

INFORMATION VS. DISINFORMATION

What does the phenomenon of online “fake news” stem from? What are scholars doing to combat disinformation?



ACADEMIA PART III The Current Threats



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Here is how the Polish science fiction writer Stanislaw Lem summed up the Internet almost two decades ago: “The ability to transmit the content of a new book or letter to the opposite hemisphere a million times faster than before is about as consequential as the fact that a cup of tea will not get any sweeter if you stir it with a spoon.” Those words were written at the time of widespread enthusiasm for the new medium – its capacity and increasing speed and the promise of unlimited content availability, a time when municipalities, schools, and families were being connected to the Web.

In the early twenty-first century, we were convinced of something that Lem did not find convincing – that the Internet, as a medium that emerged out of the academic world, would above all bring universal enlightenment, even to places where traditional schooling did not reach. That was how the traditional media talked about the Internet, and that was how companies like Google and Amazon wanted to be perceived – the former wrapped our communications up in advertising algorithms, and the latter transformed from a bookstore of great assistance to scholars into the world’s largest all-purpose store. Such is the communications reality we live in.

In 2022, we can say that two decades ago, even before the advent of global social media, stirring may not have made Lem’s cup of tea any sweeter, but hardly anyone predicted that it would actually become as bitter as it is today. Back in the 2000s, the Internet was associated with democratic decentralization, which – assuming good faith on the part of its users – was seen as a tool facilitating free thinking and learning.

When the Arab Spring broke out several years later, we were still optimistic about the positive impact that was being exerted on democracy by social media, as the very latest embodiment of the Internet. We saw how people were using social media, free from the influence of the political authorities (unlike the press, radio, and television), to resist tyrants and publicize their crimes. We watched their successes, but in the end also the tragedy that befell Syria. Those events were accompanied by enthusiasm for the democratization of content publication on the Internet as such and on social media as such. The same held true for us, living in peaceful Europe. Is there much left of all that today?

The problem of false or manipulated information is certainly neither new nor unique to the Internet. Persuasion disguised as information, meant to serve the interests of specific influence groups, has always

been part of human society. No medium ever received more bad press in this regard than... the nineteenth-century tabloids. The film industry, in turn, once succumbed to totalitarianism, and television is still openly manipulative. However, false information on the Internet is unique and very dangerous in that it spreads with particularly great speed and produces lies that are difficult to detect and straighten out.

Fake news

In late August 2021, the journalist Brecht Castel tweeted the results of an investigation conducted using OSINT techniques (collecting information from publicly available sources). He targeted a single instance from among many online manipulations, but it was one that had a great impact. The investigation demonstrated very clearly the two most important difficulties in the struggle against fake news on social media. For one thing, such manipulations are extremely easy to create, and they spread very quickly. For another, the networks make it systemically difficult to combat fake news, and such efforts consume a great deal of energy.

Brecht Castel examined a photo that had been posted on Facebook. It showed a woman dressed in medical scrubs and holding a placard saying “573 days face to face with COVID patients while unvaccinated/ Never got COVID/I have an immune system/ Don’t mandate my choices!”. In two weeks, it was shared by 424,000 people and viewed by 44 million users. Grist to the mill for vaccine opponents.

Very few professionally crafted messages manage to garner as much publicity as is received by such lies, which are based in their form and content on emotions that attract crowds of Internet users. Was she a medical professional? Did she actually have contact with patients for so long? Is she really not vaccinated? No facts were relevant for the spread of this “news” and the creation of this emotional message. Fact-checking was a very time-consuming process, and the reporter did not arrive at clear conclusions.

Establishing the facts related to doubtful content takes a lot more time (and a tremendous amount of resources!) than distributing it effectively – this is the first obstacle in the fight against manipulation. Another very serious obstacle is posed by the fact that most social networks, especially Facebook and Twitter, systemically and by design offer no opportunity to remove false or manipulated content. Social-networking websites (except for LinkedIn) state in their terms of service that the content published by their users reflects their opinions, which as such are not evaluated for truthfulness, and any disputes over facts should be settled in court.

