

EXPERIMENTAL DEMOCRACY FOR THE DIGITAL AGE

RAHEL SÜß



What is the future of democracy in the digital age? While digital technologies increasingly present challenges to democratic societies, some remain optimistic that new digital tools can help advance democracy. The central question is how can we ensure a future that is truly democratic? My proposed model of “experimental democracy” presents a new vision of democracy for the digital age. The idea is simple: the democratization of new digital technologies must go hand in hand with the democratization of society. The goal of experimental democracy is to open the future for everyone by shifting power, building sustainable communities, and promoting a political culture centered around democratic experimentation.

Today, we are living in the age of predictions. While predictive technologies are woven into the fabric of our daily lives, they increasingly threaten democratic societies. These technologies are commonly viewed as effective tools to solve various social problems. Yet, in their promise to control uncertainty and anticipate the future, they pave the way for pre-emptive strategies everywhere. Operating within such a predictability paradigm overlooks the essential fact that uncertainty is a condition of democracy. According to legal scholar Christoph Möllers (2020, p. 93, translated by the author), freedom comes to an end at the precise moment of achieving the “perfection of prevention.”

More recently, predictive technologies have seen wider adoption. Judges use AI systems to advise on sentencing, and police forces employ them to predict future crimes. AI technologies are also applied in algorithmic welfare distribution systems to determine eligibility for financial support and anticipate instances of benefit fraud. Simultaneously, predictive models play a crucial role in data-driven smart city initiatives, such as the digital twin city strategy. Digital twin cities are virtual replicas of physical cities that can simulate different scenarios and test the impact of political measures, such as optimizing energy efficiency or traffic flows. Predictive technologies can also be found in generative AI systems like ChatGPT and other large language models (LLMs) that use reinforcement learning with human feedback to predict the next words in a sentence.

How dangerous are predictive technologies for democracy? Insofar as the algorithmic search for certainty and pre-emptive strategies dominate, they also raise several democratic concerns. These concerns range from closing off an open future to election fraud and beyond.

Democratic concerns include the spread of deepfakes and disinformation, as well as a tension between increasingly data-driven decision-making and democratic self-determination. Today, there are massive concerns that new digital technology will reinforce existing inequalities and enable new forms of surveillance and control. These concerns also address Silicon Valley's top-down fantasies and the increasing dependence of critical infrastructures in democratic societies on private sector players. At the same time, we face a strong centralization of power, demonstrated by monopolization tendencies from companies like Google, Microsoft, and Amazon.

Growing technocratic views pose another risk to democracy, characterized by the idea of finding a technical solution — an algorithm — for every social and political problem. While AI technologies increasingly inform political decisions, it is often unclear how these models make their predictions due to a lack of transparency in their functioning and training data. When AI technologies are used to inform decisions, there are no individuals to hold accountable. Moreover, the democratic problem extends to the data dependence of AI technologies. Concerns arise about the quality and availability of training data, given that AI systems can

adopt and reproduce biases in the training data and that these systems are inherently unreliable. Given that these new technologies contribute to increased complexity, hidden risks, and social inequalities (Eubanks, 2018), the open question remains: How can we unlock the power of digital tools to strengthen democracy?

Digital democracy is often discussed as a form of *open government*. During the Obama administration, the “Transparency and Open Government” memorandum outlined guiding principles to promote transparency and collaboration between the government and its citizens (White House, 2009). Open government initiatives aim to create a more accountable, transparent, and responsive government by using new digital technologies to make government data easily accessible to the public. It is an approach to governance that aims to increase public trust in governments by creating long-term feedback loops between citizens and governments.

Digital democracy is also discussed within the context of new *experiments in participatory democracy*. The goal is to develop innovative institutional designs that foster a more participatory democratic society. An increasing number of municipalities have already used online civic engagement systems that empower citizens to influence the political agenda, suggest and prioritize reforms and legislation, and allocate municipal budgets (for an overview, see Simon et al., 2017). These participatory experiments are particularly notable for broadening our understanding of democracy beyond ideas of representative democracy. As political theorist Hélène Landemore (2021, p. 71) demonstrates, the use of digital tools allows us to move beyond a limited understanding of democratic power as mere “consent to power and delegation of power to elected elites.”

