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# Meme as a Cultural Equivalent of Gene? A Methodological Analysis of the Evolutionary Approach to Cultural Transmission

The Internet era has created unprecedented synergy between human beings, between human beings and machines, and between machines. Compared with linear media and mechanical reproduction of messages, computer-mediated communication has blurred traditional distinction between author and public or sender and receiver, which has a profound impact on culture, cultural activities and behaviours, including participation in public sphere. The public sphere has itself changed significantly since an unparalleled interactivity of digital media made it possible to overcome centralized communication and passive reception of messages. That has exposed the public sphere to an increasing and wide-ranging influence by the sphere in which the individual enjoys relatively great degree of both positive and negative freedom, self-realization and non-interference, thereby questioning a traditional discourse on public–private dichotomy. Such sweeping changes in social interactions that Internet has brought about and their impact on public life can be observed by bringing a vast range of means and forms of digital communication into focus.

One of the exemplary means of computer-mediated communication, illustrating the synergistic effect of the interactive mode of participation in cyberspace, is meme. Internet memes may take various forms, such as video, hashtag or catchphrase, but the most popular form to which cybernauts refer by using the term 'meme' is an image superimposed with a text in a manner intended to induce laughter or amusement, express irony, or to throw receivers in a state of confusion. Memes have often simplistic form but they contain humour, usually black humour, and they may contain intentional misspellings in order to bring about or amplify their humorous effect. They are used to make sardonic comments about

real life events, to embrace controversies and challenge social or political taboos. Distorting the original in a caricatural manner, memes may be full of sharp wit or heavy with sarcasm, but they also may be unfair or even serve hate speech. The expressive power of this hybrid, visual-textual form of communication rests with the interaction between image and words that transcends the communicative potential of each of them considered apart from the other. Memes can be manufactured by using meme generator software or other online and offline design applications, and they spread via social media, blogs, fora and chats, web search engines or video hosting services.[1] Digital environment enabled great acceleration of the production and reproduction of memes, their increased circulation across cyberspace and potentially unlimited multiplication, giving Internauts a chance of expressing themselves and sharing imagery. This new form of collective experience demonstrates a symbolic power of memes to form and mobilize the masses. However highly automated a form of generation and transmission of memes can be, Internauts determine the programming algorithms for providing data to generate memes or circumscribing the function of sending and receiving them. So neither production nor transmission of memes is deprived of human volitional acts such as deliberate intentions.

Despite a significant contribution of the Internet era to the popularization of the term 'meme,' its origin and development are hardly known among those who create and share memes, which demonstrates that the pragmatic dimension of semiotics can be to a great extent addressed independently from etymology. However, there is a valid reason why the etymology of that word should be revisited. The original conceptualisation of meme laid the groundwork for memetics which has aspired to gain a scientific status.[2] Whether such aspiration can be fulfilled, I claim, is a matter of redefining meme in accordance with the theoretical requirements of cultural studies. Notwithstanding that meme has been identified as an element of cultural inheritance, this term originates from evolutionary biology. It was introduced by Richard Dawkins in his 1976 book *The Selfish Gene* and further developed in his subsequent works. Dawkins coined that term as an abbreviated form of the Greek word 'mimeme' which shares its Greek root with such words

[1] See L. Börzsei, *Makes a Meme Instead: A Concise History of Internet Memes*, Academia. 4 June 2016. http://www.academia.edu/3649116/Makes_a_Meme_Instead_A_Concise_History_of_Internet_Memes

[2] See A. Álvarez, *Memetics: An Evolutionary Theory of Cultural Transmission*, [in:] Sorites, Issue 15, December 2004, pp. 24-28; Web. 4 June 2016. http://www.sorites.org/Issue_15/alvarez.htm. See also S. Blackmore, *Evolution and Memes. The human brain as a selective imitation device*, SusanBlackmore; Web. 4 June 2016.
http://www.susanblackmore.co.uk/Articles/cas01.html

as *īmēma* (imitated thing), *mimeisthai* (to imitate), and *mimos* (mime). The motivation for abbreviating the word 'mimeme' to 'meme' was to underscore an analogy with the term 'gene.'[3] As an evolutionary biologist, Dawkins defined the notion of meme on the basis of the Darwinian model of natural selection. According to that biologically inspired definition, meme is a replicator, a unit of imitation, or a unit of cultural transmission. That initial definition of meme, not contextualised specifically in the computer-mediated communication yet, encompassed everything that constitutes cultural inheritance, and which on the basis of the evolutionary model derived from the Darwinian theory of natural selection spreads by imitation within a certain human population. Therefore the word 'meme' is not only phonetically parallel to 'gene' but also semantically analogous to it, which was expressed in terms of the evolutionary functionality:

