institute of network cultures

network notion

#7

Imagining the Internet(s):

A Collaborative Glossary

1. Introduction 1
2. Science & Regulation 4
3. Design & Materiality 10
4. Rhetoric & Representation 24
5. Affects & Reception 38
6. Temporality & Scale 47
7. Recommended Readings 54

Edited by Nathalie Fridzema & Anya Shchetvina

Introduction

In 1983, a review in RUN Magazine described Commodore's Magic Desk as depicting "an office environment complete with desk, filing cabinets, digital clock, typewriter, wastebaskets and other familiar office furnishings." Using a joystick, you, the user, could "select the device you want." After clicking on the typewriter, the screen would change to a typewriter display: "You then may set your margins, adjust the paper, and type away to your heart's content. After you finished, you can file your documents in the filing cabinet." The name is apt. The desk does not exist in reality, yet through a combination of symbols, metaphors, and shared conventions, the program makes a computer legible as something familiar and manageable, something domestic.

Technologies are never solely material. They are, at every scale, also a matter of imagination. As Gabriele Balbi and Simone Natale have argued in "Media and the imaginary in history: The role of the fantastic in different stages of media change" (2014), studying how a technology is received means attending not only to its technical properties but to "a broad range of elements, including popular fears and enthusiasms for innovation and progress," and crucially to those forms of evidence that "pertain to the realms of the fantastic: speculations, imaginary narratives, predictions, and other forms of fantasies regarding media technologies." Magic Desk is a small, vivid example of the fact that the imagination is not decorative or supplementary; it organises materiality and practice. To understand historical and contemporary networked realities, we need to understand how the internet is imagined.

This is the premise of Imagining the Internet(s): A Collaborative Glossary. In the last decades, scholars in Media Studies and Science and Technology Studies have shown sustained interest in the imaginaries, ideas, and rhetoric through which the internet and network society have been historically understood. More recently, this field has broadened its frame: there are increasing efforts to challenge the dominant US-centred historical narrative and to attend to the local particularities of internet development and meaning-making across different regions.

Yet the conceptual vocabulary for this work remains scattered. Sociotechnical imaginaries or ideologies, myths or metaphors: dozens of sharp concepts and sticky notions circulate across fields and geographies without necessarily speaking to one another, each drawing on different disciplinary traditions and literatures. They cluster around a shared object — the mediated, networked realities

we inhabit — touching, overlapping, and sometimes contradicting one another without ever quite cohering into a common framework. This glossary will not solve this. It does not offer a coherent theory of imagination of the internet. Instead, the glossary is an attempt at collective inventorisation. It brings together short essays by researchers from STS, Media and Communication Studies, web history, and related fields, each reflecting on a single concept that helps us study or approach the imaginative dimensions of the internet in its many facets.

The glossary comprises 28 keywords. They do not represent imaginaries themselves, but the conceptual tools we use to go about studying them. Some, like sociotechnical imaginaries, have already became widely used. Others, like affective surplus, are novel additions to the scholarly vocabulary. Out of all, 6 shorter entries are dedicated to examples of more concrete historically or geographically localised phenomena, like the feed or the idea of "participation."

The glossary is not a dictionary or an encyclopaedia, and the entries are not comprehensive overviews. They are introductions, arguments, provocations, and sometimes personal reflections, each pointing the reader towards further work. Contributors were invited to engage with their keyword critically and accessibly, writing for an audience that spans disciplines and career stages. The result is a collection that is deliberately plural, occasionally contradictory, and open-ended.

The entries are grouped into five thematic clusters, each corresponding to a different angle of imagination. These clusters are an attempt to an organisational order rather than taxonomic: many entries could sit in more than one, and readers are encouraged to move across them.

Science & Regulation gathers concepts concerned with governance, policy, and the institutional framing of the internet: *Sociotechnical Imaginaries*, *Projects*, *Communications Siege*, and *Digital Constitutionalism.*

Design & Materiality brings together keywords that attend to the materially implied dimensions of internet imaginaries: *Infrastructural Ideologies*, *The Feed*, *Network Ideologies*, *Participation*, *Dispositif*, *Affordance*, *Standards*, and *Skeuomorphism.*

Rhetoric & Representation focuses on the language, narrative, and symbolic forms through which the internet has been configured. It includes: *Visual Abstraction*, *Rhetoric*, *Prefix*, *Metaphor*, *Vernacular Metaphor*, *Algorithmic Folklore*, and *Myths.*

Affects & Reception collects concepts that centre on how users, publics, and communities have felt and experienced networked

life: *Romanticism*, *Affective Surplus*, *Suspension of Disbelief*, *Hype Histories*, and *Net Scepticism*.

Temporality & Scale draws together keywords that address time, progress, and the relationship between local and global in internet history: *Failure*, *Abandonment*, *Scale*, and *Futuring*.

The glossary extends the work of Matter of Imagination, an open-format working group dedicated to collecting, structuring, and commenting on existing frameworks for studying the discourses, narratives, and tropes surrounding desired and undesired technosocial futures. It is published by the Institute of Network Cultures with support from the European Association for the Study of Science and Technology (EASST), and takes its place alongside a wider tradition of collaborative, keyword-based scholarly publications — from Keywords of the Datafied State to A New AI Lexicon — that treat conceptual work as a collective and ongoing practice rather than a settled outcome.

We are grateful to all contributing authors for the intellectual generosity and curiosity they brought to this project. A special thanks is due to Tommaso Campagna, whose support at the Institute of Network Cultures made publication possible, and to EASST for funding that enabled this to be printed out. Finally, thank you to the Matter of Imagination community, whose conversations over several years provided the ground from which this glossary grew.

Anya Shchetvina and Nathalie Fridzema
Co-initiators of Matter of Imagination and internet pen pals

Sociotechnical Imaginaries

ABE HENDRIKS

Picture a policy meeting in Brussels, early 2018. Regulators debate whether internet platforms should be treated as neutral carriers or as publishers. The discussion quickly slides into fundamental questions: what counts as speech, who bears responsibility for content moderation, and how market concentration relates to democratic sovereignty? At the same time, across the Atlantic, engineers at a standards body debate whether encryption should be mandatory or optional in new protocols. They find themselves caught between corporate demands for lawful access, civil liberties advocates invoking privacy rights, telecommunications companies warning about implementation costs, and the blatant reality that "optional" means it won't happen—maintaining the fiction that they are merely solving technical problems.

These groups are not simply interpreting "the internet" differently. They are *co-producing* different internets, each intertwining distinct understandings of freedom, expertise, and the good life *with* material infrastructure. This is what sociotechnical imaginaries are: collectively held visions of desirable futures, animated by shared understandings of what technology makes possible (Jasanoff and Kim 2015, see also Hendriks et al. 2025a). It captures how institutionally stabilized and publicly performed visions operate as background assumptions, rendering certain arrangements inevitable rather than politically chosen. Its analytical strength lies in understanding durability: why certain visions persist despite critique, how competing imaginaries coexist in tension, and how technological and social orders are co-produced rather than separable domains.

As Niels ten Oever (2021) shows with the early internet, this co-production is concrete: the "equal hosts" architecture—where any device could function as server and/or client—gave way to hierarchies after privatization. Seemingly technical solutions like firewalls and Network Address Translation consolidated new power distributions, transforming smartphones into consumption devices despite their computing power. Technical change, new actors, new problems, and new social orders stabilized simultaneously—not sequentially. Arrangements become embedded across multiple sites, making alternatives harder to articulate while presenting themselves as a technical necessity rather than political projects.

Moments of contestation—when participants must explicitly defend taken-for-granted assumptions—reveal this political work. Yet even these conflicts often leave the broader imaginary intact, because shared vocabulary continues to structure debate even as actors disagree profoundly about implementation.

Imaginaries achieve institutional embedding through sustained practices of sense-making and materialization that transform both the visions and the contexts they enter. Not every future-oriented vision becomes an imaginary. Proposals may circulate among small groups—what Hilgartner (2015) calls "vanguard visions," they may recruit allies, harden into infrastructures. Or they fail to travel, remaining isolated experiments. Early cyberspace manifestos circulated as vanguard visions in technical communities before becoming institutionalized through platform governance and regulatory frameworks. The question is why some visions become embedded in the social and material order, and others do not. As I have shown with colleagues (Hendriks et al. 2025b), embedding involves mutual transformation: introduced concepts are reinterpreted to fit particular contexts, while those contexts are rearticulated through engagement with new imaginaries. Technical standards prove especially powerful for this process. They function simultaneously as engineering specifications and policy documents, as mediators that actively reshape what is possible and thinkable. When a standards body debates whether encryption should be mandatory or optional, it is not simply implementing a vision of "privacy"; it is also redefining what "privacy" means and what technical arrangements count as protecting it.

What draws me to sociotechnical imaginaries is how it helps us see the making of durable technological futures—not through consensus, but through institutional embedding that accommodates competing interpretations while foreclosing alternatives. For Internet Studies, debates over platform regulation or digital sovereignty become visible as sites where different internets are being co-produced. Understanding this implies whose visions achieve infrastructural expression and whose remain marginal, and why seemingly universal principles materialize either as commons or as enclosure.

Projects

STEVE JANKOWSKI

The internet is a history of projects: software and infrastructure projects; personal, corporate, and state projects; projects that promote openness; projects that promise profit. And yet, the social arrangements the internet represents tend to be overshadowed by other group dynamics. Popular desires are kindled by participatory communities, liberating markets, and the emancipatory networks that aggregate and circulate our datafied desires for connection—but not projects. Perhaps the reluctance to seriously engage with the imagination of projects comes from their managerial horizon, one that spans the distance between bringing a planned object into being and delegating the execution of that plan to different actors. Or perhaps it is due to the mundane activities of managers, stakeholders, and organizational researchers who imagine projects in the narrowest of teleologies—a project either succeeds or it fails. But instead of outcomes, there are other ways of imagining projects, and with them, the internet itself.

As sociologists Boltanski and Chiapello (2007) encountered the capitalist changes to the 1990s internet, they theorized that the modular and ephemeral form of projects was the quintessential social arrangement of network power. What convinced the two authors of this status was how each project "brings objects and subjects into existence—by stabilizing certain connections and making" their forward movements seemingly "irreversible" (105). This political mythology of incremental, distributed, and unrelenting progress makes projects excellent excavation sites for exploring how desires emerge as sociotechnical connections.

So, on the one hand, the study of internet projects can stay close to organizational roots by following the managerial actors, their assignments, and the processes of envisioning and realizing various kinds of objects. But projects are not isolated: they exist as recompositions of people, social roles, visions, and techniques from previous projects—each forming "a temporary pocket of accumulation which, [creates] value" and therefore provide "a base for the requirement of extending the network by furthering connections" (105). Within this principle of *furthering* the network, the project becomes a fundamental term for the internet itself, the different layers of its stack, as well as the histories that make up forgotten "configurations" (Suchman 2012).

Luckily, this method has an established model to follow. In Patrice Flichy's (2007) *The Internet Imaginaire,* he explained that when examining the long-term dimensions of a technology, there emerges a "collective vision or *imaginaire*," which is a vision "common to an entire profession or sector, rather than to a team or work collective" and includes both users and designers (4). Ontologically, his analysis begins with the premise that the imaginaire manifests itself through a series of interconnected and competing projects (3), each operating on the political diagram that oscillates between utopia and ideology (10).

Based on my experience with this approach (Jankowski 2023), I suggest emphasizing that Flichy's project-oriented imaginaire is genealogical in nature—there are nonlinear connections between the ambiguity of *catch-all objects*, the functionality of *boundary objects* that sit on the edge of slipping toward utopian horizons or being enlisted to mask ideologies, and the mundanity of *locked-in objects* that maintain and control asymmetries of power. With this emphasis, I argue for also replacing Flichy's distinction between "project utopias" and "ideology" (10). For me, this means rethinking one side of his imaginaire as a coterie of *utopian projects* subdivided into visionary (or watershed) projects, experimental projects, and phantasmagoric projects. Likewise, the contrasting *ideological projects* are recast as a series of masking projects that purposefully substitute the utopian ideal with an ideological one, normalizing projects that legitimize the technology in specific domains of life, and infrastructural projects that maintain new configurations.

But of course, the creation of ideological asymmetries cycles back on itself and incites renewed utopian attention. And so, instead of the teleology of failure and success found within a managerial view, there are ample theoretical reasons to spend time thinking about projects and their projections. Their social and technical arrangements allow us to map how users and designers dream and fear technology: how they gather and discard ideas and how they temporarily make and collectively reconfigure the Internet.

Communications Siege

P. ARUN

In recent years, the Indian government has undertaken significant efforts to control digital communications. The colonial-era Indian Telegraph Act of 1885, which granted sweeping surveillance powers and was used to suppress anticolonial resistance, was replaced by the Telecommunications Act of 2023. In post-colonial India, surveillance powers further extend over modern telecommunications, without adequate democratic safeguards against state overreach. At least 887 internet shutdowns were recorded between 2012 and 2025. There is further expansion of digital control through statutory amendments and proposals mandating platform monitoring of online content, and government prescribed codes for broadcast communications.

Nowadays, our lives are deeply intertwined with communication technologies, as we transmit, share, and broadcast information daily. A vision of the internet free from government control was articulated in A Declaration of the Independence of Cyberspace. Now, this vision must be critically examined, as it is being systematically dismantled through excessive governmental control. The concept of "communications siege" offers an analytical lens for understanding the efforts of states to monitor, censor, and disrupt digital communication. It foregrounds the tension between democratic aspirations and persistent authoritarianism, revealing how the siege penetrates. Media infrastructures are not neutral conduits; they function as contested terrains where state power actively mediates communications. To describe communications as being "under siege" is to refer to an almost totalizing control, where states exert significant influence over what people watch, read, hear, and think, shaping public opinion. The siege is sustained through a dense architecture of control, converging measures such as surveillance, internet shutdowns, mandated access to encrypted data, SIM-binding, enforcement of traceability, platform liability regimes, fact-checking mechanisms, and the identification of artificially generated content. These interventions are often justified on the grounds of security, modernization, and even decolonization. In the Global South, and particularly in India, the siege emerges from a fusion of historically inherited and sedimented practices and the pervasive integration of contemporary authoritarian innovations into modern telecommunications.

