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# Modern-Day Alchemy: a Science Beyond Science<sup>1</sup>

**Abstract.** The article deals with Western alchemy as a sociocultural phenomenon, its relationship to modern science, and the way of its existence in the contemporary world. The author provides an overview of several contemporary approaches to so-called "neo-alchemy", distinguishing the following currents on the basis of emic self-description: alchemy blended with elements of science, hyperchemistry, and traditional alchemy. After describing these trends, the paper examines how alchemy remains an impactful element in culture even outside of those adherents who take it literally, discussing its role in contemporary philosophy and touching upon its discourses being reproduced through processes of museification. The author concludes that the phenomenon of alchemy in the modern world acquires the features of an underground subculture occupying its own niche in the sociocultural space.

**Keywords:** alchemy, history of alchemy, hyperchemistry, contemporary esoteric movements.

#### In memoriam

This article is dedicated to the memory of Dr. Yuri F. Rodichenkov (1966–2021), a prominent scholar of the history and philosophy of alchemy, the author of numerous and profound academic works in this field, and a member of the Association for Study of Esotericism and Mysticism (ASEM).

<sup>&</sup>lt;sup>1</sup> This paper is based mainly on the materials of the lecture given by the author at Summer School on Western Esotericism, Kyiv, July 3, 2017.

The author of this paper greatly appreciated Dr. Rodichenkov's constructive advice, comments, criticism, and valuable information about modern alchemists while working on the first versions of the manuscript.

### **Introduction: Modern-Day Alchemy**

The 20th-century crises gave rise to doubts among intellectuals about whether the path of civilization that had been elected by the West, marked by ideals of Science, Reason, and Progress, was truly the right path. The transformation of a modern utopia of "endless progress" into the dystopia of mankind's global problems naturally caused disappointment in the rationalistic optimism of science. One of the ways of a search for a philosophical alternative manifested was in the growth of public interest towards the irrational and the esoteric. At the same time, esoteric and non-scientific phenomena become objects of impartial academic study in their own right, and despite stereotypes of being "outdated" remain important for the spiritual life of contemporary society.

One such esoteric phenomenon is alchemy. In every era, alchemy has a number of traits that remain constant. It has always had a mystical and esoteric character, a peculiar sociocultural peripherality, and an aspiration to break through into the sphere of the infinite. This description holds true not only for classic medieval alchemy, but also in the Hellenistic era when alchemy did not even have its name (Rodyhin, 2016). And in the context of the contemporary "New Middle Ages", positing that alchemy has died a sociocultural death seems to be an exaggeration.

Within that scope, practitioner authors have argued that "alchemy in the modern world is quite legitimate" (Golovin, 2003, p. 18), and a number of contemporary scholars share this opinion. British authors Michael Baigent and Richard Leigh connect the "hermetic revolution" and corresponding social actualization of the phenomenon of alchemy with the 1960's "occult revival" in the West (Baigent and Leigh, 2003). In turn, the Russian scholar Vladimir Vinokurov argues that the disciplines of the hermetic complex, including alchemy, revived and developed at all levels of social consciousness since the late 19th century (Vinokurov, 2012, p. 35). Moreover, according to Kenneth Rayner Johnson, alchemy was a predecessor of classical chemistry but continued to develop and flourish even after scientific chemistry was established (Johnson, 2009, p. 38). On that basis, he argues that alchemy has never had a "revival" because it had never vanished. This statement is echoed

by Golovin: "If alchemy is an eternal art, why should it revive?" wrote Yevgenii Golovin (Golovin 203, p. 18). Although Johnson's statement about the flourishing of alchemy in the 18th–19th centuries seems to be somewhat exaggerated, I otherwise agree with his assessment.

According to Vladimir Vinokurov, "we can talk about the historical phenomenon—the alchemy of the Middle Ages and the Renaissance (until the Modern era) or about *the phenomenon of alchemy*. In this sense, 20<sup>th</sup>–21<sup>st</sup> centuries alchemy is a phenomenon that belongs to the 20<sup>th</sup>–21<sup>st</sup> – century history, but at the same time, it is a medieval phenomenon" (Vinokurov 2012, p. 27).

### Alchemy as a Science(?)

Previously, I have examined a number of auto-definitions of Western alchemy and shown that that its general definition oscillates between three possible attributions: to art, to science, and to natural philosophy (Rodyhin, 2013). Some authors use several concepts simultaneously, which indicates the complex and ambiguous nature of alchemy as a historical phenomenon, or at the very least an expressed ambiguity in its understanding. Later definitions given by academic scholars of alchemy fare little better.

At the beginning of the 20th century, researcher of alchemy Herbert Stanley Redgrove wrote:

Alchemy is generally understood to have been that art whose end was the transmutation of the so-called base metals into gold by means of an ill-defined something called the Philosopher's Stone; but even from a purely physical standpoint, this is a somewhat superficial view. Alchemy was both a philosophy and experimental science, and the transmutation of metals was its end only in that this would give the final proof of the alchemistic hypotheses; in other words, Alchemy... was the attempt to demonstrate experimentally... the validity of a certain philosophical view of the Cosmos (Redgrove, 1922, p. 2).