Social media owners profit from the emotions generated by their users’ opinions, which they treat as facts. This situation is fundamentally different in the

traditional media, which bear editorial responsibility for the content they distribute. Such responsibility is not always easy to enforce, but it exists, at least formally, and it is built into the media system.

Populism

When did we notice that the distribution of fake news on social media poses a major problem for society? In June 2016, Britain held a referendum on leaving the European Union. In November 2016, the Americans elected Donald Trump to be their president. Fake news, disseminated on social media on a massive scale, contributed significantly to the outcome of both elections.

In April 2017, an article in *Nature Communications* warned of the threat that fake news posed to the debate on climate change. In the introduction, the authors state: “[a]s the challenges and environmental consequences of climate change manifest, the need for a society of science-literate citizens is becoming increasingly apparent. Achieving this, however, is no easy task, particularly given the proliferation of fake news and the seeds of confusion it can sow.” The article also lists the causes of this problem: the rapid expansion of digital media together with extremely fast paced consumption of their content and, consequently, a less critical evaluation of news sources.

The 2015 Paris Agreement threatened some very powerful groups of influence, whose members decided to fight for their interests by exploiting the ignorance on the part of many members of the public about the true nature of digital media. Political populists did the same thing in the 2016 elections in both the United States and the UK. Then, when we had already started talking loudly about this new type of information manipulation, science started to be seen both as a victim of the new situation (for reasons related to attacks mounted against what we know about the climate crisis) and as a remedy (the capacity for critical analysis).

What is science doing to fight manipulation?

In the years that followed, the world of science responded to this challenge with greater commitment to quality communication in new media. Many research institutions allocated more resources to communication, with scholars establishing a stronger presence on the Internet, not only with strictly scientific content, but also with more intensive science popularization efforts. Scientists are now studying manipulation in digital media, drafting guidelines for journalists and editors, and teaching a critical approach to absorbing information. Above all, however, they are using the



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new media to fight scientific untruths. This also holds true for the Polish Academy of Sciences.

What are we doing? We are providing information, dispelling myths, and consciously using persuasion – based on scientific knowledge and methodology. We can hardly hope for a quick win in the fight against disinformation for reasons related to the structure of the entire field of communication that influences public opinion. Even if all editors in the “traditional” media made their communication channels available to scholars speaking with one voice, their impact on public opinion would be limited because television, radio, newspapers, and even Internet websites are now secondary to social media, driven by grassroots-level passions and fears. This problem is especially acutely felt in Poland, where the authority of public media as a reliable source of information has collapsed completely.

In Poland, just as in many other countries, there are websites that have been created in response to manipulated information about climate change. Such websites contain position statements put forward by

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research institutions and simple yet reliable responses given by scholars to frequently-spread myths. Examples include the Polish-language websites naukaoklimacie.pl and klimat.pan.pl, the latter being managed and run by the Polish Academy of Sciences. In recent years, the publicity gained by the problem of fake news has acted as a wake-up call for representatives of the media, causing them to become openly aware of this issue, approach sources with greater caution, and eagerly invite scientists to join the public debate. Unfortunately, this has not eliminated the problem of the spread of fake news. The outbreak of the COVID-19 pandemic highlighted the crucial role of that part of communication that does not depend on professional editors but is eagerly influenced by political and commercial interest groups – which essentially means social media. In the sphere of communications, the fight against the pandemic has exposed fundamental difficulties in stopping the river of lies pouring out of the Internet.

In spite of everything, science content is relatively popular in the media, and the PAS is eagerly exploiting this opportunity. We are helping boost awareness of the climate crisis and the importance of the fight against the COVID-19 pandemic. Many members of the public understand that the most important and urgent problems facing humanity can be resolved through the work of scholars.

In recent months, the voices of expert bodies appointed by the PAS President received especially wide coverage in the media. Over the past year or so, the Interdisciplinary COVID-19 Advisory Team and the Advisory Group on the Climate Crisis have issued numerous position statements, addressed not only to journalists and decision-makers, but mostly to citizens, thus influencing the opinions of the public. Together with easy-to-understand commentaries, those position statements have reached millions of recipients, influencing their behavior in Poland and improving social acceptance for pandemic prevention measures. The statements were repeated in various forms and quoted, or at least partially conveyed in a good way, by almost all major traditional media outlets and many local ones. We have also explored the potential of social media.

