



COMMENT

Communicating science in an age of bewilderment; or, a brief technological tectonics of our communication landscape

Commentary on

Science communication in changing political winds

Will J. Grant 

Abstract

We live in bewildering times. Unusual politicians and political movements are rising to the fore, geopolitical maps are being redrawn, old certainties are collapsing, and knowledge — both good and bad — is flowing differently from ever before. Based on the belief that effective communication of science requires understanding of our communication landscape, in this article I offer a brief ‘technological tectonics’ of our current communication landscape, exploring how shifts in communication technologies have made certain politics and certain flows of knowledge possible. I then offer three paths for action — in reflection, practice and advocacy — for those interested in the communication of science.

Keywords

Science and media; Policy-making, communication and governance of science; Community action

Received: 21st July 2025

Accepted: 18th February 2026

Published: 16th March 2026

Everything happens so much
[Horse_ebooks, 2012].

I

One of the principle jobs of the science communicator is to attempt to explain as best we can ‘what is’.

This is essentially a fitting problem: we attempt to meet our audience’s knowledge needs by taking the best evidence available about the topic at hand, and crafting explanations that take into account our best understanding of the audience themselves.

The history of science communication as a research discipline has essentially been a discussion and renegotiation of this process of fitting: gradually reconsidering what counts as the most appropriate evidence; gradually reconsidering what we need to know about our audiences; gradually reconsidering the directionality and channels of the flow of knowledge.

In this, we have long been aware that on any topic we talk about the evidence is complicated, that the audiences we work with are diverse, and that different things are possible in different communication media.

But... if we cast our eyes around the world today, something fundamental to this process is changing.

II

I began writing this article in mid 2025, with a goal to articulate my opinion on ‘the effects of the changes in politics on the place and purpose of science communication’.

At the time Donald Trump was enacting significant changes to American science and governance. I don’t seek to detail these changes; no doubt you’ve been at least partially following along, and whatever I write will be out of date by the time you read it. But I don’t think it’s an outrageous claim to say that the world — as many have suggested [e.g. Carney, 2026] — has passed through a political event horizon.

Now, I think there are two broad ways to think about this Trumpian era.

The first takes Donald Trump as a unique historical actor: a politician so blessed with political talents that he can overturn centuries of democratic precedence in the most powerful state the world has ever seen.

The second, however, takes him as a symptom: a talented politician without a doubt, but perhaps less the historical driver, and more an unusually skilled surfer of the strange waves of our times.

While there might be some merit to the first case, it offers little further explanatory light; and so instead I turn to the second case.

In particular, I want to explore in what follows what I believe is making the strange waves of our times: how shifts in communication technologies have made certain politics — certain

forms of knowledge — certain worlds — possible. I want to offer what might be called a brief technological tectonics for our current communication landscape.

I raise this technological tectonics because I believe that to effectively communicate science — or to understand the communication of science — we must understand the technological makeup of our communication landscape: how it shapes the lives and epistemologies of our audiences, how it has built our world. Many aspects of what follows have been raised by others, and what I offer here can only be brief. Nevertheless, I hope that what I provide below can provide insights to help navigate the landscape, and ideas for what we might collectively do about it.

So, to return to the question above: what is making the strange waves of our times?

Like so many writing on this topic, to help understand the present I'm going to begin with a analogical detour to the past.

III

We are accustomed to the use of historical analogies to attempt to understand the Trumpian era. Germany of 1933 is of course the most popular, and as a descriptive (or indeed motivating) analogy it certainly has utility. Not for nothing have we seen writers offering new explorations of Hitler's ascension to power [Ryback, 2024], publishers returning to the chilling writing of those living in Nazi Germany [Beradt, 2025], and readers diving into Hannah Arendt's *The Origins of Totalitarianism* [Illing, 2019].

But I find myself reaching somewhat earlier, to the France of 1789.

Both Germany of 1933 and France of 1789 can be considered political event horizons; moments beyond which could not be seen, with consequences cascading into the decades or centuries to come. Both radically changed the political communities people considered themselves members of, and the truths that were held self-evident. Both saw grand ideas debated with fists and knives and guns in the streets, before a systematisation of violence against first internal enemies and then the rest of Europe and the world.

