

What happened to Memetics?

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Øyvind Vada¹

1 Memetor

Abstract

It is almost 30 years ago since Richard Dawkins was given credit for introducing the meme as a concept for studying cultural evolution. Despite the growing interest for both evolution and complexity in the social sciences, the highly controversial field of Memetics has been accused for being a fad and a pseudoscience, never able to establish itself as a recognized research program. Some 10 years ago it was even sentenced to death by some academics in the field. This article examines the status of Memetics, and suggests ways to make it grow further as a scientific discipline.

Introduction

It is almost 30 years ago since Richard Dawkins was given credit for introducing the meme as a concept for studying cultural evolution. Despite the growing interest for both evolution and complexity in the social sciences, the highly controversial field of Memetics has been accused for being a fad and a pseudoscience, never able to establish itself as a recognized research program^{1,2,3}. Some 10 years ago it was even sentenced to death by some academics in the field. This article examines the status of Memetics, and suggests ways to make it grow further as a scientific discipline^{4,5}.

Memetics is the study of how memes spread in social systems and how they impact us as individual agents. Memes are sustainable information units influencing and forming us, impacting the social systems we belong to. Sustainable Memes spread successfully among us, and can be regarded both as semiotic signs out there in the world, and objects in our minds. Memes are naturally selected and adapted by human beings based on "competition" within our consciousness. The fittest and best-adapted memes will have a better diffusion than the ones which do not fit into the cultural systems they are competing within.

In the literature of Memetics, the term "competition" is not discussed in detail. To say that something like memes could be competing does not necessarily impose consciousness and intent to them. Animals in nature are not conscious of a competition either, but as observers we can apply the term competition to describe their interaction, diffusion of genes and adaptation to the environment within or among individuals, groups and populations.

Memes as signs and/or objects in themselves do not have consciousness, intention or capabilities, but from the outside it makes sense to talk about competition among them. It is possible to talk about the diffusion, selection and adaptation of memes without implying that memes have human capabilities.

According to a memetic approach, each one of us hosts thousands of memes. "Chair", "Coca-Cola", "Jesus", "Kilroy", "Taco", "Orange", "The smell of roses", "Sex" and "Beethoven no. 5", are all examples of memes. Consistent with Memetics, the kind of memes we carry is a function of the cultural systems we belong or relate to.

The history of Memetics

In the popular-science book, *The Selfish Gene*, Richard Dawkins⁶ said he originated the term meme as a cultural equivalent of the gene. This was done by shortening the term mimeme which he said he derived from the Greek mimeisthai, to imitate. Ted Cloak^{7,8} had previously outlined a similar hypothesis, which Dawkins mention together with the work of Cavalli-Sforza⁹.

But as pointed out by Laurent¹⁰ the evolutionary biologist Semon Wolfgang wrote all ready in 1904 "Die Mneme" a book about memory where the meme was defined as "units for cultural transmission of experiences".

The French sociologist, criminologist and social psychologist Gabriel Tarde was also focusing on imitation and cultural diffusion in *Les Lois de l'Imitation* (1890, translated into English in 1903).

Later in 1926, the Belgian Nobel Prize winner Maurice Maeterlinck wrote *The Life of the White Ant* where he mentioned the mneme again as a memory trace¹¹. Maeterlinck was later accused for plagiarism by copying the work of the South African poet and scientist Eugène Marais.

The origin of the meme and Memetics is hence as controversial as it is old, going back to the Greek myths where Mneme was one of the three original Muses in Boeotia, a part of ancient Greece. Her sisters were Aoide, the muse of song and Melete, the muse of meditation. Mneme was the muse of memory.

