[Template:Other uses](/wiki/Template:Other_uses" \o "Template:Other uses) [Template:Pp-vandalism](/wiki/Template:Pp-vandalism)

[Template:Anthropology](/wiki/Template:Anthropology)

A **meme** ([Template:IPAc-en](/wiki/Template:IPAc-en) [Template:Respell](/wiki/Template:Respell))[[1]](#cite_note-1) is "an idea, behavior, or style that spreads from person to person within a culture".[[2]](#cite_note-2) A meme acts as a unit for carrying [cultural](/wiki/Culture) ideas, symbols, or practices that can be transmitted from one mind to another through writing, speech, gestures, rituals, or other imitable phenomena with a mimicked theme. Supporters of the concept regard memes as cultural analogues to [genes](/wiki/Gene) in that they self-replicate, mutate, and respond to [selective pressures](/wiki/Selection_(biology)).[[3]](#cite_note-3) Proponents theorize that memes are a [viral phenomenon](/wiki/Viral_phenomenon) that may evolve by [natural selection](/wiki/Natural_selection) in a manner analogous to that of [biological evolution](/wiki/Biological_evolution). Memes do this through the processes of [variation](/wiki/Genetic_diversity), [mutation](/wiki/Mutation), [competition](/wiki/Competition), and [inheritance](/wiki/Heredity), each of which influences a meme's reproductive success. Memes spread through the behavior that they generate in their hosts. Memes that [propagate](/wiki/Fecundity) less prolifically may become [extinct](/wiki/Extinction), while others may survive, spread, and (for better or for worse) [mutate](/wiki/Mutation). Memes that replicate most effectively enjoy more success, and some may replicate effectively even when they prove to be detrimental to the welfare of their hosts.[[4]](#cite_note-4) A field of study called [memetics](/wiki/Memetics)[[5]](#cite_note-5) arose in the 1990s to explore the concepts and transmission of memes in terms of an [evolutionary model](/wiki/Evolutionary_model). Criticism from a variety of fronts has challenged the notion that academic study can examine memes [empirically](/wiki/Empirical). However, developments in [neuroimaging](/wiki/Functional_neuroimaging) may make [empirical](/wiki/Empirical) study possible.[[6]](#cite_note-6) Some commentators in the social sciences question the idea that one can meaningfully categorize culture in terms of discrete units, and are especially critical of the biological nature of the theory's underpinnings.[[7]](#cite_note-7) Others have argued that this use of the term is the result of a misunderstanding of the original proposal.[[8]](#cite_note-8) The word *meme* originated with [Richard Dawkins'](/wiki/Richard_Dawkins) 1976 book [*The Selfish Gene*](/wiki/The_Selfish_Gene). Dawkins's own position is somewhat ambiguous: he welcomed N. K. Humphrey's suggestion that "memes should be considered as living structures, not just metaphorically"[[9]](#cite_note-9) and proposed to regard memes as "physically residing in the brain".[[10]](#cite_note-10) Later, he argued that his original intentions, presumably before his approval of Humphrey's opinion, had been simpler.[[11]](#cite_note-11) At the New Directors' Showcase 2013 in Cannes, Dawkins' opinion on memetics was deliberately ambiguous.[[12]](#cite_note-12)

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## Etymology[[edit](/index.php?title=(none)&action=edit&section=1)]

The word *meme* is a shortening (modeled on *gene*) of *mimeme* (from [Ancient Greek](/wiki/Ancient_Greek) [Template:Lang](/wiki/Template:Lang) [Template:IPA-el](/wiki/Template:IPA-el) *mīmēma*, "imitated thing", from [Template:Lang](/wiki/Template:Lang) *mimeisthai*, "to imitate", from [Template:Lang](/wiki/Template:Lang) *mimos*, "mime")[[13]](#cite_note-13) coined by British evolutionary biologist [Richard Dawkins](/wiki/Richard_Dawkins) in [*The Selfish Gene*](/wiki/The_Selfish_Gene) (1976)[[1]](#cite_note-1)[[14]](#cite_note-14) as a concept for discussion of [evolutionary](/wiki/Evolution) principles in explaining the spread of ideas and cultural phenomena. Examples of memes given in the book included melodies, [catchphrases](/wiki/Catchphrase), fashion, and the technology of building arches. [[15]](#cite_note-15) [Kenneth Pike](/wiki/Kenneth_Pike) coined the related term [emic and etic](/wiki/Emic), generalizing the linguistic idea of [phoneme](/wiki/Phoneme), [morpheme](/wiki/Morpheme) and [tagmeme](/wiki/Tagmeme) (as set out by [Leonard Bloomfield](/wiki/Leonard_Bloomfield)), characterizing them as insider view and outside view of behaviour and extending the concept into a [tagmemic](/wiki/Tagmeme) theory of human behaviour (culminating in *Language in Relation to a Unified Theory of the Structure of Human Behaviour*, 1954).