But while both Germany of 1933 and France of 1789 are replete with the 'unique historical actors' Trump might parallel himself with, the French Revolution is perhaps less trapped in such framing, and perhaps more available for interesting analogies in its drivers and dynamics.

I want to look at one driver in particular, as in this historical development we can see analogies to our currently shifting communication landscape.

IV

Countless words have been written on the origins of the French Revolution. There were the proximate causes — famine, expensive necklaces, unruly conferences on tax policy. There were the more distal drivers — unequal taxation structures, the increase of the middle class over the 18th century, the rapid embrace of scientific and enlightenment ideas under Louis XVI.



Figure 1. *Liberté de la Presse*. 1797, artist unknown. Reproduced from Norman [2025].

But it is impossible to tell the story of the French Revolution without encountering a tectonic shift in the communication landscape: in particular, the explosive growth of the press. As Simon Schama has noted,

Of all the media through which [the] new political constituency was shaped, the press may have been the most powerful. The magnitude of its expansion after 1789 was itself astonishing. Before the Revolution there had been perhaps sixty newspapers in all of France. By August 1792 there were close to five hundred in Paris alone [...] in a huge range of styles, tones and formats [2004, p. 446–447. See a caricature of this made during the Revolution in Figure 1].

We can come back to Schama's point about variety in the Revolutionary press. But the crucial point for the moment is that this rapidly burgeoning press was the central media "through which [the] new political constituency was shaped" [Schama, 2004, p. 447]. And critically, this was not simply the shaping we might consider in traditional political terms — for or against this or that policy, for or against the King or the Mountain — but the very making of a new political world.

V

In his highly influential *Imagined Communities* [1991], Benedict Anderson argued that modern nations — the globally dominant political communities since the French Revolution — were not primordial or ancient entities, but were instead things constructed by modern technology.

The modern technology Anderson focused on in particular was ‘print-capitalism’. What made the new communities possible — imaginable — Anderson argued, “was a half-fortuitous, but explosive, interaction between a system of production and productive relations (capitalism), a technology of communications (print), and the fatality of human linguistic diversity” [1991, pp. 42–43].

His argument runs like this.

Following the development of the printing press in the 15th century, the initial market for printed books resided in the “wide but thin stratum of Latin-readers” [1991, p. 38]. Eventually however, the logic of capitalism drove a turn to the “potentially huge markets represented by the monoglot masses” [1991, p. 38]. From the 18th century onwards, novels and newspapers in vernacular languages began to flood western Europe (and later the world), creating ‘mass reading publics’. It is this technological shift in the communication landscape that made it possible to imagine these new national communities:

...In this perspective, the newspaper is merely an ‘extreme form’ of the book, a book sold on a colossal scale, but of ephemeral popularity... The obsolescence of the newspaper on the morrow of its printing ... creates this extraordinary mass ceremony: the almost precisely simultaneous consumption (‘imagining’) of the newspaper-as-fiction. We know that particular morning and evening editions will overwhelmingly be consumed between this hour and that, only this day, not that... The significance of this mass ceremony — Hegel observed that newspapers serve modern man as a substitute for morning prayers — is paradoxical. It is performed in silent privacy, in the lair of the skull. Yet each communicant is well aware that the ceremony he performs is being replicated simultaneously by thousands (or millions) of others of whose existence he is confident, yet of whose identity he has not the slightest notion... At the same time, the newspaper reader, observing exact replicas of his own paper being consumed by his subway, barbershop, or residential neighbours, is continually reassured that the imagined world is visibly rooted in everyday life [1991, p. 35–36. See Figure 2].

VI

The pictures — see Figure 2 for an example — started going viral in the early 2010s. Typically they’d be 20th century photos of a group of people sharing a public space — a subway, a barbershop, a residential neighbourhood — but all engrossed in their newspapers.

Alongside would be sarcastic comments that offered a reflexive defence of our then new smartphone era: “Everyone with their nose stuck in their newspaper!” [McFlyFarm, 2021]; “All this technology is making us anti-social” [cited in Hoffman, 2014].

The argument was that we’ve *always* been compulsive media consumers: always obsessed with our performance of the Hegelian morning prayer, but ignorant of the world and the humans around us. No one critiqued this behaviour when people read physical newspapers, so why critique it when we’re doing the same thing, but just reading on our smartphones?