Digital Constitutionalism

KAROLIN RIPPICH

Edoardo Celeste (2019) defines digital constitutionalism as the "ideology that aims to establish and guarantee the existence of a normative framework for the protection of fundamental rights and the balancing of powers in the digital environment." Central to this understanding is the idea of multilevel constitutional counteractions: diverse actors and initiatives translating, generalizing and respecifying constitutional principles in response to digital transformation. These imaginaries—legal or extra-legal, private or public, binding or non-binding—collectively form a composite process through which constitutional values are implemented across different societal levels (Celeste 2019).

In recent years, research on related phenomena has "deepened" in two ways. First, attention has shifted from platforms, civil society actors, and governments—and their imaginaries of how the internet(s) should be governed—to courts and their substantive contribution to digital constitutionalism, for instance, by limiting the power of digital platforms (Pollicino 2019; 2021). Second, "new issues for contemporary constitutionalism" have emerged, giving rise to offspring such as quantum constitutionalism, i.e., quantum computing as the next constitutional challenge posed by technological innovation (Celeste 2025), and eco-digital constitutionalism, which examines how the constitutional ecosystem broadly, as well as eco-constitutionalism more specifically, may address the environmental challenges of the digital revolution (Celeste and Perez Victorio 2025). Celeste (2025), therefore, also speaks of the emergence of a "new digital constitutionalism."

These developments show that digital constitutionalism is used to study how fundamental rights and the balance of powers are constantly reconfigured in response to digital transformation and its societal impacts. It illuminates competing imaginaries of how the internet(s)—and digital society more broadly—should be governed, by whom, and within which material and constitutional constraints.

Infrastructural Ideologies

NIELS TEN OEVER & MAXIGAS

Analyzing infrastructural ideologies means interrogating the grammars of justification and operationalization through which infrastructural projects claim necessity and provide order. The European Union's emphasis on "strategic autonomy," Russia's approach to "internet sovereignty," India's insistence on "indigenous 5G networks," or China's industrial doctrine of "new infrastructure connectivity" all exemplify distinct infrastructural worldviews that fuse the design of technical systems with geopolitical rationalities through policy-research-industry-implementation pipelines. Using the theoretical framework of infrastructural ideologies, we can apprehend infrastructures not merely as material assemblages or imagined futures, but as political doctrines embedded in concrete form, sustaining the belief that the world must hold together through technical means.

The concept of infrastructural ideologies designates the normative, ontological, and epistemic frameworks that underpin how infrastructures are designed, standardized, implemented, deployed, maintained, and contested. The thesis of infrastructural ideologies is that power is exercised through infrastructures in a dialectic between visibility and invisibility, enabling and constraining material configurations, and strategically deployed imaginaries. Infrastructures organize time and space, produce subjectivities, and serve as instruments of governance.

While infrastructures have long been recognized as "the architecture for circulation" that both enables and conditions modern life (Larkin 2013), an ideological perspective foregrounds how they acquire and sediment moral and political authority: infrastructures promise order, continuity, and progress. Thereby, they stabilize particular distributions of power, ways of life, and social order. Media scholars have observed that these functions correspond to, and in many ways perform, the very functions of ideology at large in reproducing the social order (Galloway 2012; Mager 2014). We have argued that infrastructural ideologies denote not only the ideas that legitimate infrastructural expansion or maintenance, but also the ways in which infrastructures embody the implicit material ontologies of society and nature, making them durable (Maxigas and Oever 2023; ten Oever et al. 2024).

Importantly, infrastructural ideologies work by concealing their own political nature. They render infrastructures as neutral, technical, or inevitable, masking the asymmetries of access and exposure they reproduce. In Antonio Gramsci's (1978) definition, ideology appears as common sense, and so do infrastructural ideologies. This ideological effect, as Bowker and Leigh Star (1999) and Easterling (2014) suggest, derives from the taken-for-granted character of infrastructural systems. Jones emphasizes that common sense is "drawn in part from 'official' conceptions of the world circulated by the ruling bloc, in part formed out of people's practical experiences of social life" (2006, 9), two aspects that infrastructures bring together seamlessly through mediating social life in the modality of the mundane. Yet every infrastructural configuration embodies a political choice about what is to circulate, who is to be connected, and whose stability matters. The ideological dimension lies precisely in making political choices appear purely functional or even self-evident.

Infrastructural ideologies respond to the material and subsequent infrastructural turns in media studies, aiming to overcome the limitations of approaches based on the hermeneutics of symbolic representations, such as imaginaries, metaphors, discourses, visions, fabrications, and similar aesthetic categories, such as the sublime. This concept differs from network ideologies and sociotechnical imaginaries. Whereas network ideologies valorize flexibility and flow, infrastructural ideologies valorize stability, standardization, and sovereignty. If sociotechnical imaginaries describe what societies hope technologies will bring, infrastructural ideologies describe what societies believe infrastructures already guarantee: security, distribution, prosperity, resilience, or sovereignty. They do not merely orient future development but naturalize the present order of things.

The Feed

ANNE HELMOND

The feed (whether RSS, news, activity, or social media feed) remains one of the most pervasive ways in which we experience online content. Popularized through Atom/RSS and blog syndication in the late 1990s, feeds became a standard mechanism for content syndication online. Early feeds embodied the imaginary of the open web, with its ideals of decentralization, interoperability, and user control. Users could subscribe to channels, websites, blogs, and people, curating their own flows of content.

Feeds standardized and reformatted online content into portable data flows, rendering them "transcendental" (Liu 2004) and ready for circulation, recombination, and automation. During Web 2.0, users enthusiastically experimented with feeds as building blocks of an open, programmable web (Helmond 2015). Services such as Yahoo! Pipes and FriendFeed (2007) enabled the aggregation and remixing of updates from multiple platforms into a single interface, expressing the ideal of freeing information from the confines of individual websites. Facebook's 2009 acquisition of FriendFeed, alongside its "Like" feature, symbolized a shift from open experimentation to enclosed, data-driven monetization.

With the rise of social media platforms such as Facebook and Twitter, the feed was reimagined as a proprietary mechanism that aggregates friends' and followers' activities into a single stream inside walled gardens. Facebook's News Feed epitomized this transition from openness to enclosure: actions performed on the platform, and increasingly beyond it, were translated into feed items, algorithmically ranked and progressively commodified. The move from chronological to algorithmic feeds, combined with infinite scroll, bound user attention to an endless flow of content. Platforms thus created an "infrastructure built around the logic of creating, capturing, and processing attention" (Bucher 2012, 7).

Over time, the feed became central to the political economy of platforms. It no longer simply delivered information but actively anticipated, ranked, and monetized attention. In both its infrastructural and metaphorical roles, the feed reveals how the internet has been imagined as an inexhaustible, self-renewing source of informational nourishment that continually supplies users with endless streams of content while binding them to platform infrastructures.

Network Ideologies

PAOLO BORY

Networks and ideology have a long-standing relationship. Throughout the last centuries, networks have been portrayed as carriers of ideological frameworks, while at the same time being interpreted as the principal agents of societal, cultural, and political change. From railway to highway systems, from trade channels to digital networks such as the internet and fibre-optic infrastructures, from cryptocurrency systems to neural networks—and from local to national and global interconnections—the network has repeatedly conveyed the idea of a community, a society, or even a global entity that finds balance and empowerment in connective structures and infrastructures. In its constant embodiment of each new medium or technology, network ideology carries with it an endlessly revolutionary character. As an ideology, the network can be both a means and an end: through connection, it creates, balances, innovates, and imposes order on the complex entanglement of things and human beings (Musso 2003). It challenges older dichotomies and concepts, favoring density over the intensity of relations and transcending the opposition between quantity and quality. It also promotes a new ideal of communication, subsuming and dismantling the dualism of dissemination and dialogue, or of broadcasting and one-to-one media.

Only apparently stripped of political meaning, the network, and particularly the internet, functions ideologically by presenting the most influential innovation of the 20th century. Furthermore, the notion of network ideology is closely linked to that of structure, even before infrastructure. Tim Berners-Lee stated that "structure is everything," meaning that the design of networks forms the foundation of their functioning and sociotechnical effects. It is no coincidence that the distributed model of networking has accompanied or complemented other ideological apparatuses, from anarchy to socialism, to neoliberal thought. Network ideology is a flexible concept for understanding both the dominant narratives in the histories of networking and how narratives, technology, and society are mutually shaped.

In my book, I claim that network ideology plays with and exploits the idea of endlessness, caressing the human fascination with the infinite (Bory 2020). In the infinite paths they weave, networks are limitless. In their labyrinth of links, we may lose

ourselves, but we can also find an answer to our societal needs. In this sense, networks carry the promise of a pure, never-ending, sin-free, and intelligent society—a society capable of inter-ligere (i.e., linking together) almost every being and object, material or digital. In doing so, network ideology, and the recurring hopes and delusions it generates, obscure three essential and interdependent elements of human modern societies.

1- Participation

Network ideologies tend to assume participation as an intrinsic dynamic of human networking, whereas participation does not arise from any structural model but rather from a shared system of belief and belonging. As the Italian songwriter Giorgio Gaber said: "freedom is not a free space, freedom is participation." The wrong assumption of a self-fulfilling network underlies the failures of many networking projects built on the idea that "if you build it, they will come," i.e. the presumption that networking infrastructures will automatically produce a large user base and economic returns.

2- Diversity and the limits of communication

Not all cultural links in society are interoperable; while some cultural and political contexts may pollinate each other, diversity can also entail separation, exclusivity, and opposition. The current balkanization of the Internet (e.g., in China and Russia), and the progressive platformization of the web is a clear demonstration of the resistance of networks to networking.

3- Imagination

Networks are always imagined and constrained by people, companies, and institutions across varying sociocultural and political contexts, and they develop within specific spatial and temporal limits. Network ideology tends to curtail the power of imagination by offering simple, prêt-à-porter solutions. Network ideology seizes and reiterates always the same future (Barbrook 2007), freeing humans from the burden of imagining and negotiating a plurality of 'better' societies by providing them with a 'great narrative' of connectivity.

Network ideology has one final important characteristic: it is resilient. Even if it seems to disappear over time, network ideology can change its name but not its substance; it can shed its skin, but not its essence.

Participation

JOE LITOBARSKI

To participate means to play an individual part in a collective activity. In political theory, participation has classically defined citizenship; in Aristotle's *Politics*, citizen is the one "entitled to participate in office, deliberative or judicial" (excluding women, slaves, and migrants). Rousseau similarly defined the citizen as a "participant à l'autorité souveraine." Scholarship on participation repeatedly returns to this tension between unity and plurality, social order and conflict. Participation promises to reconcile individual agency with the general will, yet it also raises persistent problems: who should be "entitled" to participate in politics? Are the popular masses "irrational" in their decision-making (an elite anxiety typified by Gustave Le Bon and Sigmund Freud)? And how can pluralist inputs produce legitimate collective outputs?

In the mid-twentieth century, cybernetics and information theory translated participation into the language of electronic systems and feedback. Drawing on abstracted models of the nervous system, they reframed organisms, machines, and societies alike as self-regulating networks. This cybernetic imaginary shaped postwar media theory and digital culture, feeding into the development of the Internet. In the 1960s, Marshall McLuhan argued that electronic media would generate a participatory "global village"; yet citizenship in the electronic polis did not mean sharing in sovereign self-rule, as it did for Aristotle and Rousseau. For "netizens", participation denoted continuous sensory and communicative involvement in privatized planetary information networks.

By the "Web 2.0" era, participation had been recoded into a techno-capitalist "architecture of participation," where user activity is captured as feedback to optimize digital platforms. The cybernetic imaginary has become sufficiently naturalized that, on 3 November 2022, Musk could describe Twitter as "cybernetic super-intelligence," constituted through "billions of bidirectional interactions per day." The enduring problem is therefore not whether participation is exclusionary (it often is), but under what conditions participation functions as collective self-governance, and not as a mechanism of social control or extraction. As an analytic concept, participation can help trace how individual agency is organized and instrumentalized at scale across complex socio-technical systems by foregrounding these conditions.

Dispositif

SUSAN AASMAN

In one of my file folders, I have a selection of screenshots taken from the early years of the Dutch XS4ALL collection of homepages. One shows a picture of a toddler looking in the camera, and the caption says: "Hello, World." The screenshot has become an inspiration for web historical research. To me, the picture does not only represent a young girl who is happy to meet and greet the world; it also represents early users—the parents in this case—who were happy to upload this picture on a homepage and ready to meet and greet the world.

As a media historian interested in how people appropriate new consumer media technologies such as 9,5 or 8mm film formats, or VHS video media to record, screen, or broadcast their lives, building personal homepages is just the next step. And for each of these key moments of change, user behavior can reveal how people imagined this new medium. Just like performative waving at the film camera with the expectation that the home movie will be watched by their family, the homepage endorsed a new form of interaction: "Hello World" signals a new imagination about the way internet allows sharing information, with potentially a global audience.

To fully explore the meaning of such everyday interactions, the concept of dispositif can be helpful to develop a deeper historical understanding of early web users and usage. This approach is rooted in media archaeology and the history of technology, with a focus on how material, institutional, and discursive frameworks shape media experiences—including the early web and homepages of the 1990s. It connects materiality, user agency, and cultural and historical context.

So, when analysing websites using the concept of a dispositif, it helps to think of the website not as a neutral container but as a socio-technical and cultural assemblage: a network of technological elements, institutional rules, practices, discourses, and users that together shape how meaning is produced, distributed, and experienced. This understanding draws on Michel Foucault's original articulation of the dispositif as a heterogeneous strategic network of power/knowledge relations—but it has been enriched by more recent work in media history and media archaeology. Let's look

at how the concept of dispositif can be a heuristic lens to explore the 1990s web as a space of experimentation.