## Origins[[edit](/index.php?title=(none)&action=edit&section=2)]

[175 px|left|alt=|thumb|](/wiki/File:Richard_dawkins_lecture.jpg)[Richard Dawkins](/wiki/Richard_Dawkins) coined the word *meme* in his 1976 book [*The Selfish Gene*](/wiki/The_Selfish_Gene).

The word *meme* originated with [Richard Dawkins'](/wiki/Richard_Dawkins) 1976 book [*The Selfish Gene*](/wiki/The_Selfish_Gene). Dawkins cites as inspiration the work of geneticist [L. L. Cavalli-Sforza](/wiki/L._L._Cavalli-Sforza), anthropologist F. T. Cloak [[16]](#cite_note-16) and ethologist J. M. Cullen.[[17]](#cite_note-17) Dawkins wrote that evolution depended not on the particular chemical basis of genetics, but only on the existence of a self-replicating unit of transmission — in the case of biological evolution, the gene. For Dawkins, the meme exemplified another self-replicating unit with potential significance in explaining human behavior and cultural evolution.

[thumb|right|"](/wiki/File:Kilroy_was_here_(re-drawn).gif)[Kilroy was here](/wiki/Kilroy_was_here)" was a [graffito](/wiki/Graffiti) that became popular in the 1940s, and existed under various names in different countries, illustrating how a meme can be modified through replication.[[18]](#cite_note-18) Dawkins used the term to refer to any cultural entity that an observer might consider a [replicator](/wiki/Self-replication). He hypothesized that one could view many cultural entities as replicators, and pointed to melodies, fashions and learned skills as examples. Memes generally replicate through exposure to humans, who have evolved as efficient copiers of information and behavior. Because humans do not always copy memes perfectly, and because they may refine, combine or otherwise modify them with other memes to create new memes, they can change over time. Dawkins likened the process by which memes survive and change through the [evolution of culture](/wiki/Cultural_evolution) to the natural selection of genes in biological [evolution](/wiki/Evolution).[[15]](#cite_note-15) Dawkins defined the *meme* as a unit of cultural transmission, or a unit of imitation and replication, but later definitions would vary. The lack of a consistent, rigorous, and precise understanding of what typically makes up one unit of cultural transmission remains a problem in debates about [memetics](/wiki/Memetics).[[19]](#cite_note-19) In contrast, the concept of genetics gained concrete evidence with the [discovery](/wiki/DNA#History_of_DNA_research) of the [biological functions](/wiki/DNA#Biological_functions) of [DNA](/wiki/DNA). Meme transmission requires a physical medium, such as photons, sound waves, touch, taste or smell because memes can be transmitted only through the senses.

Dawkins noted that in a society with culture a person need not have descendants to remain influential in the actions of individuals thousands of years after their death:

But if you contribute to the world's culture, if you have a good idea...it may live on, intact, long after your genes have dissolved in the common pool. [Socrates](/wiki/Socrates) may or may not have a gene or two alive in the world today, as [G.C. Williams](/wiki/George_C._Williams) has remarked, but who cares? The meme-complexes of Socrates, [Leonardo](/wiki/Leonardo_da_Vinci), [Copernicus](/wiki/Copernicus) and [Marconi](/wiki/Guglielmo_Marconi) are still going strong.[[20]](#cite_note-20)

## Memetic lifecycle: transmission, retention[[edit](/index.php?title=(none)&action=edit&section=3)]

[Template:See also](/wiki/Template:See_also)

Memes, analogously to genes, vary in their aptitude to replicate; successful memes remain and spread, whereas unfit ones stall and are forgotten. Thus memes that prove more effective at replicating and surviving are selected in the meme pool.

Memes first need retention. The longer a meme stays in its hosts, the higher its chances of propagation are. When a host uses a meme, the meme's life is extended.[[21]](#cite_note-21) The reuse of the neural space hosting a certain meme's copy to host different memes is the greatest threat to that meme's copy.[[22]](#cite_note-22) A meme which increases the longevity of its hosts will generally survive longer. On the contrary, a meme which shortens the longevity of its hosts will tend to disappear faster. However, as hosts are mortal, retention is not sufficient to perpetuate a meme in the long term; memes also need transmission.

Life-forms can transmit information both vertically (from parent to child, via replication of genes) and horizontally (through viruses and other means). Memes can replicate vertically or horizontally within a single biological generation. They may also lie dormant for long periods of time.