19<sup>th</sup> and 20<sup>th</sup> century researchers of alchemy emphasized the repetitive use of "scientific" in definitions of alchemy, including variations from "proto-science" or even "pseudoscience" to "science that teaches the methods of transformation of elements" or one of the "secret sciences". In some definitions, terms were intertwined in the manner of modern occultism. Despite the definition of alchemy as a "science,"

it was fundamentally opposed to the science of chemistry (and modern science in general).

Dennis William Hauck in the foreword to Robert Allen Bartlett's book *Real Alchemy* wrote:

No alchemist in history ever thought the Secret Art was solely a mental discipline. The work of transformation takes place in the real world. Yet alchemy is not chemistry. Chemistry is a superficial science that deals only with the external forms in which the elements manifest. A chemist seeks to rearrange atoms and molecules to exhibit different properties of the same dead material. An alchemist seeks to create an entirely new substance by exposing its essences, bringing them alive, and causing them to grow (Hauck, 2009, p. 3).

Analogously, 20<sup>th</sup>-century occultist Franz Hartmann considered alchemy to be "a science by which things may not only be decomposed and recomposed (as is done in chemistry), but by which their essential nature may be changed and raised higher, or be transmuted into each other" (Hartmann, 1896, p. 30).

In general, such definitions demonstrate an ambiguity in understanding the very concept of "science."

Nonetheless, we can state that among the forms of knowledge that do not belong to the presently recognized area of "the scientific," alchemy is one of the most well-ordered. According to Ukrainian researcher Ivan Chornomordenko, the fundamental difference between alchemy and scientific knowledge may, in general terms, be found at the level of axiological guidance. He states that alchemy cannot be regarded as a true science primarily because the alchemists set an unrealistic goal that is practically and theoretically impossible to achieve through cognitive methods and procedures known to scientists. Chornomordenko concludes that alchemy could be considered science if it did not seek to set an unrealistic purpose. However, in this case, alchemy would no longer be alchemy (Chornomordenko, 2004).

Chornomordenko additionally argues that it would be wrong to view representatives of such forms of knowledge alternative to science as simply uneducated or ill-educated people and to explain the prevalence and vitality of alternative forms of knowledge in our past and present with deficiencies in the educational process. In recent decades the phenomenon of non-scientific knowledge has become increasingly important. In other words, the fact that scientific knowledge should not be

considered the only feasible way of acquiring vital and necessary information for humanity is becoming more and more obvious. If correctly evaluated, a quasi-science can be regarded as an important source of non-scientific information (Ibid).

Returning to the question of the definition of alchemy as a science, I posit that despite its specific "science-like" nature, it can only be considered a science in the old, pre-modern sense. "Science" in alchemical discourse not only flows organically into art and natural philosophy but also features the sacred ("traditional") science, which is non-identical with the science of modernity.

Adam McLean, a researcher of alchemical symbols, considers some peculiarities of present-day look at Hermetic art. McLean notes that enthusiasts still practice alchemical experiments and continue an ancient tradition. Some of these new practitioners who take an interest in alchemy use it as a source of philosophical and esoteric ideas to support different belief systems they hold. Unfortunately, this does not normally lead to a deeper understanding of alchemy itself. Other contemporary practitioners see alchemy as a part of depth psychology. Finally, alchemical imagery is often used as decoration, for example in books and on many websites, where it is often associated with things and ideas to which these images have no connection. For this reason, McLean argues, alchemy can be considered an important part of cultural history and can be explored in an exact and scholarly way (McLean, n.d.)

According to Vinokurov, alchemy is presented within contemporary consciousness as a mysterious phenomenon whose essence is incomprehensible or lost. Alchemy and the philosopher's stone are perceived as Magnum Ignotum (the Great Unknown) (Vinokurov, 2012, p. 35). A similar narrative is presented in the famous book *The Morning of the Magicians* by Jacques Bergier and Louis Pauwels, where the authors present alchemy as the remaining of knowledge of a hypothetical lost civilization (Bergier and Pauwels, 2009, p. 77).

In the 20<sup>th</sup> century, the discovery of the transmutation of elements in nuclear reactions allowed scientists to reconsider their skeptical and condescending attitude to alchemical ideas. However, as William Newman and Lawrence Principe note, "such well-intentioned rehabilitation of alchemists and their art lies behind the early twentieth-century denomination of the reality of radioactive decay as a 'vindication' of the alchemical belief in transmutation; this spurious connection is still encountered in popular texts on alchemy and serves as a point of confusion rather of clarification" (Newman and Principe, 2001, p. 416).

## "Non-Alchemical" Alchemy

The 19<sup>th</sup> century brought with it a number of attempts by adherents of alchemy to justify their art, giving it a modern scholarly appearance by combining elements of alchemical views, usually concerning transmutation, with a liberal interpretation of the latest discoveries of chemistry.

