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How the new digital knowledge order is impacting science

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Abstract: In today's "knowledge societies," solutions to local and global emergencies like energy crises, climate change, and public health risks increasingly depend on the public's engagement with scientific knowledge and expertise. With people increasingly using social media to engage with scientific knowledge about complex phenomena, the mediating influence of these platforms becomes all the more important. While there is plenty of research and policy attention for what the contemporary media environment means for democracy and political discourse, there is far less emphasis on what this situation means for science itself. With platform leaders further aligning with anti-science politics, we see an intensification of earlier concerns about the societal power of large social media platforms when it comes to defining what knowledge, truth, and reality are in the context of major policy issues. This piece argues that the rise of platforms' epistemic power more than ever necessitates information and knowledge governance that safeguards independent academic knowledge production and communication. It also reflects on some of the possibilities and challenges associated with such governance solutions.

People increasingly use social media to understand complex crises. According to the Digital News Report, this year for the first time the proportion of people in the US who rely primarily on social media for news overtook those who use TV and news websites. But, as many of us are already aware, popular social media platforms like Instagram, TikTok, and X do not just deliver knowledge about important events to the public, they also transform that knowledge in the process. They shape influencers' content through their ad revenue models, set their own guidelines on inappropriate content and disinformation, and algorithmically select information to promote or demote. While these processes receive growing recognition, there is still insufficient attention for the full breadth of their implications for "knowledge societies," where solutions to local and global emergencies like energy crises, climate change, and public health risks increasingly depend on the public's engagement with scientific knowledge and expertise. While plenty of debate focuses on what these shifts mean for democracy and political discourse (e.g. 2025 EU Parliamentary hearing on the effects of algorithms and platforms on democracy), it is also important to ask what they mean for science itself. What these transformations might mean for the public value of academic knowledge in society is under-addressed in both research and governance.

The urgency of addressing the new challenges platforms pose to science is rising in a context where institutions of academic knowledge production across the globe are currently already undergoing stress tests on various fronts. Scientific institutions and academic disciplines are enduring budgetary cuts, internal intellectual (self-)critique, and full-frontal political attack on an international scale. These recent and longer-running trends contribute to the vulnerability of scientific institutions – and the knowledge they produce – in the public realm of contestation. Given the heavy reliance of public deliberation on social media platforms, these existing challenges to scientific knowledge are now compounded by the dramatic turn by major social media companies like Meta and X, which have revoked previous anti-disinformation policies. This is a move that can be seen as platform leaders further aligning with the anti-science politics of the second Trump administration in the US. It has also intensified earlier concerns about the societal power of large social media platforms when it comes to defining what knowledge, truth, and reality are in the context of major policy issues, themes that academic knowledge institutions have an obvious stake in.

The changing relationship between media and knowledge

In light of the rise of “post-truth politics”, there has been growing recognition for how digital platforms transform the “knowledge order” in societies. The ubiquity of platforms has flattened the epistemic hierarchies on which public deliberation and decision-making historically relied, shifting power to new information gatekeepers, and calling established communication systems into question. We witnessed this process perhaps most concretely and intensively in the context of the Covid-19 pandemic, when “linear” science communication systems were transformed by a “networked” model of communication, thus enabling more democratic contestation of policies and knowledge, but also flows of disinformation and politically motivated science rejection. As such, platform media come to occupy an important place in the way knowledge is defined, vetted, and established in society.

Thus far, the relative emphasis in media scholarship on this phenomenon has been on what this changing knowledge order means for journalistic processes and practices. Indeed, media scholars have convincingly theorised commercial platforms’ epistemic influences on the rise of “fake news” in media coverage and journalistic systems (see the work of Peter Dahlgren, Graham Murdock, and Terry Flew). But there is much less attention in this field for the effects of platforms on the production and communication of *scientific* knowledge. Yet, there is a long line of critical data and platform scholarship highlighting the changing relationship between digital media technologies and knowledge as such. Already in 2012, danah boyd and Kate Crawford claimed that “big data changes the definition of knowledge,” arguing that it “reframes key questions about the constitution of knowledge, the processes of research, how we should engage with information, and the nature and the categorization of reality.” In 2014, Tarleton Gillespie argued that algorithms were shaping the procedures that produce and certify knowledge, suggesting that when we “use algorithms to select what is relevant from a corpus of data,” we usher in a “knowledge logic” that brings, embedded within it, assumptions about what we need to know.

Almost a decade on, David Beer has used the notion of “algorithmic thinking” to build on this idea, suggesting that algorithmic technologies extend and remake the boundaries not only of what knowledge is, but also of what becomes knowable (and, by extension, what does not). And even more recently, Blayne Haggart and Natasha Tusikov have discussed the ownership and monopolisation of datafied knowledge under intellectual property law, making the point that data is, itself, a form of knowledge (rather than the “raw” material from which knowledge is gener-

ated), and datafication is therefore producing a new knowledge regime. This expanding body of critical examination has largely revealed how platforms structure knowledge *systems*. This raises questions on two fronts: first, about how those systems might shape the *content* of knowledge on specific crucial societal issues, and second, what the particular implications of this might be for *scientific* knowledge.