Memes reproduce by copying from a nervous system to another one, either by communication or [imitation](/wiki/Imitation). Imitation often involves the copying of an [observed](/wiki/Observation) behavior of another individual. Communication may be direct or indirect, where memes transmit from one individual to another through a copy recorded in an inanimate source, such as a book or a [musical score](/wiki/Sheet_music). Adam McNamara has suggested that memes can be thereby classified as either internal or external memes (i-memes or e-memes).[[6]](#cite_note-6) Some commentators have likened the transmission of memes to the spread of [contagions](/wiki/Infectious_disease).[[23]](#cite_note-23) Social contagions such as [fads](/wiki/Bandwagon_effect), [hysteria](/wiki/Hysterical_contagion), [copycat crime](/wiki/Copycat_crime), and [copycat suicide](/wiki/Copycat_suicide) exemplify memes seen as the contagious imitation of ideas. Observers distinguish the contagious imitation of memes from instinctively contagious phenomena such as yawning and laughing, which they consider innate (rather than socially learned) behaviors.[[24]](#cite_note-24) [Aaron Lynch](/wiki/Aaron_Lynch) described seven general patterns of meme transmission, or "thought contagion":[[25]](#cite_note-25)

1. *Quantity of parenthood*: an idea that influences the number of children one has. Children respond particularly receptively to the ideas of their parents, and thus ideas that directly or indirectly encourage a higher birthrate will replicate themselves at a higher rate than those that discourage higher birthrates.
2. *Efficiency of parenthood*: an idea that increases the proportion of children who will adopt ideas of their parents. Cultural [separatism](/wiki/Separatism) exemplifies one practice in which one can expect a higher rate of meme-replication—because the meme for separation creates a barrier from exposure to competing ideas.
3. *Proselytic*: ideas generally passed to others beyond one's own children. Ideas that encourage the [proselytism](/wiki/Proselytism) of a meme, as seen in many religious or political movements, can replicate memes horizontally through a given generation, spreading more rapidly than parent-to-child meme-transmissions do.
4. *Preservational*: ideas that influence those that hold them to continue to hold them for a long time. Ideas that encourage longevity in their hosts, or leave their hosts particularly resistant to abandoning or replacing these ideas, enhance the preservability of memes and afford protection from the competition or proselytism of other memes.
5. *Adversative*: ideas that influence those that hold them to attack or sabotage competing ideas and/or those that hold them. Adversative replication can give an advantage in meme transmission when the meme itself encourages aggression against other memes.
6. *Cognitive*: ideas perceived as cogent by most in the population who encounter them. Cognitively transmitted memes depend heavily on a cluster of other ideas and cognitive traits already widely held in the population, and thus usually spread more passively than other forms of meme transmission. Memes spread in cognitive transmission do not count as self-replicating.
7. *Motivational*: ideas that people adopt because they perceive some self-interest in adopting them. Strictly speaking, motivationally transmitted memes do not self-propagate, but this mode of transmission often occurs in association with memes self-replicated in the efficiency parental, proselytic and preservational modes.

## Memes as discrete units[[edit](/index.php?title=(none)&action=edit&section=4)]

Dawkins initially defined *meme* as a noun that "conveys the idea of a unit of cultural transmission, or a unit of *imitation*".[[15]](#cite_note-15) John S. Wilkins retained the notion of meme as a kernel of cultural imitation while emphasizing the meme's evolutionary aspect, defining the meme as "the least unit of sociocultural information relative to a selection process that has favorable or unfavorable selection bias that exceeds its endogenous tendency to change".[[26]](#cite_note-26) The meme as a unit provides a convenient means of discussing "a piece of thought copied from person to person", regardless of whether that thought contains others inside it, or forms part of a larger meme. A meme could consist of a single word, or a meme could consist of the entire speech in which that word first occurred. This forms an analogy to the idea of a gene as a single unit of self-replicating information found on the self-replicating [chromosome](/wiki/Chromosome).