According to the memoirs of mid-19th century French historian Louis Figuier an anonymous philosopher advocated for the idea of transmutation of metals by extending the concept of isomerism to them in an interview with him. Characteristically, he simultaneously denied the traditional properties of the philosopher's stone, except the ability to turn metals into gold (Figuier, 1860).

The French chemist and photographer, Theodore Tiffereau, approached alchemical exercises in a similar "positivist" way. He believed that metals are not simple bodies but complex ones, so their transmutation is possible. He argued that he had conducted a series of successful experiments on transmutation by chemical methods while staying in Mexico. However, repeated experiments for the Academy of Sciences after returning to France were fruitless (Ibid., p. 380–381).

Another example of such "chemical" alchemy was the activity of the American chemist Stephen Henry Emmens. In 1897, he reported on the necessity of introducing a new theoretical element in the periodic table between gold and silver. He believed that the element possessed the properties of both gold and silver and named it "argentaurum." Emmens argued that silver could be turned into argentaurum, which supposedly had the properties of ordinary metallic gold. The same word, "Argentaurum," was the name of the company he founded. In addition, Emmens published a small book, *Some remarks concerning gravitation*, where he tried to revise Newton's law of universal gravitation. After a discussion with scientists on the pages of the "Science" journal, Emmens refused both alchemy and science and asserted that the work in the Argentaurum laboratory was a case of pure desire for wealth that was not being pursued the sake of science (Emmens, 1898, p. 388).

In the 20<sup>th</sup> century, the list of attempts to carry out transmutation via non-alchemical methods was extended by the engineer Zbigniew Dunikowski, known today as "the last alchemist of Lviv." He developed a machine to get gold from sand or ore using mysterious "Z-rays" (Łotysz, 2009). In the 1930s, he was imprisoned for fraud after a series of unsuccessful experiments. According to one of the versions of his story, the Nazis forced Dunikowski to work on transmutation in the secret laboratories of the SS during the Second World War. Such stories are

widespread, and separating real adventurous episodes from legends is very difficult. Similar episodes of collaboration of "goldmaker" alchemists with the Nazis also include the names of Heinrich Kurschildgen and Karl Malchus. While Kurschildgen was an evident swindler, Malchus had a reputation as a metallurgist and could offer a certain way of obtaining gold within scientific approaches. It is also possible that he was a British agent, and the alchemical entourage was a carefully designed legend (Rodichenkov, 2019, p. 447–448).

In general, the kind of researcher seeking to transmute metals not by traditional alchemical means but through methods offered by modern science was denoted by the French author Jacques Sadoul by the term "archimistes" (Sadoul, 1972). Yet there is also another slightly different type of reception of alchemical ideas under conditions of a dominant scientific discourse—so-called "hyperchemistry", para-scientific views that seek to synthesize traditional alchemy and new science.

## Hyperchemistry

The famous American chemist and historian of science Henry Carrington Bolton wrote: "The modern alchemists accept all the traditions of their ancient predecessors, but give them a new significance, and interweave the novel phenomena derived from researches in pure science" (Bolton, 1897 p., 858).

In 1896, the Alchemical Society of France was founded. Its president was François Jollivet-Castelot. The society was created with the assistance of the Martinist Order with the direct participation of Gerard Encausse, known as Papus, and Paul Sedir.

Jollivet-Castelot was not only a theoretical philosopher but primarily a practicing alchemist and a chemist by education. He represented new alchemy as a combination of chemistry with alchemy. Paradoxically, Jollivet-Castelot did not seek to preserve alchemy through modern chemistry. On the contrary, he believed that scientific chemistry could be saved only by appealing to alchemy. In his tracts, he mixed scientific chemical and alchemical discourses as if they were the ingredients of an alchemical recipe. Jollivet-Castelot based his philosophical constructs on the ideas of hylozoism: he believed that opening a new stage in the development of chemistry could only be the desire to awaken the life which was hidden in substances (Rodichenkov, 2019, p. 430–431).

Jollivet-Castelot was also friends with the famous Swedish writer August Strindberg, who also showed great interest in alchemy and the production of artificial gold. In 1896, Strindberg wrote: "Literature makes me sick, and I am gradually moving over the science, which it is a matchless joy to practice" (Kauffman and Kauffman, 1994, p. 429).

Strindberg repeatedly turned to the topic of transmutation and even gave his detailed recipes for obtaining gold. At the same time, he also used quite modern intelligible scientific terminology rather than the symbolism of traditional alchemists. For the writer, alchemy was a means of knowing the mysteries of the universe or even gaining immortality. Still, Strindberg's aim in the gold-making practice was not personal enrichment but a desire to destroy the world economy and modern society by producing alchemical gold "to overthrow the Golden Calf" (Kauffman, 1988, p. 71). Here, Strindberg with his global ideas is reminiscent of a "mad scientist" fictional figure like Engineer Garin, a character in Count Alexei N. Tolstoi's 1920s novel.