Landemore's envisioned alternative (2020, 2021) is a form of non-elected democratic representation. Her work is influenced by a large-scale assembly experiment in France in which randomly selected citizens developed recommendations for climate and environmental policies. Landemore proposes a new institutional design that she calls an “open mini-public.” This concept refers to a periodically renewed citizen assembly that consists of a random or stratified sample from the entire population (2021, p. 76). Digital tools play two important roles in advancing non-elected forms of democratic representation: enabling collaborative problem-solving

by harnessing the collective intelligence of a large group of people and strengthening civic competence while supporting the development of new democratic cultures (ibid., pp. 77–78). Landemore also proposes the concept of a “citizenbook” as a fundamental digital infrastructure for democratic societies (ibid., p. 81). She argues that all citizens should automatically become registered members of this online platform at birth, which would then facilitate their participation in discussions and decisions. To boost engagement on these platforms, she also suggests the use of virtual chat rooms, avatars, and gamification methods (ibid., p. 73; 82).

Although there is much to recommend regarding the potential achievements of open government and participatory democracy experiments, they also give rise to various concerns. Some critics argue that citizen participation is often limited to top-down consultation exercises and mostly engages those “who are already politically active” (Simon et al., 2017, p. 83). Additional concerns include efficiency and ecological sustainability as well as a “digital divide” since “a lack of access to the internet or a lack of digital skills can be a barrier” to democratic participation (ibid., p. 88). Ultimately, it is important to note that “[d]igital technologies alone won’t solve the challenges of apathy, disillusionment, low levels of trust and the widening chasm between the people and the political class” (ibid., p. 95).

To be clear, the idea that digital tools can facilitate large-scale deliberation and enhance democratic legitimacy is important, but it is not sufficient. In a context where political influence and life chances are increasingly unequal, participatory online platforms and randomly selected assemblies of citizens fall short as means of democratization. While formally including all voices in a deliberative process is an important step, it does not guarantee equal freedom, as it overlooks the structural bias in debates that favor wealthy and well-connected elites. Part of the problem is that we often understand social conflicts as conflicts of opinion rather than conflicts over resources and power. By doing so, we lose sight of the ability of political and economic elites to organize the common interest for their own benefit. This raises the question of how to boost engagement, ensure equal representation in these processes, and ensure that digital democracy can empower all citizens.

How can we use technology to enable the greatest possible participation as well as citizens' self-determination? If we understand the digital threat to democracy as originating from a predictability paradigm that risks closing off an open future, we must ask: How can a new vision of digital democracy ensure that the future remains open for everyone? I propose that experimental democracy is the way forward. Within the proposed framework, experimentation can define a future-opening practice, and political action is about experimenting. It is the freedom to experiment that characterizes a lively democracy in the digital age.

This vision of an experimental and future-opening democracy builds on radical democratic thought and pragmatist democratic experimentalism. It considers the empowering aspects of digital democracy in addition to concerns over transparency, accountability, and participation. This vision upholds values of openness and plurality while also recognizing the importance of conflict in democracy.

An experimental and future-opening democracy promotes a more radical view of democracy as a way of life. It builds on the work of the philosopher John Dewey, for whom democracy is more than just a political system or a form of government. For Dewey (1951), democracy also describes "a way of life". Political power is manifested not only in fair procedures that guarantee a minimum level of inclusion and equal influence in political decisions, but also in everyday practices, identities, relationships, and interests (Klein, 2022, pp. 31–32). Dewey's understanding of "democracy as a way of life" focuses on everyday lived experiences and the idea that citizens should have control over decisions that affect their lives.

History teaches us that democracy is not complete or static; rather, it is problematic as it has often resulted in violence and oppression. As Achille Mbembe reminds us, the history of democracy is also a history of violence and slavery (Mbembe, 2019, pp. 16–17). Today, we see continuities of historical forms of exploitation, often discussed as "digital colonialism" in the context of, for example, data labelling jobs in countries in the Global South. Empowering democracy for the digital age, therefore, must ensure that the future remains *open* for everyone.

Insofar as experimental democracy views the task of democratic societies as opening the future by negotiating alternatives, the role of conflicts becomes crucial. The key idea here is that alternative digital and democratic futures only emerge