While the identification of memes as "units" conveys their nature to replicate as discrete, indivisible entities, it does not imply that thoughts somehow become [quantized](/wiki/Quantization_(physics)) or that "[atomic](/wiki/Atom)" ideas exist that cannot be dissected into smaller pieces. A meme has no given size. [Susan Blackmore](/wiki/Susan_Blackmore) writes that melodies from [Beethoven's](/wiki/Ludwig_van_Beethoven) symphonies are commonly used to illustrate the difficulty involved in delimiting memes as discrete units. She notes that while the first four notes of [Beethoven's Fifth Symphony](/wiki/Symphony_No._5_(Beethoven)) ([Template:Audio](/wiki/Template:Audio)) form a meme widely replicated as an independent unit, one can regard the entire symphony as a single meme as well.[[19]](#cite_note-19) The inability to pin an idea or cultural feature to quantifiable key units is widely acknowledged as a problem for memetics. It has been argued however that the traces of memetic processing can be quantified utilizing neuroimaging techniques which measure changes in the connectivity profiles between brain regions."[[6]](#cite_note-6) Blackmore meets such criticism by stating that memes compare with genes in this respect: that while a [gene](/wiki/Gene) has no particular size, nor can we ascribe every [phenotypic](/wiki/Phenotype) feature directly to a particular gene, it has value because it encapsulates that key unit of inherited expression subject to evolutionary pressures. To illustrate, she notes evolution selects for the gene for features such as eye color; it does not select for the individual nucleotide in a strand of [DNA](/wiki/DNA). Memes play a comparable role in understanding the evolution of imitated behaviors.[[19]](#cite_note-19) The 1981 book *Genes, Mind, and Culture: The Coevolutionary Process* by [Charles J. Lumsden](/wiki/Charles_J._Lumsden) and [E. O. Wilson](/wiki/E._O._Wilson) proposed the theory that genes and culture co-evolve, and that the fundamental biological units of culture must correspond to neuronal networks that function as nodes of semantic [memory](/wiki/Memory). They coined their own word, "[culturgen](/wiki/Culturgen)", which did not catch on. Coauthor Wilson later acknowledged the term *meme* as the best label for the fundamental unit of cultural inheritance in his 1998 book [*Consilience: The Unity of Knowledge*](/wiki/Consilience:_The_Unity_of_Knowledge), which elaborates upon the fundamental role of memes in unifying the [natural](/wiki/Natural_science) and [social](/wiki/Social_sciences) sciences.[[27]](#cite_note-27)

## Evolutionary influences on memes[[edit](/index.php?title=(none)&action=edit&section=5)]

Dawkins noted the three conditions that must exist for evolution to occur:[[28]](#cite_note-28)# variation, or the introduction of new change to existing elements;

1. heredity or replication, or the capacity to create copies of elements;
2. differential "fitness", or the opportunity for one element to be more or less suited to the environment than another.

Dawkins emphasizes that the process of evolution naturally occurs whenever these conditions co-exist, and that evolution does not apply only to organic elements such as genes. He regards memes as also having the properties necessary for evolution, and thus sees meme evolution as not simply analogous to genetic evolution, but as a real phenomenon subject to the laws of [natural selection](/wiki/Natural_selection). Dawkins noted that as various ideas pass from one [generation](/wiki/Generation) to the next, they may either enhance or detract from the survival of the people who obtain those ideas, or influence the survival of the ideas themselves. For example, a certain culture may develop unique designs and methods of [tool](/wiki/Tool)-making that give it a competitive advantage over another culture. Each tool-design thus acts somewhat similarly to a biological [gene](/wiki/Gene) in that some populations have it and others do not, and the meme's function directly affects the presence of the design in future generations. In keeping with the thesis that in evolution one can regard organisms simply as suitable "hosts" for reproducing genes, Dawkins argues that one can view people as "hosts" for replicating memes. Consequently, a successful meme may or may not need to provide any benefit to its host.[[28]](#cite_note-28) Unlike genetic evolution, memetic evolution can show both [Darwinian](/wiki/Darwinism) and [Lamarckian](/wiki/Lamarckism) traits. Cultural memes will have the characteristic of Lamarckian inheritance when a host aspires to replicate the given meme through inference rather than by exactly copying it. Take for example the case of the transmission of a simple skill such as hammering a nail, a skill that a learner imitates from watching a demonstration without necessarily imitating every discrete movement modeled by the teacher in the demonstration, stroke for stroke.[[29]](#cite_note-29) Susan Blackmore distinguishes the difference between the two modes of inheritance in the evolution of memes, characterizing the Darwinian mode as "copying the instructions" and the Lamarckian as "copying the product."[[19]](#cite_note-19) Clusters of memes, or [*memeplexes*](/wiki/Memeplex) (also known as *meme complexes* or as *memecomplexes*), such as cultural or political doctrines and systems, may also play a part in the acceptance of new memes. Memeplexes comprise groups of memes that replicate together and coadapt.[[19]](#cite_note-19) Memes that fit within a successful memeplex may gain acceptance by "piggybacking" on the success of the memeplex. As an example, John D. Gottsch discusses the transmission, mutation and selection of religious memeplexes and the theistic memes contained.[[30]](#cite_note-30) Theistic memes discussed include the "prohibition of aberrant sexual practices such as incest, adultery, homosexuality, bestiality, castration, and religious prostitution", which may have increased vertical transmission of the parent religious memeplex. Similar memes are thereby included in the majority of religious memeplexes, and harden over time; they become an "inviolable canon" or set of [dogmas](/wiki/Dogma), eventually finding their way into secular [law](/wiki/Law). This could also be referred to as the propagation of a [taboo](/wiki/Taboo).