> I think that a new kind of replicator has recently emerged on this very planet. It is staring us in the face. It is still in its infancy, still drifting clumsily about in its primeval soup, but already it is achieving evolutionary change at a rate that leaves the old gene panting far behind.
>
> The new soup is the soup of human culture. We need a name for the new replicator, a noun that conveys the idea of a unit of cultural transmission, or a unit of imitation. ...
>
> Examples of memes are tunes, ideas, catch-phrases, clothes fashions, ways of making pots or of building arches. Just as genes propagate themselves in the gene pool by leaping from body to body via sperms or eggs, so memes propagate themselves in the meme pool by leaping from brain to brain via a process which, in the broad sense, can be called imitation.[4]

What Dawkins called the "soup of human culture" is constituted by the total sum of memes, the meme pool. The main definitional aspect of meme is its capability for self-replication and transmission from brain to brain. By definition, memes are cultural phenomena and at the same time they are "living structures," i.e. structures in nervous system of the human being. Dawkins described human body as a survival machine for DNA replicators which at a certain stage of biological evolution provided their survival machine with brain. Once equipped with brain, human body has been undergoing a new type of evolution—cultural evolution which is an evolution under the influence of memes. The process of self-replication of memes, the imitation or the transmission of them, should not be regarded as a teleological process. Dawkins put the emphasis on this issue arguing that neither genes nor memes are purposeful agents because as the replicators

[3] R. Dawkins, *The Selfish Gene*, Oxford University Press, Oxford, New York 1989, p. 192.

[4] *Ibid*.

they are subjected to natural selection. The transmission of memes, as he argued in *The Selfish Gene*, has to be understood as a cultural process which is analogous to biological evolution in a sense that memes in the meme pool, like genes in the gene pool, compete with each other and some of them replicate successfully at the expense of their rivals that fail. While undergoing self-replication, memes mutate and their mutations can bring progress. The evolutionary process of natural selection of memes involves the same rules of survival as biological evolution: those memes can survive in the meme pool which have higher longevity, fecundity and copy-fidelity than others. So how does Dawkins distinguish cultural evolution from biological evolution? In what sense cultural evolution as the analogue of biological evolution is nonetheless a new kind of evolution? It is pointless to look for a qualitative difference between these two processes since qualities making for high survival value among the memes are not differentiated from such qualities among genes. Although cultural evolution was defined as proceeding by non-genetic means, the only difference between cultural and genetic evolution that was explicitly pointed out by Dawkins is quantitative: the former one is much faster than the latter one so it looks like a "highly speeded up genetic evolution."[5]

Despite offering a vision of natural selection of memes as a blind process, the evolutionary approach to cultural transmission fails to recognize the role of human intentionality in cultural activities. This is one of the serious weaknesses of Dawkins' original concept of meme, which has not yet been successfully overcome by further refinement of this concept. In *The Selfish Gene*, the survival value of memes is described as a result of their psychological appeal which is an appeal to brains. The author claims on one hand that natural selection of memes favours those memes which have power to exploit to their own advantage the cultural environment to which they belong. He argues on the other hand that the spread of the memes that have higher fecundity is due to their higher acceptability within a certain human population.[6] However, these two descriptions are not coherently interconnected by any clear explanation of what psychological appeal of memes to brains exactly means and how such non-teleological relation between cultural self-replicators and brains translates into mental states, which are expressed by propositional attitude verbs such as 'accept.'

This is symptomatic of the evolutionary approach to cultural transmission proceeding by means of memes that it utterly disregards a symbolic function of memes. Cultural transmission as it is defined on the grounds

[5] *Ibid.*, p. 191.