In the early 1980s Charles Lumsden and Edward E. Wilson published *Genes, Mind and Culture*²⁶ introducing the term culture

genes as an equivalent to memes. In the same year Cavalli-Sforza and Feldmann published *Cultural Transmission and Evolution*²⁷. Both books were within most of the social sciences regarded as very controversial. The authors were accused of being orthodox biologists taking camouflage positions for a "nature over culture" perspective. The criticism was influenced by David M. Sahlins earlier book *The Use and Abuse of Biology*¹². The term sociobiology became a derogatory term in many social science circles, regarded as having a sole genetic determinism on culture. This alleged genetic determinism undermined both general social scientific perspectives on people and society, and political ideology on human spirit, freedom and choice. Despite the accusations and controversies, both books developed influential models for a better understanding the coevolution of culture and nature, and consistent evolutionary perspectives on cultural development. *Culture and the Evolutionary Process*²⁸ by the anthropologists Robert Boyd and Peter J. Richerson was a clear alternative to the heated sociobiology debate and turf wars. They contributed even more to an evolutionary understanding of culture influencing Memetics without at that time mentioning the term.

Douglas Hofstadter's *Metamagical Themes*²⁴ centered on an "anatomical breakdown" and a conceptual deepening of Memetics into schemes, co-memes, bait and hooks. Richard Dawkins' *Viruses of the Mind*¹³ focused most on religious beliefs and activities, and differentiated "religious memes" against computer viruses and scientific findings. Shortly after Francis Heylighen initiated his work on Memetics producing several articles on the meme theme^{14·15·16·17·18·19}. He was, partly with K Chielens, developing theory on different types of meme replication and adaptation and underlining the importance of suitable memetic units for Memetics to be tested empirically.

In *Thought Contagion: How Belief Spreads Through Society*²⁵, Aaron Lynch used everyday life examples to further develop the conceptual basis for memes and Memetics.

Daniel Dennett (1993) mentioned memes in his highly cited and now-classic book *Consciousness Explained*²⁹, where he builds on experimental results from neuroscience and cognitive psychology. He further develops his understanding of memes and Memetics in *Darwin's Dangerous Idea*²⁰ pointing at different challenges in operationalizing the concept.

The online *Journal of Memetics: Evolutionary Models of Information Transmission* was created in 1997 for scientific papers on memes and Memetics. Initially several articles were quite optimistic about the future of the new research discipline.

Two years after, *The Meme Machine*²¹ by psychologist Susan Blackmore became a popular science book trying to further constitute Memetics as a science by deliberating the empirical and analytic potential of the emerging discipline.

The book *Darwinizing Culture: The Status of Memetics as a Science*³⁰, edited by anthropologist Robert Aunger, came out in 2001 with several prominent contributions both for and against the emerging field of Memetics. Aunger's *The Electric Meme*³¹, came out in 2002 mainly focusing on memes as objects in brains.

Then it became silent from most of the pioneers of Memetics. The online *Journal of Memetics* did not become the intended arena for progressive growth. Its center of gravity was weak, and contributions dropped until the journal was closed down in 2005.

The criticism

Memetics is a way to approach perception, thought, communication and social action. Memetics is derived from natural science and genetics, and uses the same research program studying social diffusion and adaptation of sign/objects.

Based on the relationship between ontology, epistemology and methodology, a memetic formal ontological statement and definition of the world could be: Reality is memes.

An epistemological question that follows would then be: How does Memetics make sense of memes?

Consequently, the methodological inquiry is: What investigatory techniques and procedures can be applied in Memetics to approach memes?

Two positions are most eloquent approaching these questions. On one side, externalists state that memes are observable artifacts and behavior (signs). Outside the occurrence of the event, the practice of behavior or life of the artifact, the memes have no existence³². Memes are out here in the physical "pool" of the environment³³.

On the other side, the internalists state that memes are manifested in the cognitive brain (objects). A meme is an information pattern, held in an individual's memory, capable of being copied to another individual's memory¹⁶. The meme is a memory item, or portion of an organism's neurally-stored information. The meme is identified using the abstraction system of the observer, whose instantiation depended critically on causation by prior instantiation of the same memory item in one or more organism's nervous system²⁵.

Based on these different positions and arguments on how to grasp memes, some contributors in the field also put forward that no one actually knows what a meme is³¹.

Memetics has, in some academic circles, been regarded as an obscure philosophy and not a renowned science. This might be due to what has been perceived as lack of progression and growth in the field in recent years, philosophically, scientifically and in terms of empirical research. Memetics is regarded as a weak metaphor of the strong scientific discipline genetics; a metaphor that breaks down in its attempt of transitioning from nature science to social science. Attempts to establish Memetics as an overall ontology, has been an over-ambitious failure.