## Memetics[[edit](/index.php?title=(none)&action=edit&section=6)]

[Template:Main](/wiki/Template:Main)

The discipline of memetics, which dates from the mid-1980s, provides an approach to [evolutionary models](/wiki/Evolutionary_model) of cultural [information transfer](/wiki/Information_transfer) based on the concept of the meme. [Memeticists](/wiki/Memeticist) have proposed that just as memes function analogously to [genes](/wiki/Gene), memetics functions analogously to [genetics](/wiki/Genetics). Memetics attempts to apply conventional scientific methods (such as those used in [population genetics](/wiki/Population_genetics) and [epidemiology](/wiki/Epidemiology)) to explain existing patterns and transmission of [cultural](/wiki/Culture) ideas.

Principal criticisms of memetics include the claim that memetics ignores established advances in other fields of cultural study, such as [sociology](/wiki/Sociology), [cultural anthropology](/wiki/Cultural_anthropology), [cognitive psychology](/wiki/Cognitive_psychology), and [social psychology](/wiki/Social_psychology). Questions remain whether or not the meme concept counts as a [validly disprovable](/wiki/Philosophy_of_science) scientific theory. This view regards memetics as a theory in its infancy: a [protoscience](/wiki/Protoscience) to proponents, or a [pseudoscience](/wiki/Pseudoscience) to some detractors.

## Criticism of meme theory[[edit](/index.php?title=(none)&action=edit&section=7)]

An objection to the study of the evolution of memes in genetic terms (although not to the existence of memes) involves a perceived gap in the gene/meme analogy: the cumulative evolution of genes depends on biological selection-pressures neither too great nor too small in relation to mutation-rates. There seems no reason to think that the same balance will exist in the selection pressures on memes.[[31]](#cite_note-31) Luis Benitez-Bribiesca M.D., a critic of memetics, calls the theory a "[pseudoscientific](/wiki/Pseudoscience) [dogma](/wiki/Dogma)" and "a dangerous idea that poses a threat to the serious study of [consciousness](/wiki/Consciousness) and [cultural evolution](/wiki/Sociocultural_evolution)". As a factual criticism, Benitez-Bribiesca points to the lack of a "code script" for memes (analogous to the DNA of genes), and to the excessive instability of the meme mutation mechanism (that of an idea going from one brain to another), which would lead to a low replication accuracy and a high mutation rate, rendering the evolutionary process chaotic.[[32]](#cite_note-32) British political philosopher [John Gray](/wiki/John_N._Gray) has characterized Dawkins' memetic theory of religion as "nonsense" and "not even a theory... the latest in a succession of ill-judged Darwinian metaphors", comparable to [Intelligent Design](/wiki/Intelligent_Design) in its value as a science.[[33]](#cite_note-33) Another critique comes from [semiotic](/wiki/Semiotic) theorists such as Deacon[[34]](#cite_note-34) and Kull.[[35]](#cite_note-35) This view regards the concept of "meme" as a primitivized concept of ["sign"](/wiki/Sign_(semiotics)). The meme is thus described in memetics as a sign lacking a [triadic](/wiki/Sign_(semiotics)#Triadic_signs) nature. Semioticians can regard a meme as a "degenerate" sign, which includes only its ability of being copied. Accordingly, in the broadest sense, the objects of copying are memes, whereas the objects of translation and interpretation are signs.[Template:Clarify](/wiki/Template:Clarify)

Fracchia and Lewontin regard memetics as reductionist and inadequate.[[36]](#cite_note-36) Evolutionary biologist [Ernst Mayr](/wiki/Ernst_Mayr) disapproved of Dawkins' gene-based view and usage of the term "meme", asserting it to be an "unnecessary synonym" for "[concept](/wiki/Concept)", reasoning that concepts are not restricted to an individual or a generation, may persist for long periods of time, and may evolve.<ref name=pNASmayr>[Template:Cite journal](/wiki/Template:Cite_journal)</ref>