One of Strindberg's most important books on alchemy is *Antibarbarus*. According to historians of chemistry George and Laurie Kauffman, this is "his first and most important scientific book, which contains his declaration of war against modern natural science" (Kauffman and Kauffman, 1994, p. 436). Strindberg argued that Sulfur was not an element, but a compound (something like a resin), consisting of carbon, hydrogen, and oxygen. He stated that sulfur, carbon, mercury, thallium, rubidium, cesium, and other elements were not true elements. He considered photosynthesis as evidence of his idea of the non-elementary nature of carbon. Strindberg wrote that air consisted of oxygen and a modification of hydrogen; in turn, water was seen as merely condensed air (Ibid., p. 436). Due to its revolutionary ideas, quite far from normal scientific discourse, "Antibarbarus" was an outstanding and extraordinary essay, even for the history of alchemy (Rodichenkov, 2019, p. 438–439).

Another close friend of Jollivet-Castelot was the famous alchemist and researcher of alchemy Albert Poisson. Poisson was an adherent of the alchemical tradition who pursued a strict watershed between the alchemy of the past and scientific chemistry. So, his attitude toward alchemy and science was not like that of "hyperchemists". However, even while he practiced alchemy in a laboratory, he wrote that by his time there was no more alchemy, and only interest in its history had remained. He saw it as curious that the discoveries of science seemed to prove the unity of matter and, consequently, the possibility of transmutation. Poisson compared this to how Pythagoras already knew of the Earth moving around the Sun, but only two thousand years later, Copernicus restored this old truth (Poisson, 1891, p. xi).

### **Traditional Alchemy in the Modern World**

Whether traditional alchemy is possible in the modern world remains a controversial topic. The chemist and practitioner of alchemy Robert Allen Bartlett wrote: "By the 1800s, the practice of Alchemy had largely disappeared in the outer world in favor of its still young offshoot — chemistry. Alchemy survived underground in various "Secret Societies which became popular especially towards the end of the nineteenth century" (Bartlett, 2009, p. 12–13). From this perspective, alchemy was not completely superseded and destroyed by new science, but the conditions of its existence had changed.

Yuri Rodichenkov wrote that the starting point of this new version of alchemy (for which he proposed the term "neo-alchemy") could be placed in 1832, when the book *Hermes Unveiled: The finding of the philosopher's stone* by Cyliani was published (Rodichenkov, 2019, p. 422; Rodichenkov, 2013, p. 78). Almost nothing is known about this author. In the foreword, Cyliani wrote that he had succeeded in obtaining the philosopher's stone after 37 years of searching (Cyliani, 1915, p. 1). It means that the beginning of Cyliani's alchemical search dates to the end of the 18<sup>th</sup> century when the existence of alchemy was not yet in doubt. We thus believe it is unwarranted to talk about a significant break in the timeline of the alchemical tradition.

The list of the 19<sup>th</sup>-century alchemists was continued by Louis-Paul-François Cambriel, who probably influenced Victor Hugo's interest in Hermetic art.

In the middle of the century, Louis Figuier wrote the essay "Alchemy in the Nineteenth Century." There he stated that the old belief in the philosopher's stone had not disappeared despite the successes of the newest chemistry. The alchemists, this "stubborn race of people <...>, remained predominantly in dreamy Germany." but they were also found in France, Italy, and other countries (Figuier, 1860, p. 379–380).

In 1850 in England, Mary Anne Atwood published *A Suggestive Inquiry into the Hermetic Mystery*. It caused another rise of interest in alchemy, despite the author herself breaking off its promotion. Atwood withdrew the books from the sale six weeks after publication in fear that her research revealed too many secrets. Later, the book was repeatedly reprinted (Rodichenkov, 2019, p. 422–424).

A separate point of interest in alchemy was the Hermetic Order of the Golden Dawn, founded in London in 1888. Its research and practical activities were closely connected with magic, hermeticism, and alchemy. However, a full examination is beyond the scope of this article. Alchemical societies also appeared in Italy and England in the early  $20^{th}$  century. The English Society published the Journal of the Alchemical Society (Ibid., p. 443).

With respect to modern-day alchemy, one author of note is Fulcanelli. Like a true alchemist, this person was surrounded by secrets, rumors, and questionable information. His true identity, biography, years of life, and even whether one person wrote under this name or several, remains unknown despite a great amount of speculation (Caron, 2006). Two well-known works were published under that pseudonym: The Mystery of the Cathedrals in 1926, and Philosophic residences and Hermetic symbolism in its relationship to sacred art and the esotericism of the Great Work in 1930.

Eugène Canseliet claimed to be a pupil of Fulcanelli. His works dealt with both the work of the spiritual and operations with material objects. A subtitle to his famous book *Alchemy* stated that the work was devoted to "Hermetic symbolism and a philosophical practice." According to Canseliet, knowing the secrets of alchemy was possible only with spiritual vision, but not solely by science and reason.

