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## *Science towards cultural memory – (about) alchemy discourse(s)*

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Scientific discourse, if subjected to historical observation, is a problem difficult to unambiguously define, to outline its clear and distinct boundaries, or indicate its constitutive features. This is connected with, among other things, cultural and social transformations affecting the shape and scope of scientific communication of various epochs. However, in order to avoid valuation, I am moving away from the use of terms such as ‘pre-scientific,’ ‘proto-scientific,’ etc., which contain a valuation element and implicitly direct even the thinking of the scientific discourse as an improving and optimising phenomenon that is subject to the laws of the teleological evolution of language and communication in general. I assume that at each stage of the transformation, communication takes the forms most appropriate for a given period and meets the conditions and expectations of the community because it is a reflection of the civilisation situation of the epoch<sup>1</sup>. Such thinking about a broadly understood scientific variety of language acquires a certain dimension in respect of specific situations and problems, among which one could mention the status and place of alchemy in scientific discourse, still unresolved and often controversial, which is the subject of this paper.

I would like to address issues related to alchemy, referring to the issue of cultural memory. For some time, there has been a growing interest in the

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<sup>1</sup> I also write about it elsewhere; see e.g. Rejter 2018, in print a, b.

issue of memory from different perspectives. Researchers notice that “Everything speaks for the fact that the issue of memory will influence the creation of a new paradigm of cultural research, which will put various phenomena and fields into a new light – art and literature, politics and society, religion and law” (Assmann 2008: 27). Aleida Assmann (2013: 39–57) differentiates four forms of memory: individual, generational, collective, and cultural<sup>2</sup>, of which I will be most interested in the last one.

Another level should be placed above communication and collective memory, i.e. the cultural memory. Like the collective memory, cultural memory serves the purpose of passing on experience and knowledge across generations, thus creating long-term social memory. However, while collective memory achieves stabilisation through radical concentration of content, far-reaching intensification of symbols and reference to strong affections of mental emotions, it is the cultural memory that is based on external media and institutions that care about memory and convey knowledge. At the level of cultural memory, the transfer of experiences, memories and knowledge to material media, such as books and films, plays a decisive role. While image and writing have mainly signalling value for collective memory and serve as signs or appeals for a common, embodied memory, such as [...] graffiti with some date on the wall, cultural memory is based on a conveyed, complex repertoire of heterogeneous symbolic forms (Assmann 2013: 55).

Paweł Majewski puts it even more concisely:

“Cultural memory” means here, as it was wanted by the authors and supporters of this term which is fashionable nowadays, resources of symbolic contents, passed from generation to generation, determining collective identity for the use of the members of each culture in history; resources not identical with the content of history, but convergent towards it (Majewski 2013: 7).

It should also be remembered that cultural memory is subject to various processes and treatments. It is sometimes the “material” of the present; it returns, following the principle of repetition, recreation, simulation or recycling in various areas: popular culture, advertising, mass tourism (Wieczorkiewicz 2012) et al. (Tarkowska 2012: 17–42). The paradoxical dimension of the functioning of memory in the present is reflected in the characteristic metaphors which address the problem in such a way that the time of memory is the present time (Krajewski 2003: 208) or, according to Manuel Castells (2007), timeless time.

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<sup>2</sup> cf. Assmann 2013.

The contribution of linguistic reflection to memory research is still modest, especially when compared to the achievements of social psychologists, historians, sociologists, cultural experts or anthropologists, but there is a certain revival in the area of linguistic reflection on this issue<sup>3</sup>. First of all, the inalienability of the memory attribute in the communication process, which functions in the memory area (Dobrzyńska 2018). In his reflections on the relations between language and memory, Wojciech Chlebda draws attention to the links between certain phenomena and the terms that define them. He uses the diagram of a triangle, on the vertices of which he places “culture,” “identity” and “memory,” while at the centre there are “language” and “subject” (Chlebda 2018: 66). The author comments on the scheme, presenting the concept of the relation between language and memory:

None of the vertices of this triangle [...] can exist except in connection with the other two vertices, implying the presence of both vertices in the analysis of the vertex of a given triangle, while the essence of each of them is determined by the fundamental for the existence of all three vertices of the notion of language (linguistic) and subject (subjectivity, multi-subjectivity) that permeates this whole keystone. For research on memory, the layout of concepts outlined here seems to create a context – in my opinion inalienable (Chlebda 2018: 66).

The above findings are, in my opinion, a good starting point for reflections on the specificity of transformations in the area of both scientific discourse and science itself. An exemplification of my reasoning will be **alchemy** as a certain highly original and borderline phenomenon in various fields, but also understood in various ways, subject to many, often contradictory, evaluation procedures.