## Applications[[edit](/index.php?title=(none)&action=edit&section=8)]

Opinions differ as to how best to apply the concept of memes within a "proper" disciplinary framework. One view sees memes as providing a useful philosophical perspective with which to examine cultural evolution. Proponents of this view (such as [Susan Blackmore](/wiki/Susan_Blackmore) and [Daniel Dennett](/wiki/Daniel_Dennett)) argue that considering cultural developments from a meme's-eye view—*as if* memes themselves respond to pressure to maximise their own replication and survival—can lead to useful insights and yield valuable predictions into how culture develops over time. Others such as Bruce Edmonds and Robert Aunger have focused on the need to provide an empirical grounding for memetics to become a useful and respected [scientific discipline](/wiki/Scientific_discipline).[[37]](#cite_note-37)[[38]](#cite_note-38) A third approach, described by Joseph Poulshock, as "radical memetics" seeks to place memes at the centre of a [materialistic](/wiki/Eliminative_materialism) [theory of mind](/wiki/Theory_of_mind) and of [personal identity](/wiki/Personal_identity).[[39]](#cite_note-39) Prominent researchers in [evolutionary psychology](/wiki/Evolutionary_psychology) and [anthropology](/wiki/Anthropology), including [Scott Atran](/wiki/Scott_Atran), [Dan Sperber](/wiki/Dan_Sperber), [Pascal Boyer](/wiki/Pascal_Boyer), [John Tooby](/wiki/John_Tooby) and others, argue the possibility of incompatibility between [modularity of mind](/wiki/Modularity_of_mind) and memetics.[Template:Citation needed](/wiki/Template:Citation_needed) In their view, minds structure certain communicable aspects of the ideas produced, and these communicable aspects generally trigger or elicit ideas in other minds through inference (to relatively rich structures generated from often low-fidelity input) and not high-fidelity replication or imitation. Atran discusses communication involving religious beliefs as a case in point. In one set of experiments he asked religious people to write down on a piece of paper the meanings of the [Ten Commandments](/wiki/Ten_Commandments). Despite the subjects' own expectations of consensus, interpretations of the commandments showed wide ranges of variation, with little evidence of consensus. In another experiment, subjects with autism and subjects without autism interpreted ideological and religious sayings (for example, "Let a thousand flowers bloom" or "To everything there is a season"). People with autism showed a significant tendency to closely paraphrase and repeat content from the original statement (for example: "Don't cut flowers before they bloom"). Controls tended to infer a wider range of cultural meanings with little replicated content (for example: "Go with the flow" or "Everyone should have equal opportunity"). Only the subjects with autism—who lack the degree of inferential capacity normally associated with aspects of [theory of mind](/wiki/Theory_of_mind)—came close to functioning as "meme machines".[[40]](#cite_note-40) In his book *The Robot's Rebellion*, [Stanovich](/wiki/Keith_Stanovich) uses the memes and memeplex concepts to describe a program of cognitive reform that he refers to as a "rebellion". Specifically, Stanovich argues that the use of memes as a descriptor for cultural units is beneficial because it serves to emphasize transmission and acquisition properties that parallel the study of [epidemiology](/wiki/Epidemiology). These properties make salient the sometimes parasitic nature of acquired memes, and as a result individuals should be motivated to reflectively acquire memes using what he calls a "[Neurathian bootstrap](/wiki/Neurathian_bootstrap)" process.[[41]](#cite_note-41)

## Religion[[edit](/index.php?title=(none)&action=edit&section=9)]

[Template:See also](/wiki/Template:See_also)

Although social scientists such as [Max Weber](/wiki/Max_Weber) sought to understand and explain [religion](/wiki/Religion) in terms of a cultural attribute, Richard Dawkins called for a re-analysis of religion in terms of the evolution of self-replicating ideas *apart from* any resulting biological advantages they might bestow. [Template:Quote](/wiki/Template:Quote)

He argued that the role of key replicator in cultural evolution belongs not to genes, but to memes replicating thought from person to person by means of imitation. These replicators respond to selective pressures that may or may not affect biological reproduction or survival.[[15]](#cite_note-15) In her book *The Meme Machine*, [Susan Blackmore](/wiki/Susan_Blackmore) regards religions as particularly tenacious memes. Many of the features common to the most widely practiced religions provide built-in advantages in an evolutionary context, she writes. For example, religions that preach of the value of [faith](/wiki/Faith) over [evidence](/wiki/Evidence) from everyday experience or [reason](/wiki/Reason) inoculate societies against many of the most basic tools people commonly use to evaluate their ideas. By linking [altruism](/wiki/Altruism) with religious affiliation, religious memes can proliferate more quickly because people perceive that they can reap societal as well as personal rewards. The longevity of religious memes improves with their documentation in revered [religious texts](/wiki/Scripture).[[19]](#cite_note-19) [Aaron Lynch](/wiki/Aaron_Lynch) attributed the robustness of religious memes in human culture to the fact that such memes incorporate multiple modes of meme transmission. Religious memes pass down the generations from parent to child and across a single generation through the meme-exchange of [proselytism](/wiki/Proselytism). Most people will hold the religion taught them by their parents throughout their life. Many religions feature adversarial elements, punishing [apostasy](/wiki/Apostasy), for instance, or demonizing [infidels](/wiki/Infidels). In *Thought Contagion* Lynch identifies the memes of transmission in [Christianity](/wiki/Christianity) as especially powerful in scope. Believers view the conversion of non-believers both as a religious duty and as an act of altruism. The promise of [heaven](/wiki/Heaven) to believers and threat of [hell](/wiki/Hell) to non-believers provide a strong incentive for members to retain their belief. Lynch asserts that belief in the [Crucifixion of Jesus](/wiki/Crucifixion_of_Jesus) in Christianity amplifies each of its other replication advantages through the indebtedness believers have to their [Savior](/wiki/Redeemer_(Christianity)) for sacrifice on the cross. The image of the crucifixion recurs in religious [sacraments](/wiki/Sacrament), and the proliferation of symbols of the [cross](/wiki/Christian_cross) in homes and churches potently reinforces the wide array of Christian memes.[[25]](#cite_note-25) Although religious memes have proliferated in human cultures, the modern scientific community has been relatively resistant to religious belief. Robertson (2007) <ref name=Robertson2007>[Template:Citation](/wiki/Template:Citation)</ref> reasoned that if evolution is accelerated in conditions of propagative difficulty,<ref name=Dennett1995>[Template:Citation](/wiki/Template:Citation)</ref> then we would expect to encounter variations of religious memes, established in general populations, addressed to scientific communities. Using a memetic approach, Robertson deconstructed two attempts to privilege religiously held spirituality in scientific discourse. Advantages of a memetic approach as compared to more traditional "modernization" and "supply side" theses in understanding the evolution and propagation of religion were explored.