[6] *Ibid.*, p. 184.

of Dawkinsian evolutionary approach is not equal to what humanists, in particular cultural scientists, define as a symbolic communication. The claim that cultural transmission is a process taking place between brains implies that the capacity to transmit memes is a capacity of brain. The evolutionary approach according to which memes are neurophysiological structures in the nervous system of human being presupposes the so called identity theory of mind and body. The 'mind-body problem' is an age-old philosophical issue which has become one of the most important aspects of the theories of language and symbolic communication. But a reader of *The Selfish Gene* would unavailingly search for any explicit articulation of that philosophical problem and thus for any clear explanation of how the states or events expressed in mentalist language relate to the states or events expressed in physicalist language. Such a question, basic for the researchers who recognize qualitative difference between a point of reference for the term 'mind' and a point of reference for the term 'brain,' appears redundant from a materialistic version of the ontological monism, which is presumed by the methodology adopted by Dawkins for the purpose of carrying out research on memes. This methodology does not provide any method for differentiating between mind and brain. So a critical reader of *The Selfish Gene* can see at a glance that the words 'mind' and 'brain,' as they are used by its author, have the same point of reference, which is the same fragment of the material world. Brain is presented in that book as a vehicle for propagation of the memes and at the same time it is claimed that memes are planted in mind. This results, from the humanistic point of view, in applying mentalist conceptual apparatus in the exploration of the structures of a material world whenever the term 'mind' is used to refer to brain; or applying physicalist conceptual apparatus in the exploration of a symbolic reality whenever the term 'brain' is used to refer to mind. There is no qualitative difference in what these two words refer to from the perspective of monistic ontology.

The identity theory of mind and body presumed by Dawkinsian definition of meme and concept of cultural transmission exemplifies the attempt, thus far unsuccessful, to explain culture as a particular domain or specific aspect of nature. Such attempt is offered as a naturalistic reduction which is a methodological doctrine aimed at the explanation of theoretical humanities in terms of biological theory of evolution. However, there is a missing link in this doctrine: it fails to provide the explanation of how humanities, in order to be reduced to biological theory of evolution, can be first reduced to neurophysiologically oriented psychology.[7] The main obstacle to the reduction of humanities to neurophysiological psychology and hence to

[7] J. Kmita, *Kultura i poznanie*, Państwowe Wydawnictwo Naukowe, Warszawa 1985, pp. 86-87.

biological theory of evolution is that neurophysiology has not yet resolved the issue of the intersubjectivity of symbolic communication. Regarding human being as a vehicle for memes, a survival machine for them, and claiming that culture is a set of memes propagating themselves by spreading from one brain to another ignores a methodological requirement of theoretical humanities for the subjective reconstruction of culture. What is specific to any form of social communication, whether by means of language, art, custom, non-verbal code or memetic code, is that it is a symbolic process and as such it is oriented towards interpretation. While from the humanistic point of view culture exists through interpretation, neurophysiology and evolutionary biology have not yet provided any convincing explanation of that basic cultural process. Dawkins seems not to even recognize a paramount importance of interpretation for the research on symbolic culture.

Dawkinsian concept of cultural transmission does not correspond to the humanistic concept of cultural communication because the evolutionary concept of cultural transmission lacks a subjective reconstruction of culture. The dependence of humanities' theoretical status on the subjective reconstruction of culture and its particular domains and processes has been thoroughly discussed by Jerzy Kmita and Anna Pałubicka on the basis of the socio-regulative theory of culture.[8] For the purpose of the theoretical research on social communication, the subjective reconstruction of this process has been grounded in a communicational-cultural explication of Florian Znaniecki's concept of humanistic coefficient. According to Znaniecki, humanistic coefficient is the hallmark of cultural phenomena in the sense that they are someone's phenomena and as such they exist in someone's activities and experience.[9] The notion of humanistic coefficient has received within the socio-regulative theory of culture an explication in terms of semantic assumptions.[10] A given phenomenon becomes a referential object of certain means of communication, be it words or memes, on the grounds of some semantic assumptions taking form of reference rules. These rules belong to a given community, which implies that respecting semantic rules by the individual depends upon widespread respecting them by that given community. From the culturalist point of view, maintaining that theoretical status of humanities requires allowing for the humanistic coefficient of a researched phenomenon means therefore that the researcher has to

[8] J. Kmita, *Jak słowa łączą się ze światem*, Wydawnictwo Naukowe Instytutu Filozofii UAM, Poznań 1998, pp. 214-220. A. Pałubicka, *Przedteoretyczne postaci historyzmu*, Państwowe Wydawnictwo Naukowe, Warszawa—Poznań 1984, pp. 15-28.