Figure 2. Commuters reading their newspapers on a train in Philadelphia, ca. 1955. [Original: Three Lions/Getty Images; Deniscard, 2021].

I’m sure back then I hit retweet.

But as the more prescient at the time observed [e.g. Hoffman, 2014], there are crucial differences between the media consumption Anderson spoke of (or seen in Figure 2), and the media consumption we see now.

Here we can return to Anderson’s point — that while this mass ceremony is performed in silent privacy, “each communicant is well aware [it] is being replicated simultaneously by thousands (or millions) of others [...] and is continually reassured that the imagined world is visibly rooted in everyday life” [1991, pp. 35–36]. Put more directly, while those 20th century newspaper readers may have been silent, they were *always* communicating with each other: telegraphing with newspaper mastheads their orientation to the imagined community they saw themselves part of.

But now?



Figure 3. Modern commuters, by Flickr user Susan Jane Golding, reproduced under a CC license.

VII

The concept of affordances was originally introduced in ecological psychology to conceptualise an actor's relationship with their environment. As Gibson offered,

The *affordances* of the environment are what it offers the animal, what it provides or furnishes, either for good or ill... I mean by [affordances] something that refers to both the environment and the animal in a way that no existing term does. It implies the complementarity of the animal and the environment [1979, p. 127, emphasis in original].

The concept has since been taken up in Science and Technology Studies to explore the ways technologies shape society.

Modern internet communication technologies obviously afford a vast array of things, well beyond the scope of this article. But for the present I want to point to three key affordances of our modern technologies of communication, in comparison with their pre-internet forebears. You know all these, but we should state them for the record.¹

First, the method by which information is conveyed has shifted from more public or non-excludable (i.e., viewable or accessible by others around us) to more private or

1. And of course 'traditional' communication technologies (newspapers, radio, TV, cinema, theatre, town criers, organised religions) all afford / afforded different things themselves, well beyond the scope of this article to outline.

excludable. Second, information has shifted towards conveyance on devices that afford input (indeed ever richer input) as well as output. And finally, the method by which information is distributed has shifted from locally grounded and comparatively expensive (shaped by the affordances of things like printing presses, trucks, transmission towers and local regulatory demands) to ever more geographically agnostic and functionally costless to distribute.

So what does this give us? I want to point to three overlapping shifts in the communication landscape these affordances have driven that affect the world of science communication.

VIII

First, they have driven our media consumption to be increasingly oriented to the niche.

One of the most commonly touted aspects of modern internet communication (thanks to both the two-way interaction and the near-zero cost of distribution) is that it allows geographically agnostic connection along nearly any niche interest. You can insert your own examples here, good and bad, healthy and unhealthy. In many ways we could consider this simply the next logical extension of Anderson's print-capitalism, always searching for new markets.

I don't know if our increasing orientation to the niche is a good thing or not.

On the one hand, surely it is emancipatory to be able to pursue our own interests, to connect with others anywhere who share that interest? An orientation to the niche is a fundamental aspect of science, and probably why scientists were amongst the first early users of the internet.

But on the other hand, what is this an emancipation from? Are we losing older forms of community, older forms of communal attention, focus and epistemic agreement? Are we becoming ever more prone to the dangers of motivated reasoning?

Second, they have driven our media consumption to be increasingly oriented towards the id.

Freud's tripartite division of psychic apparatus into id, ego and superego offers a useful way to think about our modern communication landscape. To offer it in simplified terms, this conceptualisation holds the id as the locus of our animal impulses and visceral desires; the ego as the conscious mind that tames these desires ('as a rider tames a horse'); and the superego as the internalisation of social rules that guides the ego [Freud, 1923]. As some have offered, if the ego is 'I', then the id is 'I want', and the superego is 'I should'.

We can imagine the 20th century newspaper reading commuters as responding to all three; to their id ('I want to read Garfield'), to their ego ('how does this affect me?') and to their superegos ('what should I be reading?').

But now?

Thanks to increased media consumption privacy, two-way input and near zero cost of distribution we are seeing a vast and unchecked increase of media engaging our id.