1- Materiality and Technical Conditions
In the 1990s, homepages were constrained by slow internet speeds, limited bandwidth, and basic HTML. This shaped their design: simple layouts, text-heavy content, and low-resolution images. The use of guestbooks, web design reflected both the technical possibilities and the cultural aesthetics of the time. In some cases, early web platforms and providers provided templates and tools that influenced how users designed their homepages. These platforms acted as institutional frameworks, guiding (but not fully controlling) user creativity.

2- User Agency and Vernacular Practices
Homepages were often personal spaces where users experimented with identity, hobbies, and social networks. The dispositif of the homepage allowed for a DIY ethos, where users could express themselves without gatekeepers. Fan pages for TV shows, music, or personal diaries were common, reflecting the vernacular creativity of early web users, but in other cases they became the home of family pictures and other memory items. However, homepages were not just personal but also social. Guestbooks, link exchanges, and web rings created networks of like-minded individuals, forming digital communities within the dispositif of the early web.

3- Cultural, Institutional and Commercial Forces
While the 1990s web was less commercialized than today, platforms like GeoCities (owned by Yahoo!) introduced advertising and monetization, subtly shaping the dispositif of homepages. Free hosting services often required users to include ads, influencing the design and content of homepages. In other cases, the dispositif of 1990s homepages was shaped by discourses of democratization, utopianism, and technological progress. Users and media often framed the web as a space of freedom and creativity, which influenced how homepages were designed and perceived. The web became the space for subcultural identities where homepages reflected subcultural identities (e.g., punk, gaming, LGBTQ+ communities). The dispositif of the early web allowed marginalized groups to create their own spaces and narratives, resisting institutional and commercial forces. It is important to note that dispositif is never static, but rather should be understood as a process, evolving through the interaction of users, technologies, and institutions within specific historical contexts.

Affordance

PHAKIN NIMMANNORRAWONG

Our imaginaries of things concern not only what we perceive things to be, but what things are perceived to be able to provide. From the utopian visions of cyberspace to the dystopian prophecy of authoritarian surveillance, the history of internet imaginaries is a history of what the internet is perceived to afford.

Originally understood as inherent properties of the environment or things (Gibson 1979), the notion of "affordances" describes possibilities for action that the environment offers to the observer. What we perceive of things is not just physical qualities but their "value-rich" offerings. Ergo, we do not see the computer screen as a rectangular, glass- or plastic-made material that allows us to read from it. Instead, its readability is what first unfolds.

Affordances have evolved from being conceived as intrinsic properties to a design-oriented product of human perception, and later to relational possibilities emerging from the combination of things, thoughts, practices, and situated contexts. Despite different conceptions being used interchangeably, a nuanced approach to affordances provides a productive framework for scholars of internet imaginaries in at least four ways.

First, affordances help unpack the technocultural assumptions underlying internet imaginaries, illuminating how myths, metaphors, and narratives entail claims about what the internet is perceived to afford. Envisioning the 90s internet as an "engine for innovation," for instance, implies that it enables decentralized and permissionless communication among presumably equal network participants (Ten Oever 2021). Conversely, the "dark forest" imaginary highlights a contrasting picture between the predatory mainstream web and the community-forming and emotional-safeguarding affordance of the internet (The Dark Forest Collective 2024). In these cases, each imaginary serves as a conceptual spotlight that renders particular affordances visible and shapes how they appear desirable, dangerous, or inevitable.

That these perceived affordances can be fulfilled, however, rests upon the assemblages of materials, expectations, practices, norms, and cultures. This underscores the second theoretical value of affordances: their resistance to technological determinism and social constructivism. Affordances remind us that the Internet is not "inherently" anything. Yet its materialities produce a field

of possibilities that can be construed differently according to experiences, expertise, and expectations of those engaging with it. Internet imaginaries thus become embedded within the field of meaning and practice. Thinking about imaginaries is thinking in networks.

This leads to the third analytical utility: their pivot towards relational work. Examining what people imagine the internet to afford is to discern patterns of relationship between the technical, normative, and practical arrangements undergirding and scaffolding those imaginaries. It looks beyond which imaginaries fit our present but focuses on factors that sustain such affordances—and therefore the imaginaries—discursively, materially, and also historically, thereby making them thinkable or unthinkable.

Taking the early ideal of an open and egalitarian internet as an example, linking affordances to internet imaginaries guards against hasty conclusions that this vision was simply delusional and naïve. Situating it within the context of its inception and analyzing the accompanying affordances, it helped elucidate how and why the idea became influential in shaping public discourse during the era preceding the privatization of the Internet's architecture (Ten Oever 2021).

The fourth theoretical purchase lies in their emphasis on practice. This point has two implications. First, because they incorporate expectations as humans interact with the technological specificities, affordances emphasize a gap between what things are imagined and what is pragmatically possible. As such, regardless of how dominant an imaginary may be, there is room and limitations for people to make sense of the Internet on their own terms. Second, conflicting imaginaries, such as those between techno-utopians and techno-dystopians, reflect not just opposing ideas and beliefs. They point to multiple enactments of the internet's affordances, which involve power struggles and contestation. Centering affordances-in-practice (Costa 2018) in analysis helps expose these tensions, since it illustrates diverse ways in which we practically reproduce or reconfigure those imaginaries. With this framework, affordances also reveal the politics of possibility: who imagines what technologies afford, for whom, and with what consequences.

Standards

KIERAN HEGARTY

Standards are the rules that make the internet work. When you open a webpage or send an email, your device is following written specifications—TCP/IP, DNS, Wi-Fi, HTTP, and many more—that say how data should be formatted, routed, compressed, and secured. But standards do more than enable interoperability. They encode ideas about what the network is and how it should be organized. In that sense, standards stabilize and materialize imaginaries of what the internet is and should be. Sometimes this is explicit, as I saw in my work on mobile standards, where I charted how standards organizations create a "future vision" of mobile networks and then establish standards that enable the realization of this vision (Hegarty et al. 2025). Sometimes these visions are implicit, as in the case of Wi-Fi standards, which allow us to see what shared, rather than individualized, connectivity might look like (see Thomas, Wilken and Rennie 2021, 25-50). Either way, standards help keep sight of the struggle over what the internet is and what it might yet become.

One route into studying the work of standards in imagining what the internet could and should be is to look at conflict. "Standards wars" make for lively sites where debates over values are evident. This is central even in one of the most defining episodes of internet history. What is now called "the Internet" is the result of a suite of standards—TCP/IP—being adopted as the common standard for interconnecting diverse networks. That outcome was not inevitable. In the 1980s and 1990s, engineers, telecom carriers, states, and computer firms backed competing standards, each tied to a different vision of networking. One vision prioritized a loose federation of networks with limited central control; another favored centrally managed, national-scale public data networks. Episodes like these make debates about openness and control explicit. They also generate stories. For example, the Internet Engineering Task Force (IETF), with its unofficial mantra of "rough consensus and running code," cast TCP/IP as a bottom-up alternative to bureaucratic or proprietary networking, with the implication that the internet should be self-regulating.

But talk of "wars" simplifies the story: standards that embody seemingly conflicting values can, and do, co-exist. Standards that inscribe more closed and proprietary imaginaries are built

on top of and alongside open standards. Early online services like CompuServe and AOL wrapped standard telephony and later the open web inside branded interfaces. Today's platforms rely on open standards while defining their own APIs, formats, and rules of interoperability, making it hard to move data or identities between services. The history of the internet is therefore not a simple shift from open to closed, but a continual layering of enclosures on top of, and sometimes inside, open protocols. The plurality of imaginaries and standards, and the relations between them, are important to attend to.

Standards are powerful partly because they disappear. Once widely adopted, they look like common sense rather than choices among alternatives. But a standardized network is only stable for some. People and places that fall outside the "standard" user, device, or connection often do extra work to make systems fit, or are left with broken access when standards change. Those who fall outside the norm still have to live in a standardized world, but often bear invisible costs. Looking at standards through this lens pushes us to ask who carries the burden of compatibility, who is left with broken access or inaccessible services, and how those burdens map onto existing inequalities.

Another way to study standards is to study the people and organizations that make them, in bodies like the IETF and the World Wide Web Consortium. These groups often speak the language of openness and participation, but participation still depends on specialized expertise and substantial resources. States and firms can fill committees with engineers, or sidestep consensus and promote "de facto" standards through market dominance (see DeNardis 2014). Attending to who is and is not represented in standardization and how this work proceeds allows us to track whose imaginaries become materialized in how the internet is designed and governed.

Skeuomorphism

FIRUZA HUSEYNOVA

How do we adapt to new technologies, despite an existential apprehension to change? For advocates of skeuomorphism, we must integrate aspects of the old into the new. Compounded from the Greek *skeuos* (container, tool) and *morphē* (shape), the term *skeuomorph* was originally coined in 1889 by amateur archaeologist Henry Colley March to describe ornaments that were necessary to the structure of a previous iteration, but have since been rendered functionally arbitrary (Conway 2024). Familiar gestures, such as "flipping through" the pages of an eBook or hearing the snap of camera shutters as we take an iPhone photo, allow us to conceive the present in terms of the past. In relating an alien technological form to a pre-existing feature, we undergo a process of cognitive smoothening, adapting to technological change more effectively by using design leftovers as heuristic mental models (Morris 2015). Skeuomorphs have been embedded into networked technologies since the dawn of digital computing; the word "computer" is itself a skeuomorphic term, evolving from human "computers" who were adept at performing calculations by hand. Borrowing from blueprints belonging to Xerox engineers in the late 1980s, Apple's revolutionary Mac II computer utilized skeuomorphic design in its allusion to the "desktop," a simulated environment mimicking a real-life desk, retrofitted with files, folders, and even a virtual trash can. This allusion offers a negotiation between the old and the new; as Gessler (1998) articulates it, we undergo a tradeoff between simulation and optimization.

IN WITH THE OLD

On the one hand, skeuomorphs are conservative by nature, canonizing a certain pathway of affordances while obstructing our imaginaries to a different way of interacting with the world (Morris 2015). By creating "an analog of practice for users and a logic of equivalence," skeuomorphic interfaces reify an acceptable range of uses within a set of constrained parameters (Sterne 2021). During periods of perceived technological upheaval, when humans believe technology is evolving more quickly than our mental models can adapt to, we may notice greater public demand

for skeuomorphic design in consumer products. There is no better example to illustrate this phenomenon than the recent revival of Web 1.0 aesthetics in web design, ripe with skeuomorphic icons such as 88x31 pixel GIFs scattered on website footers, akin to virtual bumper stickers. Skeuomorphic design can also be deceiving, offering false relief from technological anxiety. Before becoming the fastest-growing consumer software application in history, early versions of ChatGPT spewed out text in one thick block. After iterating on feedback that this feature was "inhuman," GPT-3.5 began displaying text one word at a time, mimicking the feel of natural human conversation. Despite one's conscious knowledge that a computer is not actually taking the time to meticulously think through every word of its response, the skeuomorphic allusion provides the illusion of comfortable continuity.

OUT WITH THE NEW

On the other cursor, skeuomorphs serve as helpful "threshold devices," facilitating the transition from one epoch to the next (Hayles 1999). Speaking to their usefulness as conceptual benchmarks, the fate of many skeuomorphs is an abstracted form bearing little resemblance to the old. "Nobody asked for this," as the futile folk protest phrase goes—yet everybody must learn to live with it. Far from mere conduits of nostalgia, skeuomorphs function as symbols that hold "archetypal significance in the shared unconscious of its native society," representing practical wisdom left behind by previous generations (Conway 2024). When conducting research in STS, Media Studies, and Internet Histories, skeuomorphs reveal the flexible, adaptive structures that have coordinated our material (and virtual) environments for ages. We attempt to understand new technologies using the linguistic, semiotic, and material tools at our disposal. Cars were first conceptualized as horseless carriages; the pendulum swings. In a skeuomorphic understanding of technological innovation, temporality is deconstructed, remixed, and spliced together. The prehistoric past, present-day, near-future, and infinite expanse in-between all morph together in an unabashedly anachronistic cognitive metaphor. At the heart of skeuomorphism are questions fundamental to the development of humanity itself: What do we wish to discard? What do we wish to modify? What do we wish to keep?

Visual Abstraction

DARIO RODIGHIERO

Abstraction is an operation that makes sense of complex phenomena by making things graspable and open to understanding. In design, abstraction often takes the form of a mental model that guides the process, helping us navigate ideas and possibilities. When abstraction becomes visual, it changes function: it becomes a way to create and share meaning. Visual abstraction is, above all, a form of communication that offers a common ground to discuss complex ideas. This can be seen with the internet, abstracted in the 1970s through the ARPANET diagrams that sketched a network before it existed, and again in 2010 through Paul Butler's visualization of Facebook friendships, which redrew the world through patterns of connection and absence.

This tension between imagination and materialization sits at the heart of abstraction. At times, abstraction guides the creation of physical systems; at other times, the systems we create grow so intricate that new abstractions are needed to understand them. Bruno Latour explored this dynamic by showing how society can be approached as a network—a shifting set of associations that requires conceptual and visual tools. Manuel Lima observed how the rise of data visualization gave these associations a visible life, allowing them to be traced, compared, and explored. Latour examined how collectives come together; Lima followed how these collectives take shape through images.

Lev Manovich's idea of the anti-sublime deepens this reflection. In a world where digital systems expand beyond the limits of perception, visualization offers a counterpoint to the Romantic sublime. Instead of overwhelming us, it brings digital immensity into the scale of human vision. Visual abstraction condenses the vastness of the Internet—its flows, packets, traces, and rhythms—into a single frame. It gives complexity back to us in a form that feels almost intimate. The anti-sublime opens a space where hidden patterns become visible and where the enormity of digital life becomes momentarily still and thinkable.