The general dictionary of contemporary Polish language notes that *alchemy* is “a current of natural philosophy, characterised by attempts to find a universal means (a philosophical stone) that would support nature in its quest for perfection, e.g. it would turn other substances into gold” (USJP). In another, similar publication, one can find the more precise information that “Alchemy is a field of old, especially medieval, investigations and experiences, whose task was to find a philosophical stone, enabling the transformation of all metals into gold and understanding the secrets of nature, e.g. longevity” (IS).

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<sup>3</sup> See e.g.: “Text and Discourse – Text und Diskurs,” 2014, No. 7 (the issue is entirely devoted to the problem of memory); Czachur (ed.), 2018.

This dictionary also takes into account the second meaning, i.e. “Alchemy can be called the art of doing something, especially creating, if we want to emphasise its mysterious character” (IS). Already at this stage we encounter some inaccuracies and generalisations, which explain, albeit ambiguously, the etymology according to which *alchemy* is a lexeme: a combination of the prefix *al-* and the word *Chemi* (“Egyptian science”)<sup>4</sup> (WSEHJP). Another etymological hypothesis refers to Greek forms of *chymós* “juice,” *eu-chymia* “juiciness” (ESJP). From the comments, we can conclude that – generalising and trivialising – alchemy is a science // an ancient art, strongly connected with nature, referring to it and based on it; it is a mysterious (secret?) science, the assumptions of which are the understanding and change (improvement) of the surrounding world, mainly due to actions carried out on various substances. The permanence and certain charm of alchemy and what is associated with it can be seen, for example, in the presence of this issue in popular culture, even in literature for children<sup>5</sup>, not to mention the numerous texts of culture in the broadly understood genre of science fiction for adults.

An important problem in the discussion about the essence and status of alchemy is its attitude towards chemistry, or more broadly – the science that chemistry represents<sup>6</sup> in the modern sense (i.e. in the sense of enlightenment, positivism, scientism...). The concept of discourse in Michel Foucault’s teachings (2009)<sup>7</sup> seems to be helpful here. While language (as a system) is understood by the scholar as a certain resultant, a formula, a set of rules established on the basis of the analysis of a set of statements or a set of discourse facts (Foucault 2009: 313), it is the discourse itself that is “a whole of linguistic sequences, always finite and currently limited; they can be quite incalculable; they can also, through their accumulation, surpass any ability to record, remember or read, and yet form a finite whole” (Foucault 2009: 313–314). Further statements are extremely important:

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<sup>4</sup> A similar concept of etymological explanation of the concept was found in Roman Bugaj’s work (1998, vol. 1: 35–36).

<sup>5</sup> Suffice it to mention the series about the adventures of Harry Potter by Joanne K. Rowling or Polish Mr. Blot’s adventures described by Jan Brzechwa.

<sup>6</sup> Alchemy is noted as a domain of the (pre//proto)-scientific period before enlightenment, most often combining it with medicine, although partially also with chemistry; cf., e.g., Howiecki 1981: 54–55.

<sup>7</sup> This is where the term “discursive science” appears. The philosopher treats science as a phenomenon which, like other phenomena (e.g. sexuality, disease, penalisation), is oppressively influenced by normative social formations, thus submerged in discursive structures; see also Foucault 1977, 2006.

The question, which *à propos* any discursive fact poses the analysis of language, is always as follows: according to what rules was such an utterance created and consequently according to what rules could other similar utterances be created? The description of the discourse also poses a question, how does it happen that this particular utterance appeared, and not some other in its place? (Foucault 2009: 314).

The aforementioned concept falls within the Foucault theory of power-knowledge, but also, in a sense, close to some linguistic approaches to discourse; those that accentuate the socio-cultural aspect of it and its external context. Linguists are also familiar with the obvious distinctions between language (the system, *langue*) and discourse (utterances, *parole*), from which M. Foucault draws, as do semiologists. Julia Kristeva states:

Text does not name or designate anything external; it denotes an attribute (harmony) of the Heraclitean mobility, which no sign-language theory could accept, and which poses a challenge to the Platonic assumptions concerning the essence of matter and the forms, replacing it with another language whose materiality we are only just beginning to see in the text. The text is therefore directed in two ways: towards the system of meaning in which it is produced (language and speech of a given epoch and specific society) and towards the social process in which it participates as a discourse (Kristeva 2015: 7).

Therefore, regardless of the discipline of knowledge, one can see some common features in perceiving the essence of communication as a process, finding updates, among other things, in the discourse.