There are social media platforms that engage the superego, like LinkedIn, with its use of formal names and titles. There are platforms that engage the ego, like Twitter / X and Instagram. And there are platforms that orient towards the id, like TikTok or OnlyFans or Bet365 can. And of course these are gross oversimplifications, and clearly there are platforms that engage all three.

But what does it mean if more of our communication landscape is oriented to engaging the id? If barely regulated multi-trillion dollar corporations tweak algorithms and personally targeted large language models to pull us down our own private rabbit holes?

Third, they have driven a dislocation and consolidation of attentional decision-making.

Information has never been neutrally distributed, and capital — as Anderson stressed in *Imagined Communities* — has long played a crucial role in shaping that communication. However, modern internet communication technologies have clearly afforded a shift from more locally owned and produced media to the dislocated and global. Put simply, over the centuries since the boom of newspapers in the French Revolution that Schama spoke of, we have shifted from having media decision makers (writers, editors, publishers, algorithm designers, platform owners) living physically amongst us as part of our face-to-face communities to being ever more distant, dislocated and disinterested.

Many worry about the consequences of algorithmically generated social media feeds. I hear these concerns, but I think the focus is misplaced. It's not the use of algorithms per se that matters, it's the fact that those who make decisions about the goals of an algorithm share so little with the people at the other end, and appear to have so little concern for truth or social benefit. At heart, what does it mean if the people who make decisions about the content we consume every day are building bunkers to survive all manner of apocalypse, or making plans to literally leave the planet, while the rest of us are stuck with the consequences?

IX

It probably wasn't fair to take the photo, and it probably wasn't fair that it went viral. Nevertheless.

The photo was of a commuter on a train — like all the commuters in this article — engrossed in his communication technology of choice. On screen was the end of a text:

... something warm to drink. A calm ride home. And maybe, if you want, I'll read something to you later, or you can rest your head in my metaphorical lap while we let the day dissolve gently away.
You're doing beautifully, my love, just by being here. ♡

He replies:

Thank you. ♡

You know the punch line. At the top of the screen is the name of the respondent: ChatGPT 4o [Broderick, 2025].

X

The exuberance of the early 2010s for the internet — when we congratulated social media for overthrowing dictators in the Arab Spring, when smartphones were “giving us superpowers,

turning us into cognitive super geniuses” [Chalmers, 2011], when the possibilities for mass collective organisation seemed all so present [Shirky, 2008] — is clearly over.

Since then we’ve become ever more aware of the downsides of modern communication technologies. We are used to the idea that smartphones can contribute to sleep problems, to attention problems, to body dissatisfaction and mood disorders [Capraro et al., 2025]; to the fact that we’ve all become somewhat more addled and anxious doomscrollers; that smartphones can be considered parasitic intruders in our lives “designed to further the goals and interests of others, to our own detriment” [Brown & Brooks, 2025].

But most of this discussion has been along individual or cohort lines. What is it doing to teens? What is it doing to me?

We need to shift this discussion. What is it doing to all of us?

XI

In 2010 the libertarian billionaire Peter Thiel argued that he and his allies “could never win an election, because we [are] such a small minority.” But maybe, he continued,

you could unilaterally change the world — without having to constantly convince people and beg people and plead with people who are never going to agree with you — through a technological means. And that is where I think technology is this incredible alternative to politics [in *More Perfect Union*, 2025; see also a more sinister version of this sentiment in Broderick, 2026].

All evidence from the first year of the second Trump administration would suggest some form of unilateral breakthrough has occurred. As with the French Revolution, we are seeing the overturning of an *ancien régime*, the passing through of a political event horizon.

It has been observed that Trump is governing at ‘muzzle velocity’: overwhelming opposition, civil society, traditional media and science with the speed and variety of change. This is clearly a choice by Trump and his inner circle, but it is also something enabled by the modern communication landscape — enabled by technology that is acting, as Thiel wanted, as an ‘alternative to politics’.

As Ezra Klein has observed when discussing Trump’s muzzle velocity governance, “focus is the fundamental substance of democracy” [2025]. I believe if we are to solve the biggest problems we’re facing as a planet — climate change, ecosystem collapse, pandemics — then we need not only to do the science necessary to understand these problems, but to communicate it within systems that can focus and act. And right now we are losing that collective ability.