My own work in *Mapping Affinities* follows this movement. The project grew from the desire to make the invisible architectures of scholarly life perceptible—to turn dispersed traces of collaboration, citation, and research activity into landscapes we can read. The visual abstractions developed there aim to give shape to

academic communities, to the affinities that hold them together, and to the tensions that cross them. They emphasize sensing relationships rather than fixing them in definitive form. Like many visualizations of the internet, these maps bring an unruly world into a space where its relations can be approached.

Johanna Drucker adds an essential dimension to this conversation. She reminds us that every visualization carries choices, intentions, and expectations. Visual abstraction arranges an encounter with data through decisions about scale, emphasis, and form. The Facebook map shows this clearly: its luminous arcs suggest a connected world, while regions such as China or Russia fade into the background due to the platform's limited presence there. The internet, when shown through images, emerges through selection and framing. Drucker calls this the "capta" perspective: information is gathered, shaped, and situated.

Seen this way, visual abstraction becomes a way of imagining the internet. Each diagram, map, or model expresses a particular vision of how the network holds together. Some abstractions support engineers as they build infrastructures; others help users and researchers grasp the shape of digital life. All of them filter the internet through specific lenses, offering moments of clarity while leaving other layers in shadow. This interplay between revelation and omission gives visual abstraction its force. It lets us think with the internet and invites us to see that every image of the network also carries a quiet argument about what the network means.

Rhetoric

CADDIE ALFORD

We would not have social constructions of the internet or internet imaginaries without the epistemic force of rhetoric. Rhetoric is difficult to define because of its close connections to ambiguity and contingency, but for over two millennia, rhetoric has been theorized as a situational capacity to, in Aristotelian terms, see the available means of persuasion. Once observed, those available means can produce effects. For example, an important means for rhetoric has always been opinions: once you get a sense of the opinions in front of you, you're both better positioned to foster consensus and more aware that human motives and attitudes are contradictory and pluralistic. Rhetoric is at once an analytic practice and a productive art: when you study rhetoric, you develop both a critical lens and robust equipment for making, discovering, and creating. Rhetoric is what linguists would describe as a metalanguage for language as a medium/message. How we talk about the internet is how we practice being online, from surfing the web—a pre-Web 2.0 context of what the authors of *Technoskepticism* might refer to as hospitality—to doomscrolling—extreme enshittification.

Rhetorical thinkers do not read to agree or disagree. Rhetorical thinkers "use rhetorical theory to carefully analyze the inner workings of discourse" (Reames 2024, 14). For example, Big Tech has long referred to its social media platforms as "ecosystems," which, as tech writer Maria Farrell articulates, suggests ecological "flows of food energy and material" (Farrell 2022). Staying with this metaphor reveals deception. As Farrell argues, Big Tech platforms operate more like "plantations." Contemporary platformization harvests a monoculture—data—for shareholder value (Farrell 2022). Meta can call themselves a social technology company, but a rhetorical analysis of user experience, from critical interface analysis to ethnography, will always show an AI company in a trench coat.

That said, the utility of rhetoric for internet imaginaries does not end with language and signification. Scenes of what we find persuasive depend on degrees of publicity and propriety; cultural habits, myths, and beliefs; ambience and bodies, and all the other variables that can sway. A more thorough definition for a contemporary study of rhetoric is that it's "the capacity of the thing-symbol—via its aesthetic qualities and signifying practices—to

generate affect and discourse, whose intertwined sensory and cognitive processing elicit presence and meaning effect in a particular space-time" (Ott and Dickinson 2019, 54). The rhetorics about digitality conditions digitality, but the materiality of digitality—affordances, computing infrastructure, contingent data laborers, and so on—also impacts sense-making. Put affordances and their attendant literatures, scholarship, and histories into conversation with Google, referring to itself as an ecosystem, and you stand to learn just as much about the internet as you will about affordances.

Years and years of Big Tech's discomfort with humanity—sociality, bodies, difference, mortality—have accumulated into tropes. Querying "internet" or "algorithms" on a free image service like Unsplash returns computation themes dressed in blue light, anticipating Dr. Kanta Dihal and Tania Duarte's "Better Images of AI" project. These are rhetorics that would have us believe the internet is as neutral as it is awesome—as machinic as it is futuristic. With rhetoric, every choice matters, from Windows 95's start-up music to OpenAI's "blossom" logo.

Rhetoric wants action: internet futures can be inherited and technically arranged, but they can also be repaired. Now is the time to assemble evidence of datafication into resonant arguments. How we feel about the internet has always been a rhetorical project; as David Golumbia emphasizes, the story of the internet was always conducted by what seemed like countercultural and aspirational ideals, from "community" and "voice" to "access" and the "democratization" of information (Golumbia 2024, 46). But with rhetoric as a lens, we can see that actions were too quickly adopted before public understanding could catch up to see that those values had been evacuated and weaponized. We need to strategize how to assemble evidence of harms, how to craft compelling narratives from that evidence, and how to step into the kairos—the timing—of distributing interventions.

Prefix

SALLY WYATT

p-learning, email, iPhone, telecommuting, m-health, cyberspace

These are a few of the many possible terms that have been in circulation since computers have been able to communicate with one another across distances. This entry focuses on morphemes, the smallest meaningful unit of a word, including "cyber," "tele," and sometimes just a single letter, such as "m" for mobile and "p" for personalized.

Prefixes are often used to signify novelty and difference. Some adjectives get abbreviated to a single letter, such as "e" for electronic, enhanced, or expensive. When it was important to distinguish electronic mail from the paper delivered by post office workers, the "e" marked the newness. Email has become the norm, and now it is more common to specify the unusual nature of paper or "snail mail."

Prefixes (and adjectives) differ from metaphors, which I have discussed more extensively elsewhere (Wyatt 2021). Metaphors describe one thing in terms of another, so talking about the internet as a library is metaphorical. In this example, "library" is the source, used to make sense of the target "internet," by comparing it to a repository of knowledge. Prefixes are a qualification of the target, and not a source as such.

There has been much speculation about the "i," first with the launch of the iPhone in 2007, and now in all Apple products. It signifies the brand, but it could also be "I" as in me and mine, emphasizing the individualistic character of these devices. It could also stand for interactive, intelligent, or innovative, all features claimed by Apple's marketing. The consensus is that it stands for the internet connectivity offered by the first iPhones, thus raising the question of when the capitalization of "internet" stopped. Throughout the 1990s, "Internet" always appeared with a capital I, but that disappeared early in the twenty-first century, and is now spelled with a lower-case letter, just like other media such as television and radio (Woolgar 2002, 13).

Sometimes prefixes are dropped completely. For example, we no longer talk about telebanking now that most banking is done online. The health domain is particularly interesting. Telemedicine, e-health, cybergenetics, and more have all been used. But they

always denote the future, and "tele" is sometimes dropped only to reappear with a newer technology. Tracy Finch and her colleagues (2006) describe how "telemedicine" disappears, either because the promised technologies fail to be taken up or because they become completely normalized in practice.

What about the hyphen? In its early days, "e-mail" was often hyphenated. It would be rare to see that at this point in the twenty-first century, though "e-science" remains, where the "e" for expensive is particularly apt, as e-science relies on enormous quantities of compute power, such as hardware, memory, data storage, and energy. The hyphen is a reminder that the "e" stands for something. Does the loss of the hyphen elsewhere, such as in email, signify the obliteration of its early meaning? And why did the "d" for digital never achieve single-letter abbreviation and recognition?

The rhetorical questions posed above hint at future research directions. There is much work to be done in tracing how these prefixes (and adjectives and metaphors) come and go. What combinations exist, in what contexts, and in which languages? These could be traced through academic, popular, and marketing literature and materials, and research funding calls. Chemists, physicists, and computer scientists prefixed their activities with "nano" for a while, as in nanocatalytics, nanoparticles, and nanochips, primarily to attract research funding.

What have I not done in this entry? First, I have not paid attention to the many adjectives, such as "virtual," "online," "smart," "digital," "computer-mediated," and "distance," that have also permeated discussions and imaginations about the possibilities of digital technologies, and which were also used to attract research funding. Second, I have focused on English, my own language. Even though many English technical terms are widely used, our ways of talking metaphorically, figuratively, and evocatively are often language-specific.

Metaphor

FEMKE VAN BRUGGEN

Metaphors and analogies are ubiquitous and shape everyday lives and practices. Consider therapeutic contexts, where people make sense of difficulties or achievements in their lives by referring to them as "seasons" or "chapters" and comparing them to harsh weather conditions and dramatic storylines. From this perspective, we might say that metaphors can help us understand abstract or complex phenomena by relating them to simpler, more familiar concepts.

Even though it's hard to imagine, there was a time when the internet was one such mystical phenomenon. When the online world first emerged, a specialized lexicon did not exist to describe its invisible, non-homogeneous infrastructure. Between the early 1990s and the early 2000s, metaphors became essential tools for experts and lay audiences alike to create a shared reality. Terms like 'surfing the web' or 'firewall' provided context and helped explain the internet by connecting it to everyday life experiences.

Early discourse often characterized the internet as a "global village" where citizens interact, connect, and build so-called "virtual communities." Such interactive metaphors provided a lens through which to view the internet: as a welcoming environment for different groups of people. However, one might ask if these metaphors were accurate; many people did not have access to the internet, making it perhaps more like a gated community than a village or neighborhood.

In this sense, metaphors frame issues; they provide a partial perspective and emphasize or hide certain elements (Farkas and Maloney 2024). Awareness of this function of metaphors should encourage researchers and journalists to develop critical metaphor literacy. While certainly not all metaphors are harmful (it's impossible to avoid them anyway), it is necessary to reflect on the words we choose and their normative implications. Building on the village metaphor, what about potential thieves stealing our data, neighbors spying on one another, or virtual littering?

Metaphor studies in internet research can also be done by examining their origin: which actor introduces metaphors, at what moment, and for what purposes? For instance, religious metaphors in the early 2000s cast the iPhone as a savior artefact; a "Jesus phone." While the divine imagery was introduced by a sarcastic blogger,

it was adopted by the media and got incorporated into Apple ads to create a hype discourse surrounding the phone (Campbell and La Pastina 2010). This imagery fit perfectly into earlier marketing attempts by the company, establishing the Mac as a redeeming technology offering liberation.

Other metaphors risk anthropomorphizing the internet, attributing human traits to technology. Awareness of anthropomorphism has become even more important with the large-scale adoption of large language models (LLMs). Such models are given names, are assumed to possess "reasoning" abilities, and are perceived as having human-like traits such as warmth or competence (Cheng et al. 2025). Such anthropomorphism can be dangerous and may artificially inflate a user's trust in a chatbot and lead to a suspension of critical judgment.

A longitudinal perspective could reveal how digital imaginaries shift over time and across national or linguistic contexts. Recent internet lingo has adopted a relatively negative tone, which is represented by terms such as "online landfill," "clogged" with AI "slop," "cesspool" full of "bot farms" and online "warriors." The term "brainrot" is another emblematic metaphor, signaling a growing awareness of the negative consequences of social media by comparing it to decay. Further research could investigate to what extent and if "optimistic" metaphors have become increasingly replaced by "doom" metaphors. Tracing such trajectories over time can be done through content analyses or with the help of web crawlers.

While metaphor analysis is a lively endeavor within Media Studies, future work requires greater linguistic precision to remain analytically sharp. Researchers could more clearly differentiate between different types of figurative language and borrow from political and communication science to link these tropes to concrete communicative functions.

Vernacular Metaphors

ARRAN RIDLEY

When the afternoon rains arrive, the connection falters. Data, like motorbike riders, seems to take cover, as if connectivity itself isn't waterproof. Is your pulsa (prepaid credit) low, or is the rain drowning the signal? You duck into a warnet (warung internet), where the connection feels more stable. The internet here follows monsoon logic—seasonal, weather-dependent, gathering and scattering like bodies seeking shelter. This is a vernacular metaphor at work: ordinary people theorising connectivity through the rhythms and vulnerabilities of their immediate environment.

What do people call the internet when they're not reading white papers? Vernacular metaphors name this everyday figurative language—phrases from shop signs, family chats, neighborhood economies. It bridges vernacular digital culture studies and metaphor analysis in Internet Studies. Where one focuses on practices and the other on Anglo-American cases, vernacular metaphors foreground the locally specific figurative language through which users make sense of connectivity—language that emerges seasonally, tied to material conditions that ebb and flow.

In Indonesia, connectivity appears as pulsa and kuota (data quota) to be topped up, shared, hoarded, and managed. Internet access is like petrol or rice: finite, capable of being boros (wasteful) or saved for important tasks. The internet is less a cloud than a bag of sachets. Where "information superhighway" suggests smooth flow, pulsa and kuota point to scarcity and intimate budgeting: which child's homework, which video call is worthy of today's data? The metaphor encodes prepaid telephony economics, cash-based households, and regressive pricing.

Warung Wi-Fi—small kiosks selling connectivity alongside coffee and gossip—offers spatial metaphors. The internet is domesticated into warung architecture: plastic stools, extension cords, frying oil smells. Access is collective—multiple devices on one connection, youth lingering on single drinks. This sits awkwardly against "home broadband" imaginaries. It signals digital modernity running through informal economies and neighborhood sociality rather than private subscriptions.

These metaphors aren't sealed off from official discourse. Telcos borrow everyday speech—unlimited kuota (unlimited data quota), paket hemat (package deal). Policy documents echo

street phrases—internet rakyat (people's internet), kampung digital (digital village). English terms drift in and get bent to local meanings. "Vernacular" becomes a lens asking: whose language gets amplified? What gets obscured?

Vernacular metaphors come from users encountering actual conditions, not corporate strategy. They are tied to local dialects and emerge from material realities—prepaid systems, intermittent infrastructure, the weather affecting signal. They make visible infrastructures that otherwise fade: the corner vendor selling vouchers, the uncle sharing his hotspot, the warung owner reselling bandwidth.

