, thus elucidating the obscure language of Eirenaeus Philalethes. Therefore, the alchemical symbols are simple signs as they are used in today’s chemistry, *Decknamen* being “cover names” for “mineral substances” used by alchemists, see William R. Newman, “‘Decknamen or Pseudochemical Language?’ Eirenaeus Philalethes and Carl Jung,” *Revue d’histoire des sciences* 49 (1996): 159–188. For a critique see Tilton, *The Quest for the Phoenix*, 234.

<sup>117</sup> Thomas Kuhn, in his famous *Structure of Scientific Revolutions* (1970), introduced the term incommensurability to stress the fissure between scientific theories, that a previous scientific theory cannot be translated into a new theory. Even if one accepts that alchemy was closer to chemistry than to spiritual and esoteric behaviour, there were still “paradigm shifts” that make it difficult to understand – there are two basically different systems of explanation and understanding of matter. According to Kuhn, the past work is “incommensurable” with our current science. Therefore, if one accepts their thesis of a continuum of a linear progress, the Kuhnian challenge of gaps between scientific theories remains.



religion, or esotericism, to name only a few branches, the Principe–Newman attempt should be doubted. A definite answer concerning the nature of alchemy is intricate. In some cases, indeed, it is rather chemical research than alchemical, but questioning the religious character of alchemy, for example in the case of Maier or Böhme, is unfortunately an error.

I consider that the nature of early modern alchemy is one of the most challenging issues for the history of ideas and the history of Western civilization. Alchemy is only chronologically close to the rise of scientific research, but “ontologically” it is almost at the opposite pole.<sup>118</sup> The hypothesis of the existence of metaphorical language used in order to express chemical processes does not seem too problematic to me. Indeed, in several alchemical works one can presuppose that the crypto-alchemical discourse in fact covers a pseudo-chemical one; and that the obscurity of symbols can be revealed like *Decknamen*, as Newman pointed out. To generalize to the whole alchemical movement, however, is too hazardous. The popularization of the idea that alchemy was only spiritual is even more harmful, as can easily be seen in pseudo-scientific research.<sup>119</sup> Both tendencies can be regarded as part of what David Fischer called the historian’s fallacies.<sup>120</sup>

To summarize, the line of my argument to reject the Principe–Newman thesis was based on the following ideas and the aim of reconsidering the exclusivist approach of the historians of science dealing with alchemy: 1. The distinction between alchemy and chemistry can trace its roots from the Middle Ages. 2. The distinction is accentuated until the moment when such speculative literature appeared, so that it is almost impossible to find any kind of material or laboratory issues. 3. The attempt to demolish the difference by arguing that scholars such as Jung and Eliade were influenced by the nineteenth-century fashion for occultism and that the root of the distinction cannot be found earlier, being an “ahistorical”

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<sup>118</sup> Another issue that is almost totally ignored by Principe and Newman is that with Newton one can see a transition towards *inductive* scientific thinking, a characteristic of modern physical and chemical sciences. On the other hand, alchemical thinking is tributary in almost all the cases, to *deductive* thinking, specific to medieval scientific research. Therefore, making alchemists into a kind of “modern” researchers in primitive laboratories, is like saying that they used an *inductive* way of thinking *avant-la-lettre*.

<sup>119</sup> It is almost impossible to nominate a representative voice for this pseudo-science that promotes erroneously the ideas of Jung or Eliade in order to have a kind of *auctoritas* voice for its purpose. The production of this kind of literature is huge, and it is another topic and part of another phenomenon.

<sup>120</sup> See David Hackett Fischer, *Historians’ Fallacies: Toward a Logic of Historical Thought* (New York: Harper Torchbooks, 1970).



approach, is entirely incorrect. 4. The annihilation of the difference would leave important disciplines without subjects or restrict their subjects. One such example is the history of Western esotericism, a controversial academic discipline, but still a young and imperative one for understanding the history of Western civilization. 5. Finally, the spiritual–non-spiritual dichotomy is the result of the exclusivist and partisan character of some researchers who accentuate only the chemical facet, while humanist researchers do not exclude the chemical nature of alchemy.