

Fake news, misinformation and disinformation

V. HOT TOPICS

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Fake news is a phenomenon that has proliferated rapidly in recent years with the growth of the internet and social media. It poses a major challenge to our democracy, journalism, science and science communication, among other things. According to “The Debunking Handbook”, fake news is “false information, often of a sensational nature, that mimics news media content”. More commonly used terms are misinformation (“false information that is disseminated, regardless of intent to mislead”) and disinformation (“misinformation that is deliberately disseminated to mislead”) ^[50]. A scientific study has shown that false information spreads much faster on social networks than true information, and tends to reach a lot more users. The reason for this doesn't seem to be the algorithms themselves, but mainly psychological reasons: People share false news more than truths. ^[51]

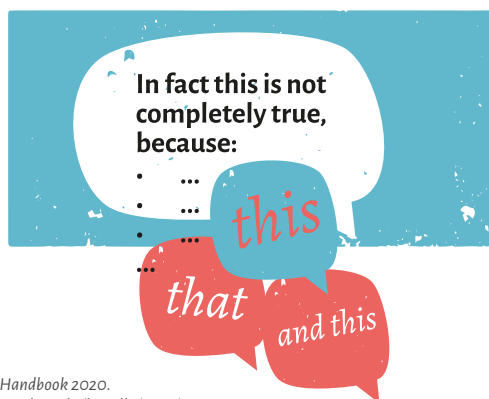
Of course, disinformation is not just limited to science. But science is vulnerable. Science can easily be misused to lend credibility to disinformation and to deceive people. During the pandemic, we all saw how disinformation can spread doubt and mistrust about science, or even lead people to use dubious methods or drugs with no proven benefit to protect themselves. Disinformation is also fuelled by social bots. One study found that a quarter of the tweets they analysed about climate change came from automated social media bots, many of which sent climate denial messages. ^[52]

An important question for the readers of this book is: *Is it a duty of science communication to fight misinformation, disinformation and fake news?* It's certainly not an easy task. Fake news headlines are often snappy, shocking, highly emotive and very catchy. The information and the outrage are immediately burned into the reader's memory. When science communication then tries to set the record straight, it is much more difficult. Nuances have to be added, false claims

corrected, possibly complex phenomena explained. This takes time and often isn't as memorable. If it goes wrong, the fake news is remembered, the correction is not.

About 10 years ago, there was a certain fear among debunking experts that trying to debunk fake news could backfire: By repeating the false claim while debunking it, you make it even more prominent. But recent studies suggest that this backfire effect isn't as strong as first thought, and debunking is actually very effective when done properly. For example, it helps to stop people from spreading misinformation ^[50].

But how do you debunk properly? Again, the Debunking Handbook provides some advice: Ideally, recipients of misinformation should be stopped from blindly believing it in the first place. This might be achieved by explaining the argumentation strategies used by manipulators, in order to make people immune to it. But once misinformation is out there, what should you do? First, check if the information is worth debunking. If only a few people have noticed it, why make it more prominent by debunking it? But if it's worth debunking, then do it: First "state the truth", then "point to the misinformation (but don't repeat it, once is enough)", then "explain why the misinformation is wrong" and finally "state the truth again" ^[50]. A common problem is that debunking often only reaches the "already converted". Although it is very challenging, science communicators should therefore try to reach out to audiences outside the "science bubble".



Recommended reads:

- ♦ Lewandowsky et al. (2020), *The Debunking Handbook* 2020. <https://doi.org/10.17910/b7.1182>; (<https://open.bu.edu/handle/2144/43031>)
- ♦ Dietram A. & Krause N.M. (2019), *Science audiences, misinformation, and fake news*. PNAS 116:7662-7669. <https://doi.org/10.1073/pnas.1805871115>