How to use this? Ask whose metaphors never make it into telecoms ads or smart city proposals. While policy celebrates "digital inclusion," whose language describes the internet as something that runs out, breaks down, or costs too much? When fiber promises "unlimited" connection, which neighborhoods still speak pulsa-logic because that promise hasn't arrived? Vernacular metaphors mark gaps between official narratives and lived realities, exposing infrastructural inequality as different temporal regimes of connectivity. Listen for what gets pathologised as "low digital literacy" but is actually sophisticated knowledge about intermittent systems. Who imagines the internet as seamless cloud versus scarce sachets? Whose monsoon logic gets dismissed as backwards when it's describing material conditions that wealthier users never encounter?

Standard internet metaphors—highways, webs, cyberspace—came from U.S. infrastructure projects, Silicon Valley culture, or specific legal contexts. Starting from pulsa or warung, Wi-Fi opens different genealogies. These aren't colourful variations but theoretical work, offering alternative ways to understand how the internet gets built, accessed, and imagined—not from tech conferences but from kiosks and living rooms where people figure out what digital life should mean.

Algorithmic Folklore

GABRIELE DE SETA, MARIANNE GUNDERSON, HANNA LAUVLI, DEBARUN SARKAR & YAGMUR VIK

The concept of algorithmic folklore can be interpreted in two ways: folklore that develops around algorithms, or folklore that has algorithmic features. In both senses, algorithmic folklore existed long before the coinage of this concept in the early 2020s, when it was used to capture a specific articulation of folklore and algorithms: the emergence of informal vernacular creative practices inflected by the growing global relevance of algorithmic media.

The relationship between folklore and algorithms can be traced back to the development of an algorithmic culture that directly connects medieval mathematics to contemporary computational technologies (Striphas 2023). Early examples of algorithmic folklore include stories such as "The Chessboard of Sissah," which describes how the inventor of the game of chess tricked an Indian king with the principle of exponential duplication, making him promise to double one grain of wheat for each square of the board (Bardi 2025). Algorithmic folklore also includes myths, legends, traditions, and rituals—as Matteo Pasquinelli demonstrates through his analysis of the Vedic ritual Agnicayana, rules-based problem-solving thinking and practices "have been part of all cultures and civilizations" (Pasquinelli 2023, 28).

With the advent of calculating machines and computational technologies, algorithmic folklore has expanded to the domains of computer software (Kirschenblatt-Gimblett 1996), machine learning (Branwen 2011), and artificial intelligence (Woolridge 2021, 34). In a 2021 essay, researchers Ireti Akinrinade and Joan Mukogosi coin the term "algorithmic folklore" to illustrate how teenagers interacting with TikTok's recommender system and trying to reverse-engineer it also engage in the production of strategic knowledge: "[b]y sharing experiences, asking questions, and crowdsourcing answers, teens are developing an algorithmic folklore while discerning the potential motivations behind TikTok's software engineering" (2021).

Researchers working across disciplines have also arrived at this concept to define similar phenomena. Laura Savolainen, for example, examines the informal "beliefs and stories about algorithmic governance" through which Reddit users discuss the dynamics of shadow-banning (Savolainen 2022, 1096). Minna Ruckenstein's

2023 book *The Feel of Algorithms*, based on extensive interviews with Finnish people about their encounters with algorithms, foregrounds algorithmic folklore as a key form of literacy to be taken seriously (2023, 55). Folklore scholar Guro Flinterud theorizes how algorithms not only become part of folklore but also play a role in its production and dissemination (2023, 454). Gabriele de Seta makes a similar point by defining algorithmic folklore as the repertoire of genres and practices that emerge from encounters between vernacular creativity and computational automation: "algorithms are not just a topic of vernacular creativity, but become its technological medium and actively participate in the creation and circulation of content" (2024, 240).

As technological innovations like distributed computation, sensing infrastructures, deep learning, and automated agents become pervasive and their operations acquire relevance for societies around the globe, algorithmic folklore is not limited to explanations of search engine behavior or beliefs about social media recommendation but rather scales up into a domain of creative literacy production applicable to a world mediated by calculative regimes. In short, the more human experience is mediated by systems based on rule-based problem-solving, the more algorithmic folklore becomes a useful category to understand and conceptualize the new kinds of narratives, beliefs, and practices developing around and through these systems.

Myths

RIANNE RIEMENS

The internet—whether conceptualized as a cloud, dream machine, market, or network—is the subject and carrier of many myths. According to Roland Barthes (1957), myths can take the form of stories, images, events, or objects, which, beyond their literal meaning, convey a certain message. As such, myths can simplify, justify, symbolize, or represent larger cultural ideas. For example, an ad by Meta not only promotes the platform, but it also conveys a larger myth about the internet as a meeting place and values such as connectivity.

As myths do not necessarily derive their power from their truth value, countering myths is a valuable practice, but not always a fruitful research approach. Instead, one might study why and how myths emerge and endure across different moments or cultural contexts. As Vincent Mosco puts it: "[m]yths are not true or false, but living or dead" (2004, 3). This poses the question: what myths about the internet emerge in relation to the history, present, and future of the medium, and why have they (not) endured?

Research on mythmaking questions how internet myths are created, circulated, and contested, for example, examining their presence in popular culture, news production, or policymaking. In his historical analysis, Paolo Bory (2020) unpacks how internet myths build on or reproduce an underlying "monomyth": a foundational yet partial narrative about the development of the internet. Mosco (2004) demonstrates how the internet is not only a source of myths but also a vehicle for myths that predate the internet and have shaped its creation and integration in society. Other scholars correct or enrich existing internet histories by highlighting the role of women, black communities, or artistic and activist collectives in the development of the internet (e.g., Abbate 2012; Nakamura 2025).

The concept of myths is closely related to other concepts in Internet Studies. Myths can be conveyed through narratives we find in internet discourse, which can communicate certain visions and be centered around compelling metaphors. It is through myths that ideologies materialize and become integrated in our thinking about the internet. Myths themselves can become part of institutionalized imaginaries. Whether myths endure depends on their popularity and pervasiveness. Myths are thus characterized

by their ability to enchant, attract, and mystify. It is when myths move from the spectacular and sublime to the banal (as Mosco writes) that they become most powerful.

It is worth zooming in on the recurring myth about the virtual and immaterial internet. This myth is strongly connected to the launch of the World Wide Web in the 1990s and utopian narratives which presented the internet as "global village" or ephemeral "cloud." While it is one thing to debunk this myth—we know that the internet is material in many ways—it is more difficult to answer why this has been a persistent myth throughout internet history. In their quest for answers, authors have linked this to larger cultural myths around the end of geography or the disembodiment of the human subject (Hu 2015; Mosco 2004).

The myth of immateriality has reappeared in stories about the sustainable potential of the internet, providing an enchanting narrative about the internet's virtual form, while obfuscating the material and environmental impact of internet infrastructures. From the 2020s onwards, this myth resurfaces in dreams and promises around artificial intelligence. Myths about "green AI" exploit the vagueness of the term AI and the widely shared desire for a more sustainable world, without bringing about a green transition (Brevini 2020).

Whereas the study of internet myths might appear to revolve around the intangible study of meaning, belief, and representation, it is in fact grounded in historical analysis, the political economic reality of the tech industry, and the changing infrastructural presence of the internet. As Barthes (1957, 143) argues, mythology "organizes a world which is without contradictions because it is without depth," a researcher of myths draws attention to living myths, while resisting simplified and enchanting narratives that obfuscate this depth.

Romanticism

ROWAN MELLING

The earliest blueprint of the internet is Ted Nelson's 1965 *Project Xanadu*, which invented the idea of the "hyperlink" that would structure the World Wide Web. *Xanadu* is a direct citation of Romanticism, referring to the limitless dreamspace described in Samuel Taylor Coleridge's poem, *Kubla Khan*. In this new, networked media of connected pages, Ted Nelson imagined an infinite space like the "caverns measureless to man" in Coleridge's Romantic poem.

This new media-space, Nelson believed, would be automatically liberatory. As users flowed through information, they would become Romantics: free-wheeling, individualized, self-creative, imaginative. References to Romanticism are rife in this early moment of personal computing, such as Apple Computer's first logo quoting William Wordsworth. Before anyone knew what personal computers and the internet would be, they turned to Romanticism to help imagine them (Streeter 2011). Every time we hear that technology will set us free, help us to become our true selves, or expand our creativity, we should remember this Romantic legacy.

What actually is Romanticism? Tropes from this early-19th century literary movement will likely be familiar: the visionary genius; expressivity and passion; individual creativity; a turn against rationalism; a love of nature. There is also a common trope that is incorrect: the idea that Romanticism is against science and technology. Instead, Romanticism tried to merge art, science, and technology together. By criticizing rational systems, Romanticism imagined technologies that could creatively reshape the self and the world (Weatherby 2016). Like art, Romantic technology was a medium for turning creative vision into material change. Countless online technologies inherit this Romantic promise: Instagram will allow you to creatively shape your life journey; Fitbits promise a self-fashioning of the body; the Internet of Things enchants the world to respond as if by magic to your commands.

There is a tendency to criticize the internet and digital technologies as forms of ultra-rationalism. The legacy of Romantic technology shows that this is not the whole story. Technology can be both rational and Romantic at the same time (Coeckelbergh 2017). Even as the internet marshals our activities into a system of algorithmic management, it still shows an attachment to Romantic

ideas. The danger of criticizing contemporary technology only for its rationalism is that we might think of Romanticism as an alternative. In fact, Silicon Valley has been selling the promise of Romantic technology for half a century.

As the internet becomes the natural habitat of artificial intelligence, its Romantic imaginary becomes even more potent. In the early to mid-20th century, the dream of AI was anti-Romantic: it would create a rationalist utopia without human bias, emotion, and subjectivity (Schönthaler 2024). Things have reversed in the 21st century. The hype is not around cold, rationalistic machines, but rather Romantic machines that appear creative, versatile, and self-developing.

One of the legacies of Romanticism is to think of nature, society, and the self as dynamic, self-developing systems. For instance, the Romantic self is not a blank slate, but rather transforms itself through reflecting on new experiences. Generative AI extends this Romantic logic to technology: artificial intelligence is imagined as another self-developing system, capable of what computer science calls recursive self-improvement. This romanticization of AI is a new phase of internet Romanticism, in which networked technology becomes auto-poietic.

What happens when the Romantic promise of the internet is contradicted by enshittified platforms and algorithmic control? Is it time for another frame, or should we return to the Romantic goals of the early internet? Silicon Valley offers its own answer: we must embrace techno-romanticism or give up on progress altogether. Marc Andreessen (2023), one of the most powerful figures in tech, gives voice to this stark binary in his *Techno-optimist Manifesto*. He argues that if we fail to "believe in the romance of technology," technological development will stagnate. Andreessen has thrown down the gauntlet; critics must respond as to whether Romanticism is the only way to imagine technological change. To contest what the internet will become, we must understand how Romanticism shapes our technological imagination.

Affective Surplus

MICHAEL STEVENSON

Doomscrolling, FOMO, rage quitting, and—the internet historian's favorite—flame wars. So much of digital culture is marked by affective surplus, outsized emotional states that are likely familiar to us all. These embodied intensities take us over and space us out, our heads and hearts working overtime as we tap and scroll in distracted states (Paasonen 2021). But they can also provide the spark we need to outdo ourselves; flow states and collective movements are as much manifestations of affective surplus as downward spirals and endless polarization. It is easy to see how affective surplus helps fill the pockets of Big Tech, but what is the deeper connection between digital culture and these embodied intensities?

Affective surplus is a salient feature of digital culture, I would argue, because the latter provides unprecedented access to resources for the pursuit of identity through mimetic desire (Douglas 2025; Girard 1976). The fundamental affordance of social media is not to connect but to be someone (for which we need others), whether that someone is the influencer, the troll, the successful academic, or the person who deleted all their socials. Browsing, scrolling, reacting, and posting... so much of our online activity ultimately serves the needs of identity and distinction. Participation in this sense is often exhilarating, yet, as Douglas explains, being someone is also exhausting: we can't do so without feelings of envy and inadequacy, or without entering a game of pride and rivalry: "someone is wrong on the internet," as the classic XKCD stick figure exclaims.

Affective surplus as a function of mimetic desire can also shed light on what exactly is being imagined when we speak of 'imagined internets,' and how we might conceptualize their creation and adoption. In this view, the technological vision is secondary to the underlying individual or collective sense of self that it affords. For example, the cyberspace metaphor is a much-maligned instance of an 'imagined internet' that helped tech actors legitimize a liberal approach to internet regulation in the 1990s. But as Streeter (2010) argues, the term also expressed the romantic feeling of going online in the late 1980s and early 1990s. Crucially, this feeling was mimetic (romanticism as a diffuse resource for giving meaning to lived experience) while also being loosely generational and classed: going online (or reading Wired, or railing

against internet censorship, etc.) was exciting because it meant being someone who knew the score—as opposed to, say, the clueless managerial elite or one's parents.

Although mass pessimism surrounding digital culture in recent years makes it easier to see excesses of negative affect, my own interest in the concept springs from the kinds of devotion and adoration I observed in the history of the Perl programming language and websites like Slashdot.org and Everything2 (Stevenson 2019). Similar to Kelty's (2008) Reformation-imitating hackers, these communities and their corresponding technical visions were full of exhilaration and joy, while clearly also fueled by mimetic desire and the pleasures of distinction.

While it is easy to feel nostalgic for the energy and optimism on display in early net communities, it is also easy to critique them for failing to live up to the kinds of egalitarianism and openness they imagined. What is more interesting is to see how these things are one and the same: affective surplus, mimetic desire, and distinction underly inspired acts of creation and collective action, but also the hierarchies, conflict, and drama that such efforts necessarily produce. And, although we may prefer not to see it, the same dynamics characterize contemporary subcultures and techno-utopias of all stripes, from the alt-right embrace of free-speech absolutism to the digital covenants of the fediverse. A history of the (imagined) internet that accounts for affective surplus and mimetic desire would therefore tell a new story: instead of the strangely comforting tale of Big Tech ruining the utopia we almost had, we might find both the past and present internet to be discomfortingly human, a collective shadow we are better off seeing for what it is.