Albert Riedel, known as Frater Albertus, the founder of the Paracelsus Research Society, published his *Alchemist's Handbook* in 1960. He wrote about the inviolability of alchemical knowledge:

"Hermetic philosophers have taught the very same fundamentals even as philosophers of the future will do, for that which constitutes truth will remain truth. It cannot be changed. But the theories of men and their opinions, which are incorrectly given by some as truth, are subject to change. Because one calls himself a philosopher does not necessarily make him such. Only he is a philosopher who has a sincere love for the wisdom that manifests universally and who strives as sincerely to apply it in his daily life. Wisdom is acquired through righteous living. It is understanding applied" (Frater Albertus, 1974, p. 23).

Frater Albertus recognized the spiritual and material as two different but closely interrelated aspects of being, just as they were two spheres of alchemical philosophy. Like the alchemists of the past, he emphasized that truth must be hidden from profane and unworthy men and explained:

Only that which has stood the test of fire has been purified. That there is still a cloak of secrecy covering alchemical processes and that this must yet remain so will have to be accepted by all aspiring alchemists. For personal greed has no place in Alchemy. The aim of all true Adepts is to help relieve a suffering mankind in its physical and spiritual misery. A nonacceptance of this excludes one automatically from the circle of Adepts (Frater Albertus, 1974, p. 15).

The contemporary follower of alchemy Mark Stavish formulated another variation on the basic principles of alchemical philosophy. Stavish wrote that alchemy connected the spiritual with the material by manipulating the etheric energies guided by the influence of the alchemist. According to Stavish, everything in alchemy consists of three parts, which are known as beginnings or foundations: it is sulfur (soul), mercury (life force), and salt (material matrix). Three beginnings are composed of four elements. They all emerge from a primordial emptiness known as chaos, or prime matter (Hyle) (Stavish, 2006, p. 32). There is a marked continuity between the foundations of modern alchemy and the ideas as of medieval alchemy, where similar concepts, such as the creation of the world from chaos, the four elements, and the three principles, are present in both. The interest in the spiritual increasingly expressed in Renaissance and early modern alchemy not only remains among modern alchemists, but deepens.

Along with the followers of traditional alchemical ideas, there is also a growing number of supporters of teachings that are alchemical-spiritualist, but still utilitarian in nature, concentrating mainly on psycho-techniques and meditative recipes. For example, Elizabeth Prophet and Patricia Spadaro in the book *Alchemy of the Heart* suggest that the way to spiritual perfection is through self-knowledge and meditative practice. They considered alchemy as a self-transformation essential for spiritual growth (Rodichenkov, 2019, p. 455).

Kenneth Rainer Johnson highlighted three main directions in modern alchemy. The first one considered alchemy as a psycho-spiritual phenomenon and material alchemical practice as an allegory. It brought elements of yoga and sexual magic to alchemy. The second school focused on the physical side of discipline, namely on manufacturing tinctures by homeopathic methods. Such spagyric alchemy was associated with the names Armand Barbault, Archibald Cockren, and Albert Riedel. The third school turned to medieval traditions of laboratory alchemy and worked with salts and metals, intending to obtain a philosopher's stone and elixir. The most famous representatives were Fulcanelli and his followers (Johnson, 2009, p. 237–239).

### Alchemy in the Sociocultural Space

Not only does alchemy have literal contemporary adherents, but alchemy in our time is an object in the process of intellectual and philosophical comprehension of historical heritage.

Alchemy is a powerful symbolic resource in contemporary philosophical anthropology (Morozov, 2011). A comparative analysis of traditional alchemical views and the theoretical achievements of modern science suggests that the beliefs of ancient masters about the unity of the Universe and its self-regulation are, in a certain sense, dialectically reborn in a new quality in modern science — in the anthropic principle and synergetic approach (Rodyhin and Biletsky, 2009).

Another aspect of scientific reflection and reconsideration of alchemy is the active processes of museification of alchemical heritage: the social institute of museums effectively preserves and translates the spirit of the phenomenon of alchemy. The figurative and legendary dimension of alchemy undergoes museification along with the material traces of the historical existence of the phenomenon. Old legends are materially embodied and live their own lives in modern culture. Therefore, not only the historical data of the alchemical realities of the past are important for study, but also the accompanying imaginary dimension, which is a special reality ("that which could be").

Such a "museified" way of alchemy's existence in the modern world goes beyond the purely scientific understanding of the alchemical heritage and acquires new unexpected features if one considers museum communication as a kind of manifestation of a pilgrimage, and a museum as "a tool of consistent initiation that lasts throughout life" (Mankovska, 2009). A museum creates a special spatio-temporal continuum, where the processes of sacralization of the rational and rationalization of the sacred are taking place in the unity of direct and indirect communication in consciousness (Rodyhin *et al.*, 2013).