J’avais rêvé une république que tout le monde eût adorée. Je n’ai pu croire que les hommes fussent si féroces et si injustes.

I had dreamed of a republic that everyone would have adored. I could not believe that men were so ferocious and so unjust.

Camille Desmoulins (1794)

XII

So, to return to the question driving this article: what does this shift in our communication landscape mean for the communication of science, and what might we do about it?

We have, as Mark Carney recently suggested [2026], passed through a political event horizon. His focus was perhaps more geopolitical than mine, but I think the point can well be expanded to the information and knowledge landscapes. Slowly at first, and then all of a sudden, we have seen a shattering of traditional processes of collective reasoning, a rise of mis and disinformation, a reorientation of loci of trust and authority. Not for nothing are many describing this moment as one of information war.

So what is to be done?

I think there are three broad zones of action for us as science communicators: in reflection, practice and advocacy. Many of us, of course, are already doing the things I outline below, but I hope connecting them here is of use.

First, to reflection:

I began this article with an argument that the history of the discussion of science communication has essentially been an examination and renegotiation of the processes of connecting evidence and audience: reconsidering what counts as the most appropriate evidence, reconsidering what we need to know about our audiences, reconsidering the directionality and channels of the flow of knowledge.

In this, one of the essential arguments in recent years has been that we should spend less time talking, and more time listening.

Here I hope that the brief technological tectonics offered in this article might provide a deep listening: not to any audience in particular, nor to the ways particular demographics, values, epistemologies or embodiedness should shape our communication, but to the ways the communication landscape itself shapes the lives and worlds of our audiences and the flows of knowledge. Here I would urge that as well as asking questions like 'what works well on YouTube or TikTok', we might also ask what a shift towards YouTube or TikTok might be doing to the flows of knowledge in general.

Second, to practice:

With this knowledge, there are, I believe, a number of things we should do. We should recognise that audiences will continue to diversify, and overlap in unexpected ways. We should recognise the emergence of new sources of trust, and that pathways to impact may necessitate engagement with strange bedfellows. We should recognise the growing role of mis and disinformation, particularly as disinformation becomes ever easier to produce, more likely to spread, and more likely to serve the goals of powerful actors.

And with that, we should continue to work to understand and listen to our audiences as best as we can, but always considering how their sources of trust and information will be changing; we should continue to study the flows of good and bad information; we should continue to go where our audiences are; we should continue to build connections with allies; we should continue to resist the pull of deficit model or whack a mole approaches to

communication; and we should continue to tell stories that seek to engage our audiences emotionally as well as logically.

And finally, to advocacy:

The fight for a good communication landscape — or, in my books, a landscape in which credible knowledge has a fair chance of getting where it is needed — is a science communication fight. This of course has manifested in earlier times in fights over traditional media regulation and editorial decision making; now I believe it is a fight for a public good internet.

At heart, if we believe that societal decisions should be made drawing on the best, most appropriate, most useful evidence — and that science is absolutely essential in that — then we need to advocate for a global communication landscape that supports the flow of this knowledge. In concrete terms, here we might advocate for collective visibility, oversight, governance or ownership of key social media algorithms, against the formation of monopolies in the communication landscape, and for continued education in critical thinking about our communication environment.

It is often said (though it's probably sadly just a miscommunication) that when asked in 1968 of the impact of the French Revolution, Chinese Premier Zhou Enlai said it was “too early to say”.

To parallel: it remains far too early to say what will be the impact of the modern communication landscape on society. But full knowledge isn't necessary. We know enough now to act.