Suspension of Disbelief

LUCY MAUN

Suspension of disbelief: temporarily allow oneself to believe something that is not true, especially to enjoy a work of fiction. A willing suspension of disbelief can motivate critical reflection about the internet, or cultivate a willful ignorance about it. More potent than an imaginary, applying a lens of "suspension of disbelief" can prevent representations and interpretations from becoming commensurate with the "truth" of the internet.

BACKGROUND

Suspension of disbelief originated in the poetry of the English Romantic literary movement. In 1798, Samuel Taylor Coleridge (1770-1834) and William Wordsworth (1770-1850) published *Lyrical Ballads*, a poetry collection credited with the birth of the movement. It marked a scandalous departure from the formalized language of 18th Century poetry by using the language of the middle and lower classes to explore supernatural events. Coleridge's innovation was to treat the supernatural as real, following the logic that such incidents were real to those who experienced them (2014). He focused on the dramatic truth of emotions that would naturally occur in such situations; the reader would relate to the emotions as true, accepting the poems as believable despite fictional elements. Later, reflecting on *Lyrical Ballads*, Coleridge stated that its success was to "transfer from our inward nature a human interest and a semblance of truth sufficient to procure for these shadows of imagination that willing suspension of disbelief for the moment, which constitutes poetic faith" (2014, 208). Thus, suspension of disbelief has three core elements: it excites human interest; it bears the outward appearance of being true; and we experience it willingly.

IMPLICATIONS

This same process of creating a believable, dramatic truth is evident in the study of the internet. A willing suspension of disbelief enables us to separate the globally-networked physical construct

comprising of built infrastructure, labor exploitation, environmental extraction, and resource consumption (Crawford 2021) from the abstract, intangible being we theorize as "the Internet", a symbol doused in layers of ever-shifting meaning. That so many imaginaries exist about the internet (Bory 2020) indicates that abstraction is an essential part of the meaning-making required to understand it. We operationalize concepts which give it the shape necessary for comprehension; fictions connected to the symbolic internet, not the internet-that-is. In academic circles, we validate these products of imagination by laundering them—publishing papers that recast them as empirical social truths. We produce fictionalized versions of the internet that embody a semblance of truth, a somewhat-true outer shell we wrap around our understanding, willingly suspending our disbelief that these imaginaries are the same as what the internet is. Instead, we should recenter the internet as infrastructure; "turning away from the topics that motivate a great deal of writing about the internet... [to] the structural – this is the Internet not as 'what people say with it' but as 'how it works' (Sandvig 2013, 90). The separation between the structural and symbolic indicates that what we understand by "the interne has been decoupled from reality. Rather than irony, a kinder term for this might be the ultimate act of poetic faith. Our belief in the dramatic truth of the internet has made us lose sight of what it is. Perhaps our first suspension of disbelief was willingly forgetting that the internet was molded from the clay of the earth.

MOVING FORWARD

As an analytical tool, suspension of disbelief allows us to strip back layers of power to see the "truth" within. Operationalizing this term enables us to untangle the realities that have been suspended to create, perpetuate, or divert ideas about the internet, and see who has the power to do this. It reveals the dramatic truth of the internet, and whether this reproduces or obscures knowledge about what the internet is, its impacts, and histories. Aside from self-reflection, suspension of disbelief is a tool for interrogation and can facilitate greater critical clarity. It offers a way out of the maze of imaginaries and fictions that surrounds the study of the internet, illuminating the point of convergence between interpretation and reality.

Hype Histories

CLAUDIO CELIS BUENO & STEVE JANKOWSKI

There is certainly a lot of hype about hype these days. Indeed, it seems to be an everlasting source of public fascination and derision. But for internet and technology researchers, hype has a more important role in understanding technological change and continuity. In parallel with the financialized excitement of the dot-com bubble in the 1990s, hype began being theorized as part of hype cycles: a succession of affective waves of excitement and disappointment that respond to technical innovation. As a cultural-economic phenomenon, the atmosphere created by these cycles encourages coalitions to compete to attract further investment, institutional support, and governmental and market legitimacy to either alleviate the risk associated with innovation or to arrest the disruptions to established ways of living and working. As such, technology companies know that their new technological products do not succeed on merit alone; they must saturate public imagination with visions of the medium as an inevitable outcome of human progress. To this point, internet historian Fred Turner explained that a crucial part of this technological adoption involves the "journalists, pundits and commercial advertising agencies," who transform "new technologies into symbolic goods" (2006, 265). Decades earlier, Umberto Eco had explained these dynamics as either "integrated" or "apocalyptic" attitudes towards socio-technical change. Intellectuals who endorsed one of these two poles, he argued, were "responsible for the spread of vague 'fetish concepts'" (2000, 17): ideas that do not just create illusory expectations, but more importantly for Eco, they limit critical understanding. Alternatively, Eco calls us to deploy a rigorous analysis of the phenomenon being observed and to interpret this phenomenon through a historical lens. In colloquial terms, do not trust the hype, trust history!

But while Eco's corrective is an instructive reading of hype, his dichotomic structure between "fetish concepts" and "critical history" can easily substitute one dichotomy for another. Alternatively, we call for a twofold historiography of technological hype that ignores concerns of deception in favor of understanding it as a symptomatic expression of the underlying sociotechnical imaginaries. First, hype histories allow us to identify processes of continuity and discontinuity in how culture responds to technological

innovations. This entails identifying particular topoi that endure through different cycles and generations of technological change (Celis Bueno et al. 2025). Second, they connect these commonplace expressions of integration and apocalypse to the performative role of imaginaries, narratives, and discourses that shape technological change.

To show how one might conduct a hype history of the internet, one can turn to the current moment of AI hype. Instead of engaging in the debate about which integrated or apocalyptic claims are false or deceptive, our hype history approach to technology reads this situation as symptomatic of a deeper and long-lasting tension between contrasting sociotechnical imaginaries operating on a decades-long cycle of "AI summers" and "AI winters." For the hype historian, these peaks, valleys, and slopes of excitement-disappointment serve as temporal devices to locate interlocuters of integrative and apocalyptic hype within different fields, such as computer science literature; the popular media of fiction, films, and games that represent AI; or from newspapers, trade books, and magazines.

Regardless of which field and texts are being studied, there are at least two historiographical choices that we think a hype history must consider. The first is that it should never be just about a few "heroic figures" or "founding fathers." While it may start with them, our approach requires engaging with the institutional, professional, and cultural resources that present these figures' statements as legitimate expressions of a sociotechnical imaginary. The second is that the history attends to how the differences between integrative and apocalyptic technological hype repeatedly bring to the surface irresolvable questions about the relationship between culture and technique. As such, while these histories may revolve around broad themes or discourses, the unit of analysis is specifically those commonplaces (*topoi*) "that contain and organize a society's enduring contradictions" (Celis Bueno et al. 2025, 4). It is therefore within this tense interplay between integration and apocalypse that technological hype can be, and should be, taken seriously as an object of historical research.

Net Scepticism

JESPER VERHOEF

In the 1990s, as the WWW popularized the internet, the notion of the "digital divide" gained prominence. It framed non-users as temporary have-nots who faced a deficit to be overcome. Metaphors such as information highway or marketplace fueled early hype, reinforcing celebratory visions of inevitable adoption

Yet alongside utopian (and dystopian) narratives foregrounded by media, scholars, state and industry actors, a significant portion of the population met the internet with skepticism, and questioned its usefulness, even in tech-savvy countries. I vividly remember a young Dutch television host mocking "the interNOT" in 2002, reviving a neologism that had entered the Oxford English Dictionary in 1998. Building on research into varying degrees of internet engagement, I introduce the concept of Net Skepticism. This concept highlights the large but often neglected group of reluctant users and non-users and how they did and did not imagine the internet's role in their lives.

On one hand, net skeptics encompassed people who went online reluctantly. Poorly reflected in the binary surveys of the time (use vs. non-use), many used the internet only intermittently. On the other hand, uses-and-gratification researchers repeatedly found—much to their surprise—that many people remained offline permanently with the strong intention to stay so. Most cited a lack of need for the new technology. This group included a sizable number of dropouts: people who had used it, but disengaged.

At least into the early 2000s, up to half of the population in some Western countries remained net skeptical, not caring much. The internet's eventual ubiquity was not a foregone conclusion, a point reflected in the playful metaphor World Wide Ebb, used by a British tabloid in 2003 to describe receding internet subscriptions. Focusing on net skepticism reveals how technological change is shaped not only by enthusiasts or critics, but also by those detached or minimally engaged. By highlighting these overlooked attitudes, net skepticism challenges the assumption that the internet was universally envisioned as a transformative force—an assumption often reinforced by utopian and dystopian narratives. While these imaginaries are easy to track, internet historians must also account for the attitudes of net skeptics, especially the majority who did not actively resist the internet but remained indifferent to it.

Failure

DMITRY MURAVYOV

Internet historians—but also publics beyond academia—have found the stories of unrealized, failed networks to be a productive resource for historical and critical imagination. The histories of completely or partially unrealized networks—such as Soviet OGAS (Peters, 2016) or Chilean Cybersyn (Medina, 2014)—are subjects not only of academic works but also of YouTube videos, accompanied by social and cultural commentary, often manifesting in a formula: "other networks are possible."

Scholars juxtapose such histories against initially hagiographical historiographies of internet development, which often centered on a relatively small number of actors and a teleological interpretation of the historical process (Abbate, 2017). Such decentering of 'the Internet' multiplies places, time periods, technologies, and actors that capture the field's interest, sometimes even replacing the notion of 'Internet' with that of 'nets' (Driscoll & Paloque-Berges, 2017).

The studies and discussions of technological failures in Media Studies, History of Technology, and related disciplines are rich and long, and they remain a noteworthy resource for studying and imagining the internet (e.g., see Gooday, 1998; Magaudda & Balbi, 2024; Stevenson & Helmond, 2020). In such accounts, 'failure' becomes a productive and generative analytical tool, and the symmetrical research attention to successful and failed network projects is not surprising for at least two reasons. First,if both successful and failed networks become such for similar reasons (e.g., organizational culture or contingent alliances between actors), analyzing unrealized projects helps us see what we might have missed by only analyzing successes. Second, these failures may be interesting for their legacies—technologies, imaginaries, practices, or organizations that later become instrumental in materializing successful initiatives.

However, one should not only recover failure from the oblivion of analytical imagination but also probe the stakes of rendering certain processes, actors, and projects as failures. That is, as researchers, we must remain attentive to the analytical frameworks that help us structure historical processes and, particularly, failure as one possible outcome of those processes.While paying attention to failed and unrealized projects helps us unsee history as

progressive and linear, we risk seeing only a history of (inter)net in what has happened, rather than a history of something else. By saying goodbye to the teleology of the Internet, we are welcoming a vision of history in which many other networks are possible, yet they still must be some form of network to interest us.

This shift itself may not warrant concern, provided we are also aware of its underlying assumptions. If we, for instance, see the value of failures in the analysis of its legacies, these are legacies that become epistemologically meaningful only considering the 'successes' that are built upon them. Or, if we view failures as analytically productive because they help us stage a useful comparison with realized initiatives, the risk is that researchers assume the projects' end goals are at least somewhat similar, sothat the comparison makes sense in the first place.

The negativity of failure is sublated to enrich the historical narrative, albeit at the risk of ignoring its non-identical elements. The sublation of these elements may be unfaithful to the historicity of the processes, visions, and hopes of the actors, which do not neatly map onto even the pluralist vision of internet histories; potentially, everything that was historically valuable or interesting about the efforts of actors is their failing at something that others have succeeded in.

In conclusion, we may take the following lesson with us. In surfacing failed, unrealized histories, we should always stay with the tension between historicity and historiography—how people perceived the historical meaning of their actions and how we as researchers approach it—and mind how our ways of imagining the internet and its counterfactual trajectories may inadvertently produce a compression of the former into the latter.

Abandonment

DAVE MEE

The narratives of autonomy and resilience as foundational to the internet are predicated on constant human intervention. 'Abandonment' interrogates expansionist narratives, illuminating what is lost as much as created. Sifting through the sediments of communities, infrastructures, and politics of buried networks asks whether the abandonment (a victim of scale?) is the pretense of equality itself; modern layers of NAT reduce peer participants to mere tenant farmers. Abandonment is the condition of these evanescent strata: overwritten protocols, platforms, content, consent; marooned territories and jettisoned populations recall unfulfilled futures. The common conception of the internet is of ever-expanding territory and unending memory; nothing is lost, everything persists. But it is rather a technological palimpsest: a finite technological surface, sustained by continuous rewriting. HTTP dominates internet traffic, but IANA's TCP/IP port registry commemorates unfulfilled imaginaries and lost protagonists of what might have been: strata of pre-web protocols, vestigial traces of infrastructures, security, commercialization and scale evoking past cultures—MUDs, Gopher, finger flipping intimacy into abuse, anticipating doxxing and the Bird to come. BBS and FIDONET straddled the analogue PSTN; Usenet subsumed as Google Groups, diminished to flashdrive scale. Eternal September marked not the democratization, but exodus from communication spaces. The shrapnel of platform wars and orphaned data, left to headless botnets and quiescent plugins. Platform and infrastructural shifts reconfigure the ability to participate; the abandonment of access parity. As multiplying "under construction" GIFs accumulated atop creaking Geocities, HTTP progressed, forsaking older systems, relegating the webmaster as platform ecosystems ascended. The federation RSS once promised collapsed as Google shuttered Reader: forgotten credentials and link rot abandoned online homes as someone else's problem. Archive.org preserved what was no longer claimed, youthful fansites first forgotten, now inaccessible—amber preserving while isolating, abandoning authorial control and ownership. Even Twitter abandoned its population in a hostile takeover. Capricious platform monarchs arrogate increasingly transient, volatile territories; cluttered with decaying data, teleological stability yields to mutable ephemerality.