[9] F. Znaniecki, *Narzędzie rozumienia: współczynnik humanistyczny*, [in:] A. Mencwel, Antropologia kultury, Wydawnictwo Uniwersytetu Warszawskiego, Warszawa 2001, p. 561.

[10] J. Kmita, *Kultura i poznanie*, pp. 40-44.

appeal metalinguistically to the semantic assumptions of a communication denoting that phenomenon. The use of metalanguage in referring to what is communicated in an objective mode by those who abide by given semantic rules enables the researchers to differentiate between their worldviews and the worldviews of those whose communication actions are being interpreted.

As far as memetics is based on the evolutionary approach to cultural transmission and does not involve a consideration of the use of metalanguage in the research on memes, its ambition to obtain a theoretical status is far from promising. It is unclear how to understand intersubjectivity of cultural communication in terms describing "infective power" of memes, their psychological appeal to brains, or their propagation by "leaping from brain to brain." All that neurophysiological narrative is unsuccessful in explaining the dependency of respecting cultural rules of memetic communication by individual on respecting such rules by the community using a memetic code of communication. Without explaining such dependency, the advocacy of the belief that memes are living structures with which brains have been equipped in the wake of Darwinian evolution results paradoxically in a certain form of the account of the mind-body relationship called 'ghost in the machine,' which the identity theory of mind and body aims to avoid. Mind described as a function of brain but methodologically not differentiated from brain appears to be something more than merely a material mechanism. It turns out that this is a mechanism 'knowing' about itself and, moreover, 'knowing' that it has its 'twin' in the mind of the partner of memetic communication.[11] Such an uncanny object seems to be nothing more than an effect of anthropomorphism. So despite Dawkins' claim that meme analogously to gene is a non-teleological unit of cultural transmission, the implications of the materialistic monism preconceived by his evolutionary approach allow teleology to sneak in by the back door.

Notably, the criticism against applying the evolutionary model to the exploration of cultural phenomena is not to undermine the theory of evolution or the legitimacy of searching for biological determinants of culture acquisition, but to point out that neurophysiological psychology has not offered any such explanation of the specifics of the symbolic activity oriented towards interpretation which could be convincing for humanists. From the culturalist point of view, the reductionist demand for researching cultural phenomena analogously to internal organs of human body is the objectivization of the modern worldview that contains a certain vision of human nature, a vision according to which human nature, even though being a product of evolution, has constant and universal features.

[11] Compare with J. Kmita, *Kultura i poznanie*, p. 105.

Among the defects of that worldview is an insufficient self-reflexivity, the lack of recognition of its own cultural-epistemological orientation and, consequently, an ontological objectivization of the evolutionist view of what is called 'human nature.'[12] Clothing cultural heritage and cultural transmission in attributes of biologically defined human nature results in the automatization of human perception. But human perception is not just an automatic function of human body, nor is it an aggregate of bodily reactions to stimuli, or a set of value-free acts performed by biological organs of body.[13] The approach based on philosophy of culture and cultural anthropology has already brought about a shift in conceptualization of perception, overcoming the limitations of the purely neurophysiological attempts to grasp human cognitive acts. Ignoring the impact of cultural codes of interpretation on what and how *Animal symbolicum* perceives cannot help comprehend the difference between *Homo sapiens* and other species.[14]