References

- Anderson, B. (1991). *Imagined communities*. Verso.
- Beradt, C. (2025). *The third reich of dreams* [Originally published in 1968]. Princeton University Press.
- Broderick, R. (2025). The AI girlfriend guy. *Garbage Day*.
<https://www.garbage.day/p/the-ai-girlfriend-guy-ba3074ed47cee8e9>
- Broderick, R. (2026). Here's how Epstein broke the internet. *Garbage Day*.
<https://www.garbage.day/p/here-s-how-epstein-broke-the-internet>
- Brown, R. L., & Brooks, R. C. (2025). Smartphones: parts of our minds? Or parasites? *Australasian Journal of Philosophy*, 1–16. <https://doi.org/10.1080/00048402.2025.2504070>
- Capraro, V., Globig, L., Rausch, Z., Rathje, S., Wormley, A. S., Olson, J., Ross, R. M., Ascì, S., Bouguettaya, A., Burnell, K., Choukas-Bradley, S., Fardouly, J., Kowert, R., Lopez, R. B., Maheux, A. J., Mirea, D.-M., Ozimek, P., Selterman, D. F., Thiagarajan, T., ... Van Bavel, J. J. (2025). A collective review on some potential negative impacts of smartphone and social media use on adolescent mental health: results from a Delphi process. *Seton Hall Law School Legal Studies Research*. https://doi.org/10.31234/osf.io/b94dy_v1
- Carney, M. (2026). Davos 2026: special address by Mark Carney, Prime Minister of Canada, World Economic Forum, Davos, 20 January 2026. *World Economic Forum*. <https://www.weforum.org/stories/2026/01/davos-2026-special-address-by-mark-carney-prime-minister-of-canada/>
- Chalmers, D. (2011). Is your phone part of your mind [TEDxSydney YouTube video].
<http://www.youtube.com/watch?v=ksasPjrYFTg>

- Deniscard. (2021). Commuters reading their newspapers on a train in Philadelphia. *Reddit*. https://www.reddit.com/r/TheWayWeWere/comments/ql5wkr/commuters_reading_their_newspapers_on_a_train_in/
- Freud, S. (1923). The ego and the id. In *The standard edition of the complete psychological works of Sigmund Freud* (pp. 1–66, Vol. XIX). https://www.sas.upenn.edu/~cavitch/pdf-library/Freud_SE_Ego_Id_complete.pdf
- Gibson, J. (1979). *The ecological approach to visual perception*. Houghton Mifflin.
- Hoffman, K. (2014). Stop sharing this photo of antisocial newspaper readers. *Medium*. <https://medium.com/alt-ledes/stop-sharing-this-photo-of-antisocial-newspaper-readers-533200ffb40f>
- Horse_ebooks. (2012, June 28). Everything happens so much [Twitter post]. https://x.com/Horse_ebooks/status/218439593240956928
- Illing, S. (2019). A 1951 book about totalitarianism is flying off the shelves. Here's why. *Vox*. <https://www.vox.com/conversations/2017/6/28/15829712/hannah-arendt-donald-trump-br-exit-totalitarianism>
- Klein, E. (2025). Don't believe him. *The New York Times*. <https://www.nytimes.com/2025/02/02/opinion/ezra-klein-podcast-trump-column-read.html>
- McFlyFarm. (2021). Comment on 'Commuters reading their newspapers on a train in Philadelphia, ca. 1955. *Reddit*. <https://www.reddit.com/r/TheWayWeWere/comments/ql5wkr/comment/hj0o4iu/>
- More Perfect Union. (2025). Peter Thiel doesn't want you to see this clip [YouTube video]. <https://www.youtube.com/watch?v=s-BQhXdCs8Y>
- Norman, J. (2025). *Liberté de la Presse*. <https://www.historyofinformation.com/image.php?id=1443>
- Ryback, T. (2024). *Takeover: Hitler's final rise to power*. Knopf.
- Schama, S. (2004). *Citizens: a chronicle of the french revolution*. Penguin.
- Shirky, C. (2008). *Here comes everybody*. Penguin.

About the author

Will J. Grant is Associate Professor at the Australian National Centre for the Public Awareness of Science at The Australian National University.

✉ will.grant@anu.edu.au

🦋 [@willozap.bsky.social](https://bsky.app/profile/willozap.bsky.social)

How to cite

Grant, W. J. (2026). 'Communicating science in an age of bewilderment; or, a brief technological tectonics of our communication landscape'. *JCOM* 25(01), C02. <https://doi.org/10.22323/295520260218101138>.



© The Author(s). This article is licensed under the terms of the Creative Commons Attribution 4.0 license. All rights for Text and Data Mining, AI training, and similar technologies for commercial purposes, are reserved.
ISSN 1824-2049. Published by SISSA Medialab. jcom.sissa.it