Scale

MAGDALENA KRYSZTOFORSKA

Scholars from across the humanities have long argued that the different rhetorical means for conveying a sense of scale are often purposefully mobilized to serve particular agendas. Given the prevalence of scalar metaphors within discourse around the internet (e.g., the global network, the World Wide Web, and so on), an analysis of the deployment of scale within various visions of the internet can be instructive for understanding the forces and motivations that have shaped the technology. As highlighted by critical geographers, one of the many affordances of the language of scale is its capacity for conveying a sense of spatial hierarchy (such as "the local" > "the national" > "the global"), and in this way, bolstering particular claims to power (Herod 2011). One illustrative example of this is John Perry Barlow's (in)famous *A Declaration of the Independence of Cyberspace* (1996), which conceptualizes cyberspace as a "global social space" and proclaims its independence from national governments, although those governments (the US in particular) built the material infrastructure that the internet depends on. Moreover, this rhetorical presentation of cyberspace crystallizes the peculiar nature of scale that media scholar Horton describes as "a form of mediation that paradoxically engages fundamental scalar alterity as negotiated surface differentials but also produces certain milieus based upon scalar stabilizations" (2020, 28). Barlow's "declaration" mobilizes such scalar dynamics in a way that collapses the scale of the world into the scale of the individual, and normalizes the resulting domain. The text puts forward a vision of the internet as a space of "virtual selves" that will spread "across the Planet" and whose creations will be "reproduced and distributed infinitely"; it promises to combine the individuality and personal freedom of the self with the power of a global collective, in alignment with the libertarian ideology of Barlow's milieu. Moreover, Barlow talks about a world "that is both everywhere and nowhere, but it is not where bodies live" and where all human expression, "from the debasing to the angelic," constitutes "a seamless whole." The idiosyncratic image emerging from this description expands beyond just the terrestrial confines of the global scale, elevating cyberspace to the scale of the cosmos. As Wertheim (1999) points out, this vision of cyberspace, despite being tied to a modern technology, distinctly echoes the medieval world picture:

a two-tiered metaphysical whole organized according to the hierarchy of scala naturae (the great chain of being), where humans "were the linchpin of the whole cosmic system: the halfway point and vital link between the earthly and heavenly domains" (1999, 33). This is far from coincidental; Wertheim outlines how numerous tech luminaries of the 1990s projected their religious inclinations onto the idea of cyberspace, with some of them expecting the online realm to become a form of "Christian ritual" or a space for cultivating "the divine parts" of ourselves or "becom[ing] angels" (1999, 255). As such, the scalar construction of this particular vision of the internet can be seen as symptomatic of the broader world picture underpinning the development of the technology. There are certainly many more ways in which the concept of scale can help us understand how the internet has been imagined, by whom, and to what end. As pointed out by DiCaglio: "scale reveals relationships that were previously not apparent simply because they were not discernible; and in turn, scale provides new possibilities for comprehending these aggregates and relations" (2021, 7). Consequently, scale and its wide-ranging affordances can serve not only to analyze internet imaginaries from the past, but also to put forward future visions for the technology. In one recent example, Farrell and Berjon (2024) attempt to imagine solutions to the challenges facing the internet and its users by diagnosing the current state of the technology as an "extractive and fragile monoculture" and asking: "what scale is needed for rewilding to succeed?" The cross-disciplinary analytical toolkit of scale can hopefully motivate further questions and serve to construct and deconstruct different visions for the internet.

Futuring

ABE HENDRIKS, RIANNE RIEMENS, DANNY STEUR & JEROEN OOMEN

In 1996, at the World Economic Forum in Davos, John Perry Barlow declared the "Independence of Cyberspace." His manifesto did not describe the internet's actual governance but sketched a libertarian future "immune" to state powers—a powerful image of liberation and possibility that would shape how many came to imagine the internet's potential. This is futuring at work.

Futuring captures how social actors construct, perform, and enact images of the future to shape action in the present. Since human agency is always oriented towards certain futures, it is vital to understand which ideas of the future people act upon—and how those ideas come to be held. Futuring asks: how do images of the future become plausible, legitimate, and actionable? With "images," we mean the articulation—verbal, visual, or otherwise—of ideas about (un)desirable futures. From (dramatized) representations of climate catastrophe to right-wing fearmongering about the Great Replacement, such images create imagined relationships between past, present, and future.

The concept of "techniques of futuring," developed by one of us (Jeroen) and colleagues, helps us to understand the specific practices through which actors come together around particular orientations for action. For the internet, think of algorithmic predictions shaping investment decisions or ecosystemic computer models shaping climate policies. Such techniques of futuring operate through distinct assumptions about knowledge, authority, and possibility, coordinating social action.

Futuring is inexorably political. Actors continuously contest and re-entrench power by making futures seem tangible, credible, and urgent. Images of the future shape decisions today by controlling what seems viable for tomorrow. The internet offers crucial means to create and spread images of futures, but is also shaped by such images. Images of the internet's future appear across the life cycle of the medium, offering different messages from its early inception to its institutionalization, until its obsolescence. Futuring opens up questions such as: how and why do certain ideas about the internet become dominant or marginalized? How do images of the internet's future shape its development? How

do engineers, visionaries, or big tech corporations organize people around specific images of internet futures?

The history of the internet is full of declarations like Barlow's manifesto. For more recent examples, think of the letters Mark Zuckerberg published when Facebook went public (IPO) in 2012, and when the company rebranded as Meta in 2021, both celebrating an "open and connected" world. The AI industry of the 2020s revolves almost entirely around speculative visions; think of the 2024 *Machines of Loving Grace* by Anthropic's Dario Amodei, or OpenAI's Sam Altman's 2025 blogpost *The Gentle Singularity*. Such sketches of —and exaggerated promises for—AI futures generate hype and investment, but they also steer the development of the internet in a particular direction. Whereas Barlow was a writer and activist, Zuckerberg, Amodei, and Altman are CEOs of Big Tech companies with far more means at their disposal to circulate and naturalize preferred futures, to turn them into economic reality, or use them to justify present actions.

With futuring, it is key to consider what voices and futures are heard, and which are not. The examples above show a concentration of imaginative power which is neither natural nor inevitable, nor desirable. By analyzing how images of the future become influential—and hence, performative—we can understand why certain internet futures seem plausible while others remain unthinkable or marginal. We ought to critically question and imagine: what alternative internets are being obscured? Who might imagine them differently? And how might we protect and nourish spaces for a collective imagination that does not simply reinforce existing asymmetries of power?

Recommended Readings

SOCIOTECHNICAL IMAGINARIES

Hendriks, Abe, Kamilla Karhunmaa, and Pierre Delvenne. 2025. "Shaping the Future: A Conceptual Review of Sociotechnical Imaginaries." Futures 170: 103607.

Hendriks, Abe, Gert Goeminne, and Erik Paredis. 2025. "Grounding Circularity in Fryslân: Discursive Politics in the Embedding of Sociotechnical Imaginaries." Science as Culture: 1-27.

Hilgartner, Stephen. 2015. "Capturing the Imaginary: Vanguards, Visions and the Synthetic Biology Revolution." In Science and Democracy, edited by Stephen Hilgartner, Rob Hagendijk, and Clark Miller. Routledge: 33-55.

Jasanoff, Sheila, and Sang-Hyun Kim, eds. 2018. Dreamscapes of Modernity: Sociotechnical Imaginaries and the Fabrication of Power. University of Chicago Press.

Ten Oever, Niels. 2021. "'This is not how we imagined it': Technological Affordances, Economic Drivers, and the Internet Architecture Imaginary." New Media & Society 23 (2): 344-362.

PROJECTS

Boltanski, Luc, and Eve Chiapello. 2007. The New Spirit of Capitalism. Verso.

Flichy, Patrice. 2007. The Internet Imaginaire. MIT Press.

Jankowski, Steve. 2023. "The Wikipedia Imaginaire: A New Media History beyond Wikipedia.org (2001–2022)." Internet Histories 7 (4): 333-53.

Suchman, Lucy. 2012. "Configuration." In Inventive Methods: The Happening of the Social, edited by Celia Lury. and Nina Wakeford. Routledge: 46-60

DIGITAL CONSTITUTIONALISM

Celeste, Edoardo. 2025. "Conceptual Approaches to Digital Constitutionalism: A Counter-Critique'."In Nomos Verlagsgesellschaft mbH & Co. KG: 14-46.

Celeste, Edoardo. 2019. "Digital Constitutionalism: A New Systematic Theorisation." International Review of Law, Computers & Technology 33 (1): 76–99.

Celeste, Edoardo, and Alba Perez Victorio. 2025. "Sustainable Digital Sovereignty? Environmental Impact of EU Tech Strategies." In Digital Sovereignty and the Green Transition: EU Challenges in Times of War and Energy Crisis, edited by Edoardo Celeste et al. Bloomsbury Publishing.

INFRASTRUCTURAL IDEOLOGIES

Bowker, Geoffrey C., and Susan Leigh Star. 1999. Sorting Things Out: Classification and Its Consequences. MIT Press.

Easterling, Keller. 2014. Extrastatecraft: The Power of Instrastructural Space. Verso.

Galloway, Alexander. 2012. "Software and Ideology." In The Interface Effect. Polity: 54–77.
Gramsci, Antonio. 1978. Selections from the Prison Notebooks of Antonio Gramsci. International Publishers.
Jones, Steve. 2006. Antonio Gramsci. Routledge Critical Thinkers. Routledge.
Larkin, Brian. 2013. "The Politics and Poetics of Infrastructure." Annual Review of Anthropology 42: 327–43.
Mager, Astrid. 2014. "Defininig Algorithmic Ideology: Using Ideology Critique to Scrutinize Corporate Search Engines." tripleC 12 (1): 28–39.
Maxigas and Niels ten Oever. 2023. "Geopolitics in the Infrastructural Ideology of 5G." Global Media and China 8 (3, Special issue on China's digital infrastructure): 271–88.
ten Oever, Niels, Clement Perarnaud, John Kristoff, Moritz Müller, Max Resing, Arturo Filasto, and Chris Kanich. 2024. "Sanctions and Infrastructural Ideologies: Assessing the Material Shaping of EU Digital Sovereignty in Response to the War in Ukraine." Policy & Internet 16 (4): 692–710.

THE FEED

Bucher, Taina. 2012. "A Technicity of Attention." Culture Machine 13: 1–13.
Helmond, Anne. 2015. "The Platformization of the Web." Social Media + Society 1 (2): 1–11.
Liu, Alan. 2004. "Transcendental data." Critical Inquiry 31 (1): 49–84.

NETWORK IDEOLOGIES

Barbrook, Richard. 2007. Imaginary Futures: From Thinking Machines to the Global Village. Pluto.
Bory, Paolo. 2020. The Internet Myth: From the Internet Imaginary to Network Ideologies. University of Westminster Press.
Hu, Tung-Hui. 2015. A Prehistory of the Cloud. MIT Press.
Mosco, Vincent. 2004. The Digital Sublime. Myth, Power, and Cyberspace. MIT Press.
Musso, Pierre. 2003. Critique des Réseaux. PUF Presses Universitaires de France.

DISPOSITIF

Aasman, Susan, Joseph Wachelder and Andreas Fickers, eds. 2018. Materializing Memories. Dispositifs, Generations, Amateurs. Bloomsbury Publishing.
Van der Heijden, Tim. 2018. Hybrid histories: Technologies of memory and the cultural-dynamics of home movies, 1895-2005. PhD diss., University of Maastricht.

AFFORDANCE

Costa, Elisabetta. 2018. "Affordances-in-Practice: An Ethnographic Critique of Social Media Logic and Context Collapse." New Media & Society 20 (10): 3641–56.
Gibson, James J. 1979. "The Theory of Affordances." In The Ecological Approach to Visual Perception. Houghton Mifflin.

Ten Oever, Niels. 2021. "'This Is Not How We Imagined It': Technological Affordances, Economic Drivers, and the Internet Architecture Imaginary." New Media & Society 23 (2): 344–62.
The Dark Forest Collective. 2024. The Dark Forest Anthology of the Internet. Edited by Yancey Strickler. DFC, no. 1. Dark Forest Collective.

STANDARDS

DeNardis, Laura. 2014. The Global War for Internet Governance. Yale University Press.
Hegarty, Kieran, Rowan Wilken, James Meese, and Catherine Middleton. 2025. "Shaping Infrastructural Futures: The International Telecommunication Union's Visions for Mobile Communications and the Anticipatory Politics of 5G Standardization." Mobile Media & Communication 13 (1): 171–191.
Thomas, Julian, Rowan Wilken, and Ellie Rennie. 2021. Wi-Fi. Polity.

SKEUOMORPHISM

Conway, Steve. 2024. "Insights from obsolescence: The interpretive potential of skeuomorphs." Journal of Material Culture 29 (2): 141–157.
Felluga, Dino Franco. 2006. "Introduction: Skeuomorphs and Anti-Time." Romanticism on the Net (41).
Gessler, Nicholas. 1998. "Skeuomorphs and Cultural Algorithms." International Conference on Evolutionary Programming. Berlin, Heidelberg. Springer.
Hayles, Katherine. 2000. How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics. University of Chicago Press.
Morris, Jeremy Wade. 2015. Selling Digital Music, Formatting Culture. University of California Press.