The answer to questions about alchemy and its place in scientific discourse is certainly a combination of cultural, social and civilisation factors, but it also has the epistemological dimension of a given era referring to the notion of science as such. So, the question is not whether alchemy is a science or a proto-science (in respect of chemistry), but rather what alchemy was in a given epoch and how this affects its contemporary perception. The legitimacy of the problem posed in this way is also justified by various approaches to alchemy, which are reflected in today's contemplation. Thus, we are moving into the history of science, which, although cultivated with the use of various instruments, always "seeks [...] the conceptual framework that will link it to social and cultural history" (Rheinberger 2015: 19).

M. Foucault, in keeping with the French tradition of epistemology, searched for global patterns – discursive structures that give coherence to the whole intellectual epochs. Therefore, one could try to look at alchemy as a phe-

nomenon of scientific discourse in a dynamic perspective and point out the panchronic aspects that make up the contemporary perception of alchemy<sup>8</sup>.

It seems that the colloquial conceptualisation of alchemy is stereotypical. This field is associated primarily with some mysterious knowledge, acquired on the basis of unknown practices in some dark laboratories in the past. Associations are probably obvious: witchcraft, magic, mystery, obtaining gold from other materials, looking for a panacea for everything (the philosopher's stone), freemasonry, secret associations, power, etc. Therefore, we have an example of a strongly conventionalised, non-detached and ahistorical image. This is in line with the thesis on the conventionalisation of closed language in clichés, phraseologies and other structures stabilised, reproduced and used even for widely designed communication practices (e.g. newspeak), in which philosophers also see an important medium of memory and a source of social immersion of cognition (Gut 2013: 411–416).

Now, when positivist scientism has been replaced by postmodern nebulosity, when categorisation has been replaced by typology, and theoretical generalisations by a register and description of specimens (see e.g. Witosz 2016), the view of issues, such as alchemy, has also been re-evaluated. This is confirmed, for example, by popular science texts in which passages relating to alchemy rehabilitation can be found:

It is often referred to as “proto-chemistry” – an early, primitive form of what later became a decent, developed science. This is not so. Alchemy and chemistry are two separate, mature disciplines (Lamża 2017).

Popularisation studies put in order information about alchemy as a secret knowledge (hermetic, unavailable to the general public; see Bugaj 1998), which has its natural anchorage (similarly to the old medicine or botany) and are subjected to clearly defined rules and methods of management, typologised over time<sup>9</sup>. Of course, there are also fanatic and charlatan movements in the area of alchemy, but it is not limited to sensational aspects only (Lamża 2017, Stundis 2014).

The issue of alchemy is present in contemporary scientific discourse, mainly in the field of philosophy and science. According to researchers, al-

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<sup>8</sup> This issue will be further developed in other works that are being prepared.

<sup>9</sup> Here, for example, iatrochemistry is referred to as a variety of alchemy, and its origin is attributed to Paracelsus (cf. Stundis 2014).

chemy has long been of interest and fascination to scientists, including those indirectly connected with Hermeticism. An example is Isaac Newton, who in 1700 translated the *Emerald Tablet* into English. It is a short text with the character of an invitation, a preamble or a decalogue of secret knowledge, written in 1000, in Arabic. Many theses and assumptions of the Hermeticism synthetically lined in the *Emerald Tablet* became close to philosophical concepts of pantheism (Sytnik-Czetwertyński 2015: 153–155). I. Newton conducted scientific research using methods known to alchemists, as evidenced by his scattered writings. However, the full view of the problem is still unknown and it is difficult to state unequivocally what influence Hermeticism had on the prince of physics, though certainly it had some influence (Sytnik-Czetwertyński 2015: 167).

Science theorists and historians are increasingly trying to destroy the stereotypes that place alchemy in the circle of pseudo-sciences, which is reflected in numerous studies representing highly differentiated positions in this area (Kazibut 2012)<sup>10</sup>. The words of Radosław Kazibut, a historian of science, are significant:

In the vast literature on the subject of the history of science, many historians took a stand in the discussion on the cognitive status of alchemy. Following this work, it can be seen that three main positions have been systematised. The first – recognising alchemy as a pseudo-scientific activity – is presented to the greatest extent by the authors of classical treatises on the history of science: Rupert Hall, Alistair Crombie, or by Helen Metzger and Maria Boas Hall. At the other end of the spectrum, we should consider researchers who are trying to “disenchant” the way alchemy is perceived as a pseudo-scientific activity. A group of contemporary researchers, such as William Newman, Lawrence Principe, Trevor Lever and Moran Bruce, is representative of this position. The third group is represented by researchers who argue with the thesis of proto-scientific alchemy and point to the specific nature of this practice, which is not reducible only to its practical or esoteric aspect. Therefore, **reflections on the history of alchemy should not be placed in the context of a discussion on the scientific or pseudo-scientific issues of this type of intellectual human activity, but rather in terms of a general cultural phenomenon** [emphasis A.R.] (Kazibut 2012: 44).