## Memetic explanations of racism[[edit](/index.php?title=(none)&action=edit&section=10)]

In *Cultural Software: A Theory of Ideology*, [Jack Balkin](/wiki/Jack_Balkin) argued that memetic processes can explain many of the most familiar features of [ideological](/wiki/Ideology) thought. His theory of "cultural software" maintained that memes form [narratives](/wiki/Narrative), social networks, metaphoric and [metonymic](/wiki/Metonymy) models, and a variety of different mental structures. Balkin maintains that the same structures used to generate ideas about free speech or free markets also serve to generate racistic beliefs. To Balkin, whether memes become harmful or maladaptive depends on the environmental context in which they exist rather than in any special source or manner to their origination. Balkin describes racist beliefs as "fantasy" memes that become harmful or unjust "ideologies" when diverse peoples come together, as through trade or competition.[[42]](#cite_note-42)

## Architectural memes[[edit](/index.php?title=(none)&action=edit&section=11)]

In [*A Theory of Architecture*](/wiki/A_Theory_of_Architecture), [Nikos Salingaros](/wiki/Nikos_Salingaros) speaks of memes as "freely propagating clusters of information" which can be beneficial or harmful. He contrasts memes to [patterns](/wiki/Pattern_language) and true knowledge, characterizing memes as "greatly simplified versions of patterns" and as "unreasoned matching to some visual or mnemonic prototype".[[43]](#cite_note-43) Taking reference to Dawkins, Salingaros emphasizes that they can be transmitted due to their own communicative properties, that "the simpler they are, the faster they can proliferate", and that the most successful memes "come with a great psychological appeal".[[44]](#cite_note-44) Architectural memes, according to Salingaros, can have destructive power. "Images portrayed in architectural magazines representing buildings that could not possibly accommodate everyday uses become fixed in our memory, so we reproduce them unconsciously."[[45]](#cite_note-45) He lists various architectural memes that circulated since the 1920s and which, in his view, have led to contemporary architecture becoming quite decoupled from human needs. They lack connection and meaning, thereby preventing "the creation of true connections necessary to our understanding of the world". He sees them as no different from [antipatterns](/wiki/Antipattern) in software design – as solutions that are false but are re-utilized nonetheless.[[46]](#cite_note-46)

## Internet culture[[edit](/index.php?title=(none)&action=edit&section=12)]

[Template:Main](/wiki/Template:Main) [Template:See also](/wiki/Template:See_also)

An "Internet meme" is a concept that spreads rapidly from person to person via the [Internet](/wiki/Internet), largely through Internet-based [E-mailing](/wiki/E-mail), [blogs](/wiki/Blog), [forums](/wiki/Internet_forum), [imageboards](/wiki/Imageboard) like [4chan](/wiki/4chan), [social networking sites](/wiki/Social_networking_site) like [Facebook](/wiki/Facebook), [Instagram](/wiki/Instagram) or [Twitter](/wiki/Twitter), [instant messaging](/wiki/Instant_messaging), and [video hosting services](/wiki/Video_hosting_service) like [YouTube](/wiki/YouTube) and [Twitch.tv](/wiki/Twitch.tv).[[47]](#cite_note-47) In 2013 Richard Dawkins characterized an Internet meme as one deliberately altered by human creativity, distinguished from Dawkins's original idea involving mutation by random change and a form of Darwinian selection.<ref name=Wired20130620>[Template:Cite web](/wiki/Template:Cite_web)</ref>