VISUAL ABSTRACTION

Drucker, Johanna. 2020. Visualization and Interpretation: Humanistic Approaches to Display. The MIT Press.
Latour, Bruno, and Emilie Hermant. 2021. Paris ville invisible. Éditions B42.
Lima, Manuel. 2011. Visual Complexity: Mapping Patterns of Information. Princeton Architectural Press.
Manovich, Lev. 2008. "Data Visualization as New Abstraction and Anti-Sublime." In Small Tech: The Culture of Digital Tools, edited by Byron Hawk, David M. Rieder, and Ollie O. Oviedo. University of Minnesota Press.
Rodighiero, Dario. 2021. Mapping Affinities: Democratizing Data Visualization. English edition. Métis Presses.

RHETORIC

Adelman, David et al. 2025. Technoskepticism: Between Possibility and Refusal. University of Stanford Press.
Alford, Caddie. 2025. "The Paradigmatic Aftermath of Digital Rhetoric." Rhetoric Society Quarterly. 56 (1): 33–48.

Chan, Anita Say. 2025. Predatory Data: Eugenics in Big Tech and Our Fight for an Independent Future. University of California Press.
Farrell, Maria. 2022. "Your Platform is not an Ecosystem." Crooked Timber, December 8. https://crookedtimber.org/2022/12/08/your-platform-is-not-an-ecosystem/.
Golumbia, David. 2024. Cyberlibertarianism: The Right-Wing Politics of Digital Technology. University of Minnesota Press.
Ott, Brian L. and Greg Dickinson. 2019. "Redefining Rhetoric: Why Matter Matters." Berlin Journal of Critical Theory 3 (1): 31–56.
Reames, Robin. 2024. The Ancient Art of Thinking for Yourself: The Power of Rhetoric in Polarized Times. Hachette.

PREFIX

Finch, Tracy, Carl May, Maggie Mort, and Frances Mair. 2006. "Telemedicine, Telecare and the Future Patient: Innovation, Risk and Governance." In New Technologies in Health Care. Challenge, Change and Innovation, edited by Andrew Webster. Palgrave Macmillan.
Woolgar, Steve. 2002. "Five Rules of Virtuality." In Virtual Society? Technology, Cyberpole, Reality, edited by Steve Woolgar. Oxford University Press.
Wyatt, Sally. 2021. "Metaphors in Critical Internet and Digital Media Studies." New Media & Society 23 (2): 406–16.

METAPHOR

Campbell, Heidi A., and Antonio C. La Pastina. 2010. "How The iPhone Became Divine: New Media, Religion and the Intertextual Circulation of Meaning." New Media & Society 12, (7): 1191–1207.
Cheng, Myra, Angela Y Lee, Kristina Rapuano, Kate Niederhoffer, Alex Liebscher and Jeffrey Hancock. 2025. "From Tools to Thieves: Measuring and Understanding Public Perceptions of AI through Crowdsourced Metaphors." ArXiv Cornell University.
Farkas, Johan, and Marcus Maloney. 2024. Digital Media Metaphor. Routledge.
Swedberg, Richard. 2020. "Using Metaphors in Sociology: Pitfalls and Potentials." The American Sociologist 51 (2): 240–57.

VERNACULAR METAPHORS

Barendregt, Bart. 2012. "Diverse Digital Worlds." In Digital Anthropology, edited by Heather A. Horst and Daniel Miller. Routledge.
Juliastuti, Nuraini, and Daulay, Fiky Maulana. 2017. Buklet Kata KUNCI Praktik Teknologi Vernakular di Indonesia. KUNCI Publication
Markham, Annette N. 2003. "Metaphors Reflecting and Shaping the Reality of the Internet." New Media & Society 5 (4): 457–479.
Milan, Stefania and Emiliano Treré. 2019. "Big Data from the South(s): Beyond Data Universalism." Television & New Media 20 (4): 319–335.

ALGORITHMIC FOLKLORE

Akinrinade, Iretiolu, and Joan Mukogosi. July 16 2021. "Strategic Knowledge." Data & Society: Points.

RECOMMENDED READINGS

Bardi, Alberto. 2025. "Mathematics and Cultures across the Chessboard: The Wheat and Chessboard Problem Revisited." In Handbook of the Mathematics of the Arts and Sciences, edited by Bharath Sriraman. Springer Nature.

Branwen, Gwern. September 20 2011. "The Neural Net Tank Urban Legend." Gwern.

De Seta, Gabriele. 2024. "An Algorithmic Folklore: Vernacular Creativity in Times of Everyday Automation." In Critical Meme Reader III: Breaking the Meme, edited by Chloë Arkenbout and Idil Galip. Institute of Network Cultures.

Flinterud, Guro. 2023. "'Folk' in the Age of Algorithms: Theorizing Folklore on Social Media Platforms." Folklore 134 (4): 439–61.

Kirschenblatt-Gimblett, Barbara. 1996. "The Electronic Vernacular." In Connected: Engagements with Media, edited by George E. Marcus. The University of Chicago Press.

Pasquinelli, Matteo. 2023. The Eye of the Master: A Social History of Artificial Intelligence. Verso.

Ruckenstein, Minna. 2023. The Feel of Algorithms. University of California Press.

Savolainen, Laura. 2022. "The Shadow Banning Controversy: Perceived Governance and Algorithmic Folklore." Media, Culture & Society 44 (6): 1091–109.

Striphas, Ted. 2023. Algorithmic Culture before the Internet. Columbia University Press.

Woolridge, Michael. 2021. The Road to Conscious Machines: The Story of AI. Penguin Random House.

MYTHS

Abbate, Janet. 2012. Recoding Gender: Women's Changing Participation in Computing. MIT Press.

Bory, Paolo. 2020. The Internet Myth: From the Internet Imaginary to Network Ideologies. University of Westminster Press.

Barthes, Roland. 1957. Mythologies. The Noonday Press.

Brevini, Benedetta. 2020. "Black Boxes, Not Green: Mythologizing Artificial Intelligence and Omitting the Environment." Big Data & Society 7(2): 1–5.

Hu, Tung-Hui. 2015. A Prehistory of the Cloud. MIT Press.

Mosco, Vincent. 2004. The Digital Sublime: Myth, Power, and Cyberspace. MIT Press.

Nakamura, Lisa. 2025. The Inattention Economy: How Women of Color Built the Internet. University of Minnesota Press.

ROMANTICISM

Andreessen, Marc. October 16 2023. "The Techno-Optimist Manifesto." Andreessen Horowitz.

Coeckelbergh, Mark. 2017. New Romantic Cyborgs: Romanticism, Information Technology, and the End of the Machine. MIT Press.

Schönthaler, Philipp. 2024. Wie Rationale Maschinen Romantisch Wurden: KI, Kreativität Und Algorithmische Postrationalität. Matthes & Seitz.

Streeter, Thomas. 2011. The Net Effect: Romanticism, Capitalism, and the Internet. New York University Press.

Weatherby, Leif. 2016. Transplanting the Metaphysical Organ: German Romanticism between Leibniz and Kant. Fordham University Press.

AFFECTIVE SURPLUS

Douglas, Alexander. 2025. Against Identity: The Wisdom of Escaping the Self. Penguin.
Kelty, Christopher. 2008. Two Bits: The Cultural Significance of Free Software. Duke University Press Books.
Girard, Rene. 1976. Deceit, Desire, and the Novel: Self and Other in Literary Structure. Johns Hopkins University Press.
Paasonen, Susanna. 2021. Dependent, Distracted, Bored: Affective Formations in Networked Media. The MIT Press.
Stevenson, Michael, dir. 2019. Geeks in Cyberspace: A Story from the Early Web. 32:20. YouTube https://www.youtube.com/watch?v=deefSs5QxZ0.
Streeter, Thomas. 2010. The Net Effect: Romanticism, Capitalism, and the Internet. NY

SUSPENSION OF DISBELIEF

Bory, Paolo. 2020. The Internet Myth: From the Internet Imaginary to Network Ideologies. University of Westminster Press.
Coleridge, Samuel Taylor. 2014. Biographia Literaria by Samuel Taylor Coleridge. Edited by Adam Roberts. Edinburgh University Press.
Crawford, Kate. 2021. The Atlas of AI. In The Atlas of AI. Yale University Press.
Sandvig, Christian. 2013. "The Internet as Infrastructure." In The Oxford Handbook of Internet Studies, edited by William H. Dutton, vol. 1. Oxford University Press.

HYPE HISTORIES

Eco, Umberto. 1994. Apocalypse Postponed. Indiana University Press.
Turner, Fred. 2006. "How Digital Technology Found Utopian Ideology: Lessons From the First Hackers' Conference." In Critical Cyberculture Studies: Current Terrains, Future Directions, edited by David Silver and Adrienne Massanari. New York University Press.
Celis Bueno, Claudio, Steve Jankowski, and Jakko Kemper. 2025. "The Enduring Schism Between Culture and Technique: Historical (Dis)continuities Between the Daguerreotype and Generative AI." Convergence.

FAILURE

Abbate, Janet. 2017. "What and Where is the Internet? (Re)defining Internet histories." Internet Histories 1(1–2): 8–14.
Driscoll, Kevin and Camille Paloque-Berges. 2017. "Searching for missing 'net histories.'" Internet Histories 1(1–2): 47–59.
Gooday, Graeme. 1998. "Re-writing the 'Book of Blots': Critical Reflections on Histories of Technological 'Failure'." History and Technology 14(4): 265–291.
Magaudda, Paolo and Gabriele Balbi. 2024. "Theorizing Failure in Digital Media. Four Eclectic Theses." Annals of the International Communication Association 48(3): 205–218.
Medina, Eden. 2014. Cybernetic Revolutionaries: Technology and Politics in Allende's Chile. MIT Press.
Peters, Benjamin. 2016. How Not to Network a Nation: The Uneasy History of the Soviet Internet. The MIT Press.

Stevenson, Michael and Anne Helmond. 2020. "Legacy Systems: Internet Histories of the Abandoned, Discontinued and Forgotten." Internet Histories 4(1): 1–5.

RECOMMENDED READINGS

SCALE

Barlow, John Perry. February 8 1996. "A Declaration of the Independence of Cyberspace." Electronic Frontier Foundation.
DiCaglio, Joshua. 2021. Scale Theory. University of Minnesota Press.
Herod, Andrew. 2011. Scale. Routledge.
Horton, Zachary. 2020. The Cosmic Zoom. University of Chicago Press.
Wertheim, Margaret. 1999. The Pearly Gates of Cyberspace. W.W. Norton.
Farrell, Maria, and Robin Berjon. April 16 2024. "We Need To Rewild The Internet." Noema.

FUTURING

Bourne, Clea. 2024. "AI Hype, Promotional Culture, and Affective Capitalism." AI & Ethics 4(3): 757-769.
Ernst, Christoph and Jens Schröter. 2021. Media Futures: Theory and Aesthetics. Springer Nature.
Hajer, Maarten A. and Jeroen Oomen. 2025. Captured Futures: Rethinking the Drama of Environmental Politics. Oxford University Press.
Haupt, Joachim. 202. "Facebook Futures: Mark Zuckerberg's Discursive Construction of a Better World." New Media & Society 23(2): 237-257.
Natale, Simone and Gabriele Balbi. 2014. "Media and the Imaginary in History: The Role of the Fantastic in Different Stages of Media Change." Media History 20(2): 203-218.
Oomen, Jeroen, Jesse Hoffman and Maarten A. Hajer. 2022. "Techniques of Futuring: On How Imagined Futures become Socially Performative." European Journal of Social Theory 25(2): 252-270.
Polak, Fred. (1973). The Image of the Future. Translated by Elise Boulding. Elsevier.
Riemens, Rianne. 2024. "Fixing the Earth: Whole-Systems thinking in Silicon Valley's Environmental Ideology." Internet Histories 8(4): 294-311.

The internet has never been just a piece of technology, unified in its material form. Rather, it is a story we have learned to tell ourselves, organized by metaphors, futuristic prefixes like 'cyber', and a suspension of disbelief about its own material limitations. The internet is the product of a collective process of imagination. But how does one study something so ephemeral as imagination?

Imagining the Internet(s): A Collaborative Glossary brings together 28 words to think about the internet as an imagined object: affordances and infrastructural ideologies, net scepticism and romanticism, vernacular metaphors and algorithmic folklore, and many others. Each entry is a keyword, be it a well-known or a new one, defined and interpreted by the scholar who uses it. The collection sits at the intersection of Media Studies, Internet History and STS, and is rooted in the "Matter of Imagination" working group. Written in an engaging and accessible manner, the glossary is designed for teaching, research, and artistic practice, aimed at anyone curious about the imaginative aspects of internet history.

Contributing authors: Abe Hendriks, Steve Jankowski, P. Arun, Karolin Rippich, Maxigas, Niels ten Oever, Anne Helmond, Paolo Bory, Joe Litobarski, Susan Aasman, Phakin Nimmannorawong, Kieran Hegarty, Firuza Huseynova, Dario Rodighiero, Caddie Alford, Sally Wyatt, Femke van Bruggen, Arran Ridley, Gabriele de Seta, Marianne Gunderson, Hanna Lauvli, Debarun Sarkar, Yagmur Vik, Lucy Maun, Rianne Riemens, Rowan Melling, Michael Stevenson, Dave Mee, Claudio Celis Bueno, Jesper Verhoef, Dmitry Muravyov, Magdalena Krystoforska, Danny Steur, Jeroen Oomen.

INC network notion #7

Imagining the Internet(s):
A Collaborative Glossary

Editors: Nathalie Fridzema, Anya Shchetvina
Design: Alex Walker
Production: Tommaso Campagna

Published by the Insitute of Network Cultures,
Amsterdam 2026
ISBN: 9789083672168

Institute of Network Cultures
Amsterdam University of Applied Sciences
Email: info@networkcultures.org
Web: www.networkcultures.org

Download this publication for free at:
www.networkcultures.org/publications

Subscribe to the INC newsletter:
www.networkcultures.org/newsletter

This publication is licensed under the Creative Commons Attribution NonCommercial ShareAlike 4.0 Unported (CC BY-NC-SA 4.0).
To view a copy of this license, visit
www.creativecommons.org/licences/by-nc-sa/4.0.

Amsterdam University
of Applied Sciences