Hermetic ideas, plots, myths, and their reflection in folklore tradition receive a multifaceted reflection in fiction. The alchemical myth acquires a new life in legends and novels. In the 20th century, the image of the scientist in the mass consciousness was mythologized and acquired the features of an archetypic and ambivalent figure like the alchemist, sorcerer, and magician—a kind of Faust and Frankenstein made into one person. (Haynes, 2006) The work on nuclear power demonstrates the validity of one recurring theme in alchemical thought: the disclosure of the secrets of Nature is both a source of boundless opportunities and a great danger. It imposes an indispensable moral responsibil-

ity on the adept, for the power of secret knowledge must not be used for unworthy purposes.

The French historian Lucien Febvre wrote that people were enslaved by their technical achievements only because they ceased to believe in the human value of science. When no purpose captured people beyond the usual horizons, their goals became means, and they turned from free people into slaves (Febvre, 1943, p. 16).

The famous traditionalist thinker Rene Guenon came to a consonant conclusion from a fundamentally different position: those who awaken the brute forces of matter to rule over them would perish from the same forces, being unable to rise above a purely material level. These considerations echo the traditional alchemical aphorism "Tam ethice quam physice", and are even more topical in the context of Fulcanelli's warning on the dangers of "a science without conscience" (Pauwels and Bergier, 2009, p. 95).

In the context of the critique of modern Western civilization, such opposition is occasionally projected into sociopolitical discourse, where it acquires a characteristically revolutionary tone. For example, according to the French author Bernard Roger, modern science serves the exploitation of nature first and, subsequently, man himself. Alchemy, on the contrary, is "an art of love": it seeks not to dominate nature but to act in harmony with it. Thus, the old craft of alchemy and the young "anti-science" stance in social discourse express the same thing—the rejection of technocratic specialization, efficiency at any cost, mercantile utilitarianism. "Make love not technology"; the choice is between two types of society, views on life, and concepts of power (Thuillier, 1974). In this context, the term "Hermetic revolution" used by Michael Baigent and Richard Leigh as a synonym for the "occult revival" in the West of the 1960s does not seem absurd.

#### Conclusion

Our overview of contemporary branches and manifestations of the alchemical tradition shows that alchemy features in the modern world as an underground subculture that occupies its own niche in the sociocultural space of the West. Even though certain practitioners, such as the follower of Fulcanelli Claude d'Yge, defend the authenticity of the alchemical tradition in the modern world and fundamentally distinguish Western alchemy from the imagery of modern science, para-science (e.g., "hyperchemistry") or entirely spiritualistic practices (Ygé, 1991), we have shown that, in fact, the search of modern hermeticists takes a variety of forms. Much as in previous eras, alchemy runs the

gamut from spiritual techniques such as yoga to para-scientific laboratory experiments using the latest inventions of natural science. We therefore conclude that alchemy's history as a "science beyond science" continues in a way that is both traditional and deeply modern.

Alchemy as "a science beyond the science" continues.

#### Посилання

Бейджент М., Ли Р. (2004), Эликсир и камень: Традиции магии и алхимии, Эксмо, Москва.

Винокуров, В. (2012), "Алхимия в современном мире – sol niger", Апполонов, А., Винокуров, В., Давыдов, И., Осипова, О., Фадеев, И. *Мадпит Ідпотит: Алхимия. Иконология. Схоластика*, Книжный дом «Либроком», Москва, с. 27–196.

Головин Е. (2003), *Приближение к Снежной Королеве*, Арктогея-Центр, Москва.

Джонсон, К. (2009), Феномен Фулканелли, Энигма, Москва.

Маньковська, Р. (2009), "Музеологія як наукова галузь: сучасний дискурс та проблема теоретичного інтегрування", *Краєзнавство*,  $N^0$  3–4, с. 136–143.

Морозов, В. (2011), *Алхимия в свете философской антропологии*, Автореферет диссертации, Санкт-Петербург.

Родигін, К. (2013), «Феномен алхімії Заходу в координатах науки, мистецтва та філософії», *Paddhati*, Вип. 2. [Електронний ресурс]. Доступно за: <a href="http://7promeniv.com.ua/naukovi-doslidzhennia/mizhdystsyplinarnyi-zhurnal/216-2013-vipusk-2/1148-kostiantyn-rodyhin-fenomen-alkhimii-zakhodu.html">http://7promeniv.com.ua/naukovi-doslidzhennia/mizhdystsyplinarnyi-zhurnal/216-2013-vipusk-2/1148-kostiantyn-rodyhin-fenomen-alkhimii-zakhodu.html</a> (дата звернення: 23 грудня 2021).

Родигін, К. (2016), *Феномен західної алхімії в соціально-філософ-ському вимірі*, Автореферат дисертації. Переяслав-Хмельницький.

Родигін, К., Білецький, В. (2009), «Феномен алхімії: Час, Хаос і Порядок», *Схід*, № 8 (99), с. 113–116.

Родигін, К., Родигіна, О., Родигін, М. (2013) «Феномен алхімії в сучасному світі: музеологічний аспект», *Вісник Донецького національного університету. Серія Б. Гуманітарні науки*, Т. 2, № 1–2, с. 79–90.

