

# Whatever happened to memetics?

By Agner Fog, 2023

Memetics is a scientific discipline studying how units of information, called *memes*, are spreading in society. The ability of a meme to spread depends on its contents. For example, a funny joke is more likely to be circulated widely than a bad joke. This is analogous to genetics, where genes that increase survival are spreading more than unfit genes. The fitness of a meme is its ability to spread, regardless of whether it benefits or harms the persons who carry it.

The term *meme* was introduced by Dawkins (1976) and became popular in the 1990s (Lynch, 1996; Brodie, 1996; Dennett, 1995). However, memetics soon lost its appeal to scientists (Chvaja, 2020), and a scientific journal named *Journal of Memetics* ceased publication in 2005 (Edmonds, 2005).

It is a paradox that the science of memetics has gone out of fashion now that it is more relevant than ever. The word *meme* has made a transition from scientific use to everyday language. The same applies to other terms derived from memetics, such as *going viral*. Memes shared on social media have a strong effect on information flow and political life. The understanding of memetic selection is therefore very important for studying cultural and political dynamics. Memetic theory is still used in the business world because *viral marketing* has proved to be an efficient way of selling products (Tyler, 2011), but there is not much scientific research in this discipline.

Early research in memetics was dominated by geneticists. They developed complicated mathematical models, but they did not find any real-world data that fitted their models (Fog, 1999: chapter 2). A serious problem with the memetics research at the time was that the analogy with genetics was taken too far. There were long discussions about how to define a cultural unit of selection, whether this unit was indivisible, how to distinguish between the pure information and its material manifestation, etc. (Fog, 2023). The futile pursuit for conceptual precision has certainly impeded the progress of the discipline.

A meme is best viewed as a fuzzy concept. There is no universal formula that fits both a video shared on social media, a music genre, and a religious cult. Yet, these are all phenomena that can be studied with the principles of memetics to gain important insight. Many different kinds of information, and even quantitative traits such as wealth and influence, are subject to cultural selection (Fog, 1999).

The important feature that distinguishes memetics from other kinds of cultural studies is the non-anthropocentric perspective. Where an anthropocentric perspective has its focus on human actors, i.e. the sender and receiver of a piece of information, the memetic perspective has the main focus on the characteristics of the information itself. This difference can be explained with a simple example. If we want to explain why a particular pop song has become a hit, we may get two different kinds of answer. A researcher with an anthropocentric focus may conclude that this song is popular because people like the melody. A non-anthropocentric focus may lead to the alternative explanation that this song has a catchy tune. Both answers are perfectly acceptable, and in effect they are saying the same thing. The first answer represents the anthropocentric perspective, saying that people's tastes are matching the melody, while the second answer represents the non-anthropocentric perspective, saying that the

melody is matching people's taste. Swapping subject and object here does not affect the truth of the statement, only the focus of attention. A different focus of attention can often lead to different insights (Fog, 2023).

The non-anthropocentric perspective has the advantage that it is placing a focus on the selection criteria that make one meme spread more than another. The neo-Darwinian theory of biological evolution could not have been developed without the gene-centered perspective. Likewise, a theory of cultural evolution cannot reach its full potential without including a meme-centered perspective that studies the characteristics of successful versus unsuccessful memes. For example, the meme-centered perspective has added important explanatory power to theories of why some religious cults are spreading more than others (Lynch, 1996).

Memetics offers a common framework for studying many different cultural phenomena including ideas, beliefs, religions, theories, ideologies, stories, rumors, urban legends, jokes, inventions, recipes, methods, fashions, art styles, music, social movements, organizations, industry, and more. Memetics offers a framework and a common terminology to facilitate cross-fertilization between many different areas of cultural studies.

Unfortunately, memetics has suffered because it is falling between two stools. It is trying to combine two academic traditions that have long been hostile to each other: the natural sciences and the social and cultural studies (Fog, 2003). Memetics is borrowing the idea of natural selection from evolutionary biology and applying it to cultural phenomena. Theorists who come from a background in the natural sciences are used to precise definitions and mathematical description. This has led to futile attempts at isolating a unit of culture and describe it with mathematical models instead of looking at real-world examples. Theorists from humanist studies, on the other hand, want an anthropocentric perspective and despise the “biologism” and cause-and-effect theories (Fog, 2023).

Some of the most insightful studies of memes were published as popular books because the authors wanted to optimize the spreading of the meme of memetics itself (Brodie, 1996; Lynch, 1996; Blackmore, 2000). These publications have been ignored by other scientists because they do not count as peer reviewed science.

Studies like these have identified typical characteristics of the most successful memes. The memes that are most likely to circulate widely are the ones that push our most sensitive emotional buttons, such as food, sex, danger, and protection of children (Brodie, 1996).

Memetics can tell why a particular belief is spreading, but it cannot tell whether such a belief is true or false. The truth value of a meme does not enter the equation as long as people have no easy access to a proof or disproof.

The origin of a meme can be quite obscure. For example, one of my friends once posted a meme on his Facebook saying: *“Breaking: Experts say that the Covid-19 virus is man-made and will make humans slaves of capitalism”*. Curious about the source of this claim, I asked him, who are these experts? His answer shocked me. He answered: “The expert is me. I just made it up.” Apparently, there are people who will make up memes that fit their political agenda or their emotional needs without any regard for evidence. Such irresponsible or disturbed people may be rare, but they can have a strong impact on society if they can construct memes with strong emotional appeal that are circulated widely.