The postulate of cultural contextualisation of the perception of alchemy is close to me, which I have already mentioned in this paper. Such an approach allows us to treat the problem of alchemy as an *exemplum* of an

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<sup>10</sup> Here, too, there is a rich literature on alchemy and its status in contemporary scientific reflection.

area where we can observe the relation between language (and more broadly: discourse) and memory. In this case, it would be a voice in the discussion on scientific discourse (and discourse in general) as a variety/phenomenon/level of communication.

Referring once again to W. Chlebda's proposal (2018), which would see **language and subject** at the centre of the relation between language and memory, one could say that in the case of alchemy as a subject or research problem, but also culture, **language** limits us on the one hand by its conventionalisation, which generates stereotypical and clichéd perception, and further reproduction of the trivialised image of alchemy; on the other hand, by placing the problem in the scientific spectrum, it encourages objectivisation, impartiality and non-emotional attitude towards the object of description. As for the **subject**, it will vary depending on the type of discourse. Current scientific findings revaluing alchemy seem to find more and more recognition – first of all, in popular science discourse, and then, perhaps with time, in colloquial discourse. The entity participating in the communication situation will therefore be influenced by a variety of discourses, both as sender and recipient.

**Culture, identity and memory** are the contexts for language and subject. In the case that interests me, I would understand **culture** as the heritage of the Mediterranean, a set of assumptions and props of western formation, growing out of a particular philosophy of nature, the human, epistemology, metaphysics, etc., but also as an understanding and approach to science, subject to transformation in time. This would explain the different attitudes towards alchemy and its perception throughout history. **Identity**, on the other hand, has a key meaning and dimension when it comes to the sense of a certain community and collective heritage, participation in the culture of a given civilisation circle, which determines the relation to its aspects, elements or values. Finally, **memory** (in our case, cultural memory) would be a carrier of culture and identity, their reproductive agent, throwing on the perception of specific phenomena (e.g. alchemy), but it would also constitute a basis for re-evaluation through constant references to it and its revisions.

What, then, is science and scientific discourse taking into account the phenomenon of cultural memory? Certainly, we should talk about dynamic phenomena, which are subject to different influences and interactions. Re-

interpretations of a given problem are subject to the discourse of science in general, but also to the conventionalisation of language and communication, which is connected with factors of cultural and civilisation nature, the carrier of which is memory. Nowadays, it is facilitated by the polyphony of scientific discourse, which is a result of postmodern blurring, valorisation of methodological syncretism and coexistence of various (often even mutually exclusive) paradigms, but also the ennoblement of the subjective, individualistic dimension of discourse, including scientific discourse.

The Foucault understanding of archaeology of sciences is based on the thesis of the existence of two overlapping systems: one refers to the science, depending on its subject, language, concepts, etc., while the other refers to science in its historical existence (Foucault 2009: 328). For my deliberations, the second of these systems seems to be crucial because it assumes the dynamics of science, its changeability in time, but also a certain permanence resulting from the sum of discourses that co-create science at different stages of history. The relationship between science and knowledge also remains important:

Analysing the discursive formations, the positives and the knowledge that suits them does not consist in attributing a form of scientificity, but in traversing the field of historical determination, which should show the emergence, retention, transformation and, in this case, the disappearance of discourses, some of which are still considered scientific, others have lost this status, others have never received it, others have never claimed to be called it. In essence, knowledge is not a science in which internal structures gradually move, but an area of its real history (Foucault 2009: 328).

In any way not to consider the issue of science and its discursive (in various approaches) dimension, its connection with the past, and thus with memory, is undeniable. This relation also influences the perception of science and scientific discourses, which is still an interesting field of observation. The discourse(s) of alchemy and its very status in the universe of communication confirm the dynamics of science and the discourses belonging to it or co-constituting it, but in no way confirm the thesis about the teleological (in the sense of improving development) history of communication, including scientific communication.

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### *Science towards cultural memory – (about) alchemy discourse(s)*

The article concerns dynamic aspects of scientific discourse understood as a domain of communication subject to cultural influences. The problem, inspired by Michel Foucault's concept of archaeology of scientific reason, is presented through the example of alchemy, a specific phenomenon co-creating a scientific discourse both in the past and in the present. The relation of science with its discursive aspect (in various ways) with the past, and thus also with memory is undeniable, no matter how you consider the issue. This relation also affects the perception of science as

such and scientific discourses, which is still an interesting field of observation. The discourse(s) on alchemy and its very status in the universe of communication confirm the dynamics of science and the discourses belonging to or co-constituting it, but in no way do they confirm the thesis of the teleological (in the sense of improving development) history of communication, including scientific communication.

Keywords: *scientific discourse, discourse(s) on alchemy, Michel Foucault*