It may be argued that criticism against the evolutionary approach to cultural transmission has influenced the development of the concept of meme in the subsequent works of the author of *The Selfish Gene*. In *The Blind Watchmaker*, published a decade after *The Selfish Gene*, Dawkins redefined meme as a pattern of information located not only in brains but also in the artificially manufactured products of brains, such as books or computers. Cultural transmission has been definitionally adjusted so as to include the propagation of meme from brain to brain as well as the propagation of memes from brain to book or computer, and from book or computer to brain.[15] While that redefinition made it possible to complete the previous perspective in the research on memes—limited to the cultural inheritance explained in terms of self-replicating entities located in brains—with a certain degree of externalization, the evolutionary description of the survival value of memes has not changed. The kind of influence called "replicator power" of memes is an influence affecting their own likelihood of being propagated. The confidence about automatization of the processes to which memes are subjected was maintained by Dawkins also in his 1991 essay *Viruses of the Mind*.[16] In that essay the genetic perspective on meme was replaced with the

[12] *Ibid.*, p. 110.

[13] See A. Pałubicka, *Myślenie w perspektywie poręczności a pojęciowa konstrukcja świata*, Oficyna Wydawnicza Epigram, Bydgoszcz 2006, pp. 89-118.

[14] See E. Cassirer, *An Essay on Man: An Introduction to a Philosophy of Human Culture*, Yale University Press, New Haven 1966, pp. 26-33.

[15] R. Dawkins, *The Blind Watchmaker*, Penguin, UK 2006, pp. 157-158.

[16] R. Dawkins, *Viruses of the Mind*, [in:] Dennett and His Critics. Demystifying Mind, Bo Dahlbom (Ed.), Wiley-Blackwell, Oxford 1995, pp. 13-27.

epidemiological perspective which had been anticipated in *The Selfish Gene* by comparing meme's mutational capabilities to horizontal transmission of a virus in the same generation. However helpful the epidemiology-based model of cultural transmission might be in acknowledging the weaknesses of the evolutionary concept of vertical propagation of memes, i.e. the propagation of gene-like meme from generation to generation, the vital question of how human intentionality could be explicable in terms describing the "infective power" of virus-like meme has not yet been answered.

An explicitly expressed intentional turn in Dawkins' conceptulization of meme can be noticed only in his recently formulated concept of Internet meme.[17] He introduced this concept as a hijacking of an original idea of meme. The main feature distinguishing Internet meme from meme, according to Dawkins, is that the former one does not mutate by random chance like the latter one, but it is altered by human creativity. Arguing that Internet memes mutate deliberately, "with the full knowledge of a person doing the mutating," he suggested that "all creative art comes about through something like a mutation in the mind." Yet what has nonetheless remained unaddressed by this concept of Internet meme is the relation between mind and brain. Theory of brain and theory of mind are formulated in languages differing in their semantic levels. In order to avoid logical antinomy, theory of mind has to be formulated in metalanguage. When a theory that is to be reduced is formulated in a language different from a language of the reducing theory, there is the question of how to translate one specific terminology into another. Referring to the deliberate mutations of Internet memes in mind and not differentiating between mind and brain does not make the narrative logically convincing.

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**Meme as a Cultural Equivalent of Gene? A Methodological Analysis of the Evolutionary Approach to Cultural Transmission**

*Abstract*

Digital communication by means of memes illustrates a synergistic effect of the interactive mode of participation in cyberspace. Despite a significant contribution of the Internet era to the popularization of the term 'meme,' the origin and

[17] R. Dawkins, *Just for Hits*, Saatchi & Saatchi, New Directors' Showcase, Online video clip, YouTube, 22 June 2013; date accessed: 01 June 2016.

development of this term are hardly known by Internauts. They usually use this term without reference to an original concept of meme, which was proposed by Richard Dawkins on the grounds of the Darwinian theory of natural selection. The paper revisits that evolutionary conceptualization of meme as an analogue of gene and the process of cultural transmission which was to explain the spread of memes among a certain human population by analogy with biological evolution. It aims to argue that aspiration of memetics towards gaining a scientific status cannot be fulfilled unless meme is redefined in accordance with the theoretical requirements of cultural studies. The provided argumentation is based on the socio-regulative theory of culture and supports scepticism about naturalistic reductionism that is represented by the analysed evolutionary approach to cultural phenomena.

*Keywords*: digital communication, memes, Richard Dawkins, Darwinian theory, socio-regulative theory of culture, Jerzy Kmita, Anna Pałubicka.