Родиченков, Ю. (2013) «Практическая духовность и духовная практика алхимии», Государство, религия, церковь в России и за рубежом,  $N^0$  4, с. 66–86.

Родиченков, Ю. (2019) Двадцать веков алхимии: от псевдо-Демокрита до наших дней, Изд-во РХГА, Санкт-Петербург.

Чорноморденко, І. (2004) "Квазінауки як позанаукове знання", *Мультіверсум.* Філософський альманах, № 44. с. 82–90.

Bartlett, R. (2009) Real Alchemy, Ibis Press, Lake Worth.

Bolton, H. (1897) "The revival of alchemy", *Science*. Vol. VI, No. 154, pp. 853–863.

Caron, R.F. (2006), Dictionary of Gnosis & Western Esotericism. Brill, Leiden.

Cyliani (1915), Hermes Devoile, Bibliotheque Chacornac, Paris.

Emmens, S.H. (1898), "The Revival of Alchemy – A Rejoinder", *Science*. Vol. VII, No. 168, pp. 386–389.

Febvre, L. (1943) "Propos d'initiation: vivre l'histoire", *Annales d'histoire sociale*, No.°3, pp. 5–18.

Figuier, L. (1860) L'alchimie et les alchimistes. Essai historique et critique sur la philosophie hermetique, V. Lecou, Paris.

Frater Albertus (1974), *The Alchemist's Handbook*, Samuel Weiser, New York.

Hartmann, F. (1986), The life of Philippus Theophrastus Bombast of Hohenheim known by the name of Paracelsus, and the substance of his teachings, London.

Hauck, D. (2009) "Foreword", Bartlett, R. *Real Alchemy*, Ibis Press, Lake Worth, pp. 3–4.

Haynes, R. (2006) "The Alchemist in Fiction: The Master Narrative", *HYLE*, Vol. 12, No. 1, pp. 5–29.

Kauffman, G. (1988), "August Strindberg, Goldmaker", *Gold Bulletin*, Vol. 21,  $N^{\circ}$  2, pp. 69–75.

Kauffman, G., Kauffman L. (1994) "Poet in the laboratory: August Strindberg as alchemist", *The World and I*,  $N^{\circ}$  1, pp. 427–437.

Łotysz, S. (2009), "Alchemik czy oszust? Sprawa Zbigniewa Dunikowskiego", *Kwartalnik Historii Nauki i Techniki*, Vol. 54,  $\mathbb{N}^{0}$  2, s. 63–82.

McLean, A. "What Exactly is Alchemy?", available at: <a href="http://www.alchemywebsite.com/introduction.html">http://www.alchemywebsite.com/introduction.html</a> (accessed 23 December 2024).

Pauwels, L., Bergier, J. (2009), *The Morning of the Magicians*, Destiny Books, Rochester.

Poisson, A. (1891) Theories et symboles des alchimistes. *Le Grand Ouevre*, Bibliotheque Chacornac, Paris.

Principe, L., Newman, W. (2001) "Some Problems with the Historiography of Alchemy", Newman, W. and Grafton A. (eds.) *Secrets of Nature: Astrology and Alchemy in Early Modern Europe*, assachusetts Institute of Technology, Cambridge, pp. 385–431.

Redgrove, H. (1922) Alchemy: Ancient and Modern. Philadelphia.

Sadoul, J. (1972) *Alchemists and Gold: The Story of Alchemy through the Ages*, G.P. Putnam's Sons, New York.

Stavish, M. (2006) *The Path of Alchemy*, Llewellyn Publications, Woodbury.

Thuillier, P. (1972) "Petit vade-mecum de l'alchimiste du XXe siècle", *Recherche*, Vol. III, No. 29, pp. 1105–1108.

Ygé, C. d'. (1991), Nouvelle assemblee des philosophes chymiques, J. C. Bailly Editeur, Paris.

#### References

Baigent, M., Li, R. (2004), *Eliksir i kamen: Traditsii magii i alkhimii*, Eksmo, Moskva.

Vinokurov, V. (2012), "Alkhimiya v sovremennom mire – sol niger", Appolonov, A., Vinokurov, V., Davydov, I., Osipova, O., Fadeev, I. *Magnum Ignotum: Alkhimiya. Ikonologiya. Skholastika*, Knizhnyy dom «Librokom», Moskva, s. 27–196.

Golovin, E. (2003), *Priblizhenie k Snezhnoy Koroleve*, Arktogeya-Tsentr, Moskva.

Dzhonson, K. (2009), Fenomen Fulkaneli, Enigma, Moskva.

Mankovska, R. (2009), "Muzeolohiya yak naukova haluz: suchasnyy dyskurs ta problema teoretychnoho intehruvannya", *Krayeznavstvo*,  $N^{\circ}$  3–4, s. 136–143.

Morozov, V. (2011), *Alkhimiya v svete filosofskoy antropologii*, Avtoreferat dysertatsii, Sankt-Peterburg.