As Robert Aunger claimed in his book *The Electric Meme*³¹ in 2002, "No one knows what a meme is". The ontological units of analysis are missing. It can be argued that the either/or discussion between externalists and internalists is hypothetical and counterproductive. In addition the term "meme" is never operationally defined, so it can be applied in empirical research. If you do not know what you are looking for, you cannot find it.

However, there have been previous calls for action addressing related concerns about Memetics. Edmonds⁴, among others, argues that the theoretical statements of Memetics are too vague to be empirically tested. Gil-White³⁴ expresses that Memetics suffers from conceptual confusion and not enough empirical work. Aunge³⁰ suggest urgently that Memetics should follow the progress of evolutionary cultural studies more generally, as in anthropology. The clock is ticking for Memetics.

The answers to these and other calls differ. Chielens & Heylighen¹⁸ introduce four ways that memes adapt and four stages for memetic replication. They underline the importance of a suitable memetic unit for Memetics to be tested empirically. Examples of such units can, according to them, be storylines; the different elements of stories can be seen as individual memes, or digital virus hoaxes like email messages warning for nonexisting viruses.

Aunger³¹ waits and hopes that neuroscience will be able to measure the electric difference between the different memes when fired as diverse impulses between the synapses in the brain. When you think of the meme "taco" or "Killroy was here", different electric impulses fire, which can be distinct and determined, and can be differentiated, defined and measured.

Hull suggests that we should postpone definitional concerns in Memetics, and start empirical research by developing different memetic theories influenced by the domains in which they are tested³⁵. He further argues that it is crucial to make distinctions between memes, on one side, and the detectable outward manifestations of specific memes, on the other. The observable attributes a meme creates are what should be investigated (the phenotype). Hull is also an exponent of having a clear goal every time memetic research is conducted.

Strengthening memetics

The intention behind all these calls and answers is to strengthen Memetics. The suggestions put forward grasp, from different angles, aspects that need to be in place in order to successfully renovate and revitalize Memetics.

Firstly, it is necessary to define a clear, distinctive domain ontology with mutually-exclusive memes in each memetic research project.

Secondly, it is crucial to develop a more sustainable memetic epistemology, a scientific attractor around which different memetic research threads can revolve, despite any theoretical and empirical differences.

And thirdly, it is vital to define a clear, memetic, methodological framework with distinct criteria for validity and reliability. The epistemology of Memetics should make sense of the diffusion and adaptation of ontologically predefined memes and their influence on individual and collective states and actions. Each empirical researcher should make ontological predefinitions of memes every time they delve into a new empirical field. In other words, the units of analysis need to be defined. The researcher should obviously define what they are looking for. The epistemology of Memetics should furthermore make sense of the correlation between individual and collective thoughts, communications, decisions and actions. There is also a need for an integrative definition of memes that repeal the front between the externalists and internalists. In addition to being seen as signs and objects, memes can be regarded as forms and cognitive templates that process subjective thoughts, communications, decisions and actions.

A distinctive investigatory technique can be developed based on previous work¹⁸. These works should be enriched with stronger requirements of predefined meme ontology in research projects as argued above.

It is possible to say that all these suggestions bring Memetics back to methodological reductionism, where it does not belong. I argue that methodological reductionism and epistemological holism can be unified. In order to be analyzed, both physical and metaphysical units of analysis need to be predefined. Implicit in defining the units of analysis lies reductionism. To find the units'™ systemic interaction with its social system is the core of a improved memetic research programme. The axiomatic presupposition that memes influence the complex wholes they are become a part of, is a holistic and systemic perspective.

To further strengthen Memetics, the discipline should be open and must continue to be enriched with perspectives from other progressive research programmes, and this is happening right now.

6538 academic articles mentioned the term Memetics between 1979 and 2013 according to Google Scholar. 6240 of these articles was written after the year 2000, and since 2005, 4957 academic articles are focusing on Memetics as an academic

discipline. According to these numbers Memetics, is still alive and developing despite the pessimism from some of the pioneers in the field.

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