Just as social media platforms are software, institutional actors, and data managers that govern how the “social realities” of shared phenomena are constructed, they are also agents with a stake in which knowledge the public comes to know about politically charged policy issues that rely on scientific knowledge to be defined and understood. Key among such issues is currently climate change. It is therefore worth considering how platforms shape not only the systems but also the substance of the knowledge that academic institutions produce and make available to the public when it comes to an issue like climate and sustainability. This is a challenge due to the multiplicity of influences platform technologies can potentially have – from the narrowing of the breadth of available perspectives on the phenomenon within academic disciplines to the numerical logic of quantification, to the moderation of what counts as valid information about the theme, to the shaping of publics that form around the topic. What seems to be incumbent to understanding the influence of platforms on academic knowledge is how these disparate influences operate together on a single issue.

Facebook and climate science

We can consider the recent arc of Meta’s approach to climate scientific knowledge, for instance, as an entry point for beginning to integrate these threads of platform influence. Meta (then Facebook) received intense public scrutiny in 2020 for categorising scientific knowledge on climate change as “opinion,” therefore not subjecting it to examination by their third-party fact-checking firm consulted on other science issues at the time. Facebook then responded to pressure by US lawmakers by establishing its Climate Science Center (since disbanded), which foregrounded their role in combating climate mis-/disinformation. Then, in 2024, Meta Sustainability was launched as a new climate science communication and sustainability initiative. Despite civil society actors maintaining the inefficacy of Facebook’s disinformation deterrence practices, Meta Sustainability partnered with Yale, Monash, and Cambridge University to, in their words, “bring users trusted information” on climate change. But then, in January 2025, the company took an about-turn, announcing that it would abandon its third-party fact-checking measures for the use of a “community notes” system in which users flag inaccuracies, following X’s mod-

el. Despite the company's expressed intention of extending the policy beyond the US, Meta has stopped short of ending fact-checking in the EU, where it has obligations under EU law to effectively mitigate risks of misinformation under the Digital Services Act and the Code of Practice on Disinformation.

The move can be interpreted as an arrangement in which platforms loosen moderation of disinformation and other dubious content online that is sympathetic to (far) right wing political interests in exchange for receiving less regulation of their corporate affairs by the US government, including of the environmental impact of their operations. Meta's case illustrates how a connection is becoming more apparent between the platform companies' political and economic interests on key issues and the governance of information about those issues on their platforms. This suggests the need for media studies research to go further than pointing out how platforms structure the meaning of knowledge, moving towards linking platforms' epistemic power with their influence on the substance of academic knowledge.

While little research has been done in this area, what has been found so far is that a blind spot exists in sustainability studies scholarship for platforms' own carbon emissions, accompanied by a celebration of platforms as drivers of sustainable societal change. This is despite platform companies seeking significant commercial expansion within an already carbon-intensive IT-industry. We might understand this skewing – at least partially – by considering the finding that Big Tech funding for academic research institutes is associated with research outcomes that are tech innovation-oriented and less critical of digital technologies. However, the link has far from been established clearly enough to wholly explain why such omissions and blind spots occur. This would be one important piece of a puzzle that has yet to be put together about the influences of platform power on academic knowledge about such urgent and politically contested issues as climate change.

Fitting responses and their challenges

The rise of platform power more than ever necessitates information and knowledge governance that safeguards independent academic knowledge production and communication. But because of the multiplicity of sites where the epistemic power of platforms proliferates, it is not an easy task to curb major platforms' complex influence over scientific knowledge. Tracing such influence over a single issue would require us to connect the different facets of platforms' epistemic power over academic knowledge with one another; from their varied financial and infrastructural embedding with academic institutions and research on the topic, to platforms' own information governance approaches to scientific knowledge on that

topic, to the role of platform attention economies in the increasingly commercialised science communication landscape. As though such a research programme were not challenging enough, it would also have to grapple with the deep imbrication between the power of digital technologies and academic knowledge production, both historically and in emerging ways. After all, digital media technologies have been shaping cultural imaginaries about internet technologies that inform both commonplace and scientific ideas about platforms' (potential) role in society since their very inception. These influences compound modernist tech-utopian narratives and ideas that predate even the internet, complicating the possibility of assigning straightforward responsibility, and thus exposing the limits of also relying on state regulatory solutions alone.

Formulating a sufficiently multi-pronged response might include academics and their institutions developing research ethics frameworks that respond directly to the emerging politics of knowledge currently emerging at the intersection between science and Big Tech's influence. As media scholars, this may extend to more openly positioning ourselves and our work in relation to theoretical traditions of research on media and ideology from which media and cultural studies emerged. But it may also simply involve reflecting transparently on incentives, especially in contexts where financial pressures on university budgets and encouragement for public engagement, outreach, and working with societal partners might further work to blur the boundaries of academic autonomy. This can of course be complicated and even uncomfortable to articulate when we have colleagues in our department hallways and big names in our fields whose work embeds them within collaborations involving Big Tech companies, funding, and interests. Nevertheless, both platform governance and academic inquiry have much to gain from extending their scope to further include the many ways platforms shape academic knowledge production and communication. When addressing problems of online disinformation, truth contestations, and the relationship between knowledge and power, the meaning and public value of science and academia in the platform era deserve a more central place in the conversation.

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