



Misinformation in a Global Pandemic: Where Does it Come From and How do we Stop it?

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The streets of London grow empty as businesses, universities, schools, stores and train stations are instructed to close. One would think it's a public holiday, Christmas day perhaps. Everyone is at home spending time with their loved ones, taking a break before the New Year comes around with new goals and ambitions to achieve. But wait, that was just the end of March.

The coronavirus pandemic has taken the world by surprise, causing mass disruption to education, the economy, our emotional and social lives. With a considerable amount of time to spend idly and a lack of understanding about what is actually going on around the world, how did coronavirus start? Why now? What can we do to protect ourselves? It's only reasonable to turn to the internet for answers.

The internet contains a vast array of resources and information, however, it is also home to the spread of misinformation as people tend to forward information without fact checking. In fact, a shocking 59 percent of shared URLs on Twitter are never opened by the user sharing the content according to a [paper](#) published by the Association for Computing Machinery in 2016.

CONSPIRACY THEORIES

Scientific organisations have long acknowledged the role of misinformation and conspiracy news in turning the public away from science. In a [paper](#) published in the Proceedings of the National Academy of Sciences, researchers describe a key difference between scientific and conspiracy news: the ability to verify the content being published.

Conspiracy theories tend to reduce the complexity of reality by explaining events as plots conceived by powerful individuals or organisations, fuelling distrust in mainstream society and from official recommended practices.

Accepting theories that cohere with their belief system leads individuals to believe in false information that is presented to them online. A [paper](#) published in the Public Library of Science explains that the danger of accepting false beliefs is that they are rarely corrected once adopted by an individual. What's more is that online platforms use this cognitive bias to their advantage, making individuals more susceptible to misinformation, according to an [article](#) published by Nature in May 2020.

This isn't the first time the world has dealt with the spread of misinformation, conspiracy theories and false information have always existed. Rory Smith, Research Manager at First



With so much information to process during the pandemic, it can be difficult to identify misinformation. Social media vector created by [freepik](https://www.freepik.com/vectors/social-media): <https://www.freepik.com/vectors/social-media>.

Draft, a non-profit organisation that aims to tackle digital misinformation speaks in an [interview](#) with the BBC.

“The internet allows conspiracy theories to travel across political lines and between communities so there is much more scope to mainstream these ideas”, Smith argues in the interview.

While new studies on the coronavirus emerge seemingly daily, it is no surprise that the public are searching for answers, even if it is from conspiracy news, as it simplifies the complexities of reality at a time of uncertainty for humanity.

“Humans abhor uncertainty and individuals resort to a process called collective sense making where we hold on to information whether it's good or bad as a psychological coping mechanism”, according to Smith in the interview.

THE INTERNET

The World Health Organisation has coined the term “[info-demic](#)” and described it as an overabundance of informa-



tion – some accurate and some not – that makes it hard for people to find trustworthy sources and reliable guidance when they need it.

A [paper](#) published by the Public Library of Science in 2015 looked at how Facebook users interacted with conspiracy news and mainstream scientific news. Users engaged with conspiracy news focus on the diffusion of their content through liking and sharing conspiracy related posts whereas users that consume scientific news are less involved in diffusing information and are more prone to commenting on conspiracy pages. This gives us an insight into the methods through which misinformation is able to enter mainstream news.

The first hand risk to public health following the spread of misinformation is prominent, for example, Al Jazeera, a news organisation based in Qatar, [reported](#) that around 700 people died from alcohol poisoning in Iran after ingesting a homemade methanol drink which was a remedy promoted on social media to protect against the coronavirus. This tragic event re-emphasises the importance of verifying sources of information obtained from social media by fact checkers.

THE ROLE OF SCIENTISTS IN THE SPREAD OF MISINFORMATION

In correspondence with Dr Emily Dawson, Professor in the Department of Science and Technology Studies at UCL and author of *Equity, Exclusion and Everyday Science Learning* we were able to learn more about the role scientists play in the spread of misinformation on the internet.

“I don’t think the scientific community can ensure people receive evidence-based information. This is simply beyond their power”, Dawson weighs in.

However, data on public attitudes to science encouragingly shows that public confidence in science and scientists is actually very high according to Dawson.

“Working with the public rather than at them would be a really big help in terms of building support, sharing information and staying relevant”, Dawson said.

Dawson’s book *Equity, Exclusion & Everyday Science Learning* explores how some people are excluded from science education and communication, and the book also develops a framework to support inclusive change.

“We know from research that people don’t make decisions based on information, they made decisions based on how they feel about the information, how they feel about the person/space where they found the information”, Dawson says.

Dawson’s book explores the experience of ethnic minorities in everyday science learning, exploring a theory of exclusion and suggesting a theory of inclusion.

“Those involved in science communication need to carefully design their media and communication strategies

by creating clear and accessible information sources and work to be in spaces that people get their information, even if that’s Instagram!” she adds.

We also need to develop a better understanding of how people make sense of information, how communication works and what might make ‘false information’ appealing and interesting according to Dawson.

PEER REVIEW

Peer review is a vital component in the dissemination of scientific research. No claim can be considered valid until it has been peer reviewed. During a time of crisis this process has proven to be ineffective because decisions on the validity of results need to be made much more quickly than is possible under the current peer review process.

To tackle this problem, preprint servers such as [medRxiv](#) have been established to allow the rapid dissemination of research that have not been certified by peer review. However, information on these servers may or may not be reliable, raising doubts for example about governmental advice on the mandatory use face masks in public.

The guidelines on the use of face masks have shifted throughout the pandemic, with the WHO first advising not to use face masks to now making them mandatory following publications of [evidence](#) showing that masks can prevent the spread of Covid-19. Nevertheless, this only fuels the confusion and doubt among the public.

MOVING FORWARD

Although algorithms are highly beneficial to providing a personalised user experience on the internet and maximising user engagement, scientists have [suggested](#) that algorithmic solutions are not useful in the propagation of misinformation on the internet. Algorithms track users clicks and provide content consistent with the individuals preferences. Scientists [suggest](#) that algorithms should maintain more diversity and not entirely cater to what the user is usually engaged with to present a more balanced version of reality in cases such as during the coronavirus pandemic, and this could ultimately offer one approach of combatting the spread of misinformation online.

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