I wrote above that the truth value of a meme is irrelevant as long as people do not have easy access to a proof or disproof. I have to qualify this statement. Some memes are circulated even if they can easily be disproved. This Facebook meme is a good example:

**THIS IS THE ONLY TIME  
WE WILL SEE AND LIVE  
THIS EVENT**

**Calendar for  
March 2013**

**March**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					<b>1</b>	<b>2</b>
<b>3</b>	4	5	6	7	<b>8</b>	<b>9</b>
<b>10</b>	11	12	13	14	<b>15</b>	<b>16</b>
<b>17</b>	18	19	20	21	<b>22</b>	<b>23</b>
<b>24</b>	25	26	27	28	<b>29</b>	<b>30</b>
<b>31</b>						

This year March has 5 Fridays, 5 Saturdays and 5 Sundays. This happens once every 823 years. This is called money bags. So, forward this to your friends and money will arrive within 4 days. Based on Chinese Feng Shui. The one who does not forward..... will be without money.

This meme is easy to disprove. Anybody with a good understanding of mathematics can see that there are only seven possible combinations of days in March, not 823. It took me only a few minutes with an online calendar to find that the same pattern happens again in 2019 and 2024.

This calendar meme is circulating because it is promising a reward for forwarding the meme and a penalty for not doing so. It is so easy to press “share” that people may forward a meme without thinking twice about it. This meme was shared more than a million times in the course of a single week.

There are several reasons why false memes are created. Some memes come up as a result of random events, misunderstanding, or vivid fantasy. Other memes are deliberately designed with an emotional appeal by people who intend to make it go viral. Those who create such “designer memes” may have a political or commercial agenda that they want to promote.

Many people feel no responsibility for fact-checking what they share, or they lack the skills to do so. If people are criticized for sharing fake news, they will often excuse themselves by saying that they are just sharing the story, leaving it to the reader to decide what to make of it.

It is supposedly basic knowledge that one should believe only messages from trustworthy sources, yet millions of people have believed and shared outlandish claims from the mysterious and anonymous QAnon movement, especially during the US presidency of Donald Trump. Whoever was behind the QAnon phenomenon has succeeded in manipulating the memosphere very effectively with strong political effects. Even young people who grew up with internet and social media are not always good at judging the reliability of media messages (Wineburg, et al., 2016), and some people are even sharing false memes deliberately for a number of reasons (Ecker, et al., 2022).

Studies show that false memes are circulating faster and wider than true memes because their contents are more surprising or emotionally touching (Vosoughi, Roy and Aral, 2018).

False claims are easy to make and often difficult to disprove. This asymmetry has far-reaching consequences. A common adage known as *Brandolini's law* or the *bullshit asymmetry principle* states that "The amount of energy needed to refute bullshit is an order of magnitude bigger than that needed to produce it." (Williamson, 2016).

False memes often continue to circulate long after they have been debunked because the major social media today lack an efficient mechanism for making a debunking discussion accessible to everybody who have seen or shared a particular meme.

### How to spot a designer meme

Some memes are deliberately designed and fabricated with the intention of spreading disinformation, while other memes are started accidentally by misinformed or disturbed people.

There has been a lot of research and experiments on how to fight the circulation of misinformation (See Chen, Xiao and Kumar, 2023, for a review). This research is mainly based on an anthropocentric perspective, focusing on the persons who believe and share misinformation. The non-anthropocentric view is not blaming persons for believing misinformation. Instead, it is focusing on the contents of the memes that circulate the most. The memes with the highest contagiousness or 'fitness', i.e. the memes that are spreading the most, typically include the most emotionally touching topics.

A typical example is the Pizzagate conspiracy theory, according to which prominent politicians from the US democratic party were involved in human trafficking, cannibalism, and sexual abuse of children in the basement under a pizza restaurant (Bleakley, 2021). This story includes all of the topics that Brodie (1996) identified as strongly emotionally touching: food, sex, danger, and protection of children. The Pizzagate story was fabricated and spread by political opponents who intended to harm Hillary Clinton and other democratic politicians (Bleakley, 2021).

However, we cannot conclude that a meme has been deliberately fabricated with malicious intent merely based on its contents of emotional topics. A forerunner of the Pizzagate story was the ritual child abuse panic in the 1980s which included thousands of accusations of bizarre forms of child abuse. The ritual child abuse panic was started by misguided professionals and overzealous child workers who honestly believed their own stories (Beck, 2015).

The Pizzagate story, on the other hand, was promoted with an obvious political purpose. A story with a clear purpose of promoting a particular point of view or harming those who hold the opposite view is more likely to have been deliberately fabricated or deliberately promoted based on dubious evidence.

Another typical characteristic of designer memes is that the originator is anonymous or hiding behind a false identity. For example, the many accusations from the QAnon movement came from anonymous social media accounts that cannot be traced. The mastermind behind this movement may be right-wing political activists, or it may be foreign powers seeking to destabilize the US society.

The designer memes often try to borrow legitimacy from trusted sources by claiming that the information comes from some well-known expert or organization. Such claims should always be fact

checked. If it cannot be verified that the alleged source has published the claimed information then the meme should not be trusted.

One should generally doubt circulating stories that manifest some of the typical features of false memes with high fitness. This includes the following characteristics:

- Topics with high emotional appeal, such as food, sex, danger, and protection of children
- Disgust and fear
- Bizarre and outlandish claims
- Encouragement to pass on the meme
- Promises of reward for passing on the meme and punishment for not passing it on
- Promises of high gains from low investment or cheap protection against some danger
- The source is anonymous or some random name that may be false
- Unsubstantiated claim that the information comes from a well-known and respected source
- Technical claims promoted by persons with poor understanding of the science and technical matter
- Countermeasure against debunking, for example the claim that some conspiracy has covered up all evidence or fabricated counterevidence
- The meme is promoting a particular agenda and harming the opposite agenda

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