The PAS committees regularly speak out on key social, ethical, health-related, and biodiversity issues. These voices reach the public more effectively via social media. In terms of communication, we are no longer completely reliant on the will of traditional media outlets.

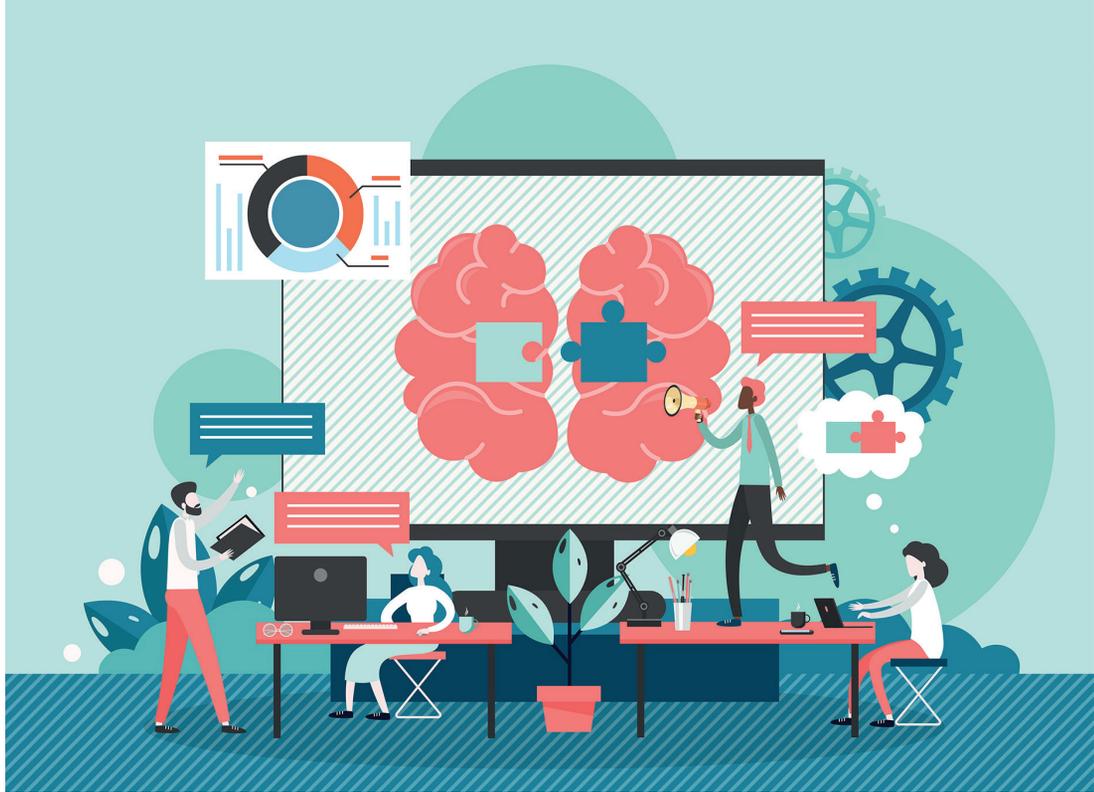
Although we should not delude ourselves that reliable scientific knowledge will soon become as popular on social media as manipulation fueled for example by fears, we should nonetheless be especially active in the online world. The climate crisis and the fight against the COVID-19 pandemic have sparked

what could be called a fad for science. We have used this trend to reach out to a growing number of people using new channels. We take into account their distinctive characteristics because we formulate content differently on Facebook (the most popular social media outlet) than Twitter (focused on short-form content and influential in specific social groups). We were surprised and pleased by the effectiveness of the LinkedIn network, created with career-related content in mind, in reaching out to people interested in science. To promote reliable knowledge as widely as possible, we are working with the Copernicus Science Centre (CSC) on the series of meetings “Coronavirus in the Crosshairs,” where participants resolve their doubts by asking questions directly to, and receiving answers directly from prominent scientists. Together with other European academies that are members of the European Academies’ Science Advisory Council (EASAC), we prepared and disseminated materials that reached a very wide audience.