Rodyhin, K. (2013), «Fenomen alkhimiyi Zakhodu v koordynatakh nauky, mystetstva ta filosofiyi», *Paddhati*, Vyp. 2., [online], available at: <a href="http://7promeniv.com.ua/naukovi-doslidzhennia/mizhdystsyplinarnyizhurnal/216-2013-vipusk-2/1148-kostiantyn-rodyhin-fenomenalkhimii-zakhodu.html">http://7promeniv.com.ua/naukovi-doslidzhennia/mizhdystsyplinarnyizhurnal/216-2013-vipusk-2/1148-kostiantyn-rodyhin-fenomenalkhimii-zakhodu.html</a> (accessed 23 December 2021).

Rodyhin, K. (2016), Fenomen zakhidnoyi alkhimiyi v sotsialnofilosofskomu vymiri, Avtoreferat dysertatsiyi, Pereyaslav-Khmelnytskyy.

Rodyhin, K., Biletskyy, V. (2009), «Fenomen alkhimiyi: Chas, Khaos i Poryadok», *Skhid*,  $\mathbb{N}^0$  8 (99), s. 113–116.

Rodyhin, K., Rodyhina, O., Rodyhin, M. (2013), «Fenomen alkhimiyi v suchasnomu sviti: muzeolohichnyy aspekt», *Visnyk Donetskoho natsionalnoho universytetu. Seriya B. Humanitarni nauky*, Vol. 2, № 1–2, s. 79–90.

Rodichenkov, Yu. (2013), «Praktycheskaya dukhovnost i dukhovnaya praktika alkhimii», *Gosudarstvo, religiia, tserkov v Rossii i za rubezhom*,  $N^0$  4, s. 66–86.

Bartlett, R. (2009) Real Alchemy, Ibis Press, Lake Worth.

Bolton, H. (1897) "The revival of alchemy", *Science*. Vol. VI, № 154, pp. 853–863.

Caron, R.F. (2006), *Dictionary of Gnosis & Western Esotericism*. Brill, Leiden.

Cyliani (1915), Hermes Devoile, Bibliotheque Chacornac, Paris.

Emmens, S.H. (1898), "The Revival of Alchemy – A Rejoinder", *Science*. Vol. VII, No. 168, pp. 386–389.

Febvre, L. (1943) "Propos d'initiation: vivre l'histoire", *Annales d'histoire sociale*, No.°3, pp. 5–18.

Figuier, L. (1860) L'alchimie et les alchimistes. Essai historique et critique sur la philosophie hermetique, V. Lecou, Paris.

Frater Albertus (1974), *The Alchemist's Handbook*, Samuel Weiser, New York.

Hartmann, F. (1986), The life of Philippus Theophrastus Bombast of Hohenheim known by the name of Paracelsus, and the substance of his teachings, London.

Hauck, D. (2009) "Foreword", Bartlett, R. *Real Alchemy*, Ibis Press, Lake Worth, pp. 3–4.

Haynes, R. (2006) "The Alchemist in Fiction: The Master Narrative", *HYLE*, Vol. 12, No. 1, pp. 5–29.

Kauffman, G. (1988), "August Strindberg, Goldmaker", *Gold Bulletin*, Vol. 21, № 2, pp. 69–75.

Kauffman, G., Kauffman L. (1994) "Poet in the laboratory: August Strindberg as alchemist", *The World and I*,  $N^{o}$  1, pp. 427–437.

Łotysz, S. (2009), "Alchemik czy oszust? Sprawa Zbigniewa Dunikowskiego", *Kwartalnik Historii Nauki i Techniki*, Vol. 54, № 2, s. 63–82.

McLean, A. "What Exactly is Alchemy?", [online], available at: <a href="http://www.alchemywebsite.com/introduction.html">http://www.alchemywebsite.com/introduction.html</a> (accessed 23 December 2024).

Pauwels, L., Bergier, J. (2009), *The Morning of the Magicians*, Destiny Books, Rochester.

Poisson, A. (1891) Theories et symboles des alchimistes. *Le Grand Ouevre*, Bibliotheque Chacornac, Paris.

Principe, L., Newman, W. (2001) "Some Problems with the Historiography of Alchemy", Newman, W. and Grafton A. (eds.) *Secrets of Nature: Astrology and Alchemy in Early Modern Europe*, assachusetts Institute of Technology, Cambridge, pp. 385–431.

Redgrove, H. (1922) Alchemy: Ancient and Modern. Philadelphia.

Sadoul, J. (1972) Alchemists and Gold: The Story of Alchemy through the Ages, G.P. Putnam's Sons, New York.

Stavish, M. (2006) *The Path of Alchemy*, Llewellyn Publications, Woodbury.

Thuillier, P. (1972) "Petit vade-mecum de l'alchimiste du XXe siècle", *Recherche*, Vol. III, No. 29, pp. 1105–1108.

Ygé, C. d'. (1991), Nouvelle assemblee des philosophes chymiques, J. C. Bailly Editeur, Paris.