## Meme maps[[edit](/index.php?title=(none)&action=edit&section=13)]

One technique of meme mapping represents the evolution and transmission of a meme across time and space.<ref name=Paull2009>[Template:Citation](/wiki/Template:Citation)</ref> Such a meme map uses a figure-8 diagram (an [analemma](/wiki/Analemma)) to map the gestation (in the lower loop), birth (at the choke point), and development (in the upper loop) of the selected meme. Such meme maps are nonscalar, with time mapped onto the y-axis and space onto the x-axis [transect](/wiki/Transect). One can read the temporal progression of the mapped meme from south to north on such a meme map. Paull has published a worked example using the "organics meme" (as in [organic agriculture](/wiki/Organic_agriculture)).<ref name=Paull2009/>

## See also[[edit](/index.php?title=(none)&action=edit&section=14)]

[Template:Col-begin](/wiki/Template:Col-begin) [Template:Col-2](/wiki/Template:Col-2)

* [Chain letter](/wiki/Chain_letter)
* [Memetic algorithms](/wiki/Memetic_algorithms)
* [Memetic engineering](/wiki/Memetic_engineering)
* [The Beginning of Infinity](/wiki/The_Beginning_of_Infinity)
* [Biosemiotics](/wiki/Biosemiotics)
* [Darwin machine](/wiki/Darwin_machine)
* [David Deutsch](/wiki/David_Deutsch)
* [Dual inheritance theory](/wiki/Dual_inheritance_theory)
* [The Electronic Revolution](/wiki/The_Electronic_Revolution)

[Template:Col-2](/wiki/Template:Col-2)

* [Evolutionary biology](/wiki/Evolutionary_biology)
* [Mimicry](/wiki/Mimicry)
* [Phraseme](/wiki/Phraseme)
* [Psycholinguistics](/wiki/Psycholinguistics)
* [Survivals](/wiki/Edward_Burnett_Tylor#Survivals)
* [Universal Darwinism](/wiki/Universal_Darwinism)
* [Viral marketing](/wiki/Viral_marketing)
* [Viral video](/wiki/Viral_video)
* [Folie à deux](/wiki/Folie_à_deux)

[Template:Col-end](/wiki/Template:Col-end)

## Notes[[edit](/index.php?title=(none)&action=edit&section=15)]

[Template:Reflist](/wiki/Template:Reflist)

## References[[edit](/index.php?title=(none)&action=edit&section=16)]

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## External links[[edit](/index.php?title=(none)&action=edit&section=17)]

[Template:Wiktionary](/wiki/Template:Wiktionary)

* [Dawkins' speech on the 30th anniversary of the publication of *The Selfish Gene*](http://www.lse.ac.uk/collections/LSEPublicLecturesAndEvents/pdf/20060316-Darwn@LSE.pdf), Dawkins 2006
* ["Evolution and Memes: The human brain as a selective imitation device"](http://www.susanblackmore.co.uk/Articles/cas01.html): article by [Susan Blackmore](/wiki/Susan_Blackmore).
* [Template:Cite news](/wiki/Template:Cite_news)
* [Journal of Memetics](http://cfpm.org/jom-emit/), a peer-refereed journal of memetics published from 1997 until 2005
* [Susan Blackmore: Memes and "temes"](http://www.ted.com/index.php/talks/susan_blackmore_on_memes_and_temes.html), TED Talks February 2008
* [Christopher von Bülow: *Article Meme*](http://www.uni-konstanz.de/FuF/Philo/Philosophie/philosophie/files/meme.pdf), translated from: [Jürgen Mittelstraß](/wiki/Jürgen_Mittelstraß) (ed.), *Enzyklopädie Philosophie und Wissenschaftstheorie*, 2nd edn, vol. 5, Stuttgart/Weimar: Metzler 2013

[Template:Richard Dawkins](/wiki/Template:Richard_Dawkins) [Template:World view](/wiki/Template:World_view)

[Template:Portal bar](/wiki/Template:Portal_bar)

[Category:Memes](/wiki/Category:Memes) [Category:Collective intelligence](/wiki/Category:Collective_intelligence) [Category:Cultural anthropology](/wiki/Category:Cultural_anthropology) [Category:Evolutionary psychology](/wiki/Category:Evolutionary_psychology) [Category:Futurology](/wiki/Category:Futurology) [Category:Philosophy of mind](/wiki/Category:Philosophy_of_mind) [Category:Words coined in the 1970s](/wiki/Category:Words_coined_in_the_1970s) [Category:Behavioral and social facets of systemic risk](/wiki/Category:Behavioral_and_social_facets_of_systemic_risk) [Category:1976 introductions](/wiki/Category:1976_introductions)