If it is difficult for reliable knowledge to compete with emotional manipulations, the main ways to fight them involve reaching out to those members of the public that are not sure if they should trust scientists. It turns out that the publication of rational arguments by such a prestigious institution as the Polish Academy of Sciences often tips the scales in favor of trust in scientific arguments and the scientific method. It is likewise important to publicly suggest appropriate solutions to decision-makers and to sketch out scenarios of behavior, as the PAS committees and advisory teams and groups do. Consequently, the policymakers who want to listen to such arguments can more easily make decisions backed by the authority of science. Unfortunately, many politicians would rather not antagonize those voters who are easily manipulated.

Misuse of the word “communication”

In today’s world, communication comprises everything, not only the exchange of information between partners and stakeholders. We are particularly eager to use to this word to refer to practice of one-sided persuasion and advertising, which is the complete opposite of communication in the (original) linguistic sense. When launching products and services, businesses and institutions embellish such launches with advertisements, which at the stage of preparation (or the internal stage) are called communication. “Has the marketing department already prepared the communication strategy for the new product?” a project manager might ask. The word “communication” has become all-pervasive as its meaning became completely reversed in many aspects of life, turning into disguised utilitarian persuasion that has taken the place



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of the exchange of information – from communication, through crisis communication and marketing communication, to science communication.

Science communication

Contrary to what we read in many studies, science communication is not a new field – this practice has accompanied scientific research at least since its modern redefinition. Today, it is starting to gain a certain meta-awareness: its subject and methods have yet to be found. This search comes more from the general tendency to “parcel off” consecutive areas of knowledge and practices. What previously belonged to the sphere of teaching and later dissemination is now becoming part of the extremely popular field of “communication” under the overwhelming influence of marketing theory and practice. Science communication as an institutional practice, as part of public relations – organized in many ways – often mimics e-commerce or political marketing practices.

The difference between science communication and political debate is emphasized by *The Oxford Handbook of the Science of Science Communication*: “(...) science communication must faithfully reflect relevant scientific norms or risk undercutting the trust that enshrines science in its privileged rhetorical place.”¹ For the same reason, managing a scientific institution’s social media profiles is dramatically different from commercial marketing. In practice, this means that a scholarly institution must have scruples in the fight for reach, which is everything for politicians, online stores, and unfortunately journalists.

It’s context that creates meaning

Scientists sometimes make mistakes in their communications via new electronic media. They quite often

want to “immediately publish everything everywhere,” which sometimes proves at odds with the expectations of the audience as all channels have somewhat different users, and these users differ in their reactions.

International studies shows that more than half of Twitter mentions of new scientific publications do not generate any response. This happens not because they were poorly crafted, but because it was wrongly assumed that social media are deprived of any context, like an arbitrary library catalog, a bibliography, or a bulletin board that will accommodate any content. Meanwhile, publishing content on social media is always embedded in a specific context or requires the creation of surrounding information that is clear to recipients. If we want a specific study to appeal to people, we must present its findings as part of an experience or a situation that is understandable to non-scientists.

Research by the PAS scholars published in August 2021 suggests a link between anti-science attitudes and the collective narcissism of some social groups. According to psychologists, defensive attitudes in a group can be linked to its support for decisions that undermine the health and well-being of its members. Hence the enormous popularity of anti-vaccine attitudes among nationalists, a situation that was quickly and intuitively spotted by politicians eager to trip up scientists.

A great deal has been done, but is it enough? Scientists are increasingly active in digital media, and they are trying to influence decision-makers. Unfortunately, their influence over politicians is weak and short-lived. Many politicians, including the highest-ranking ones, have chosen the path of confrontation with scientific knowledge for their own benefit. Among all the elements of the fight against the pandemic of manipulation and disinformation, this one is in my opinion the most difficult to eliminate. ■

¹K.H. Jamieson, D.M. Kahan, and D.A. Scheufele eds. *The Oxford Handbook of the Science of Science Communication* (Oxford: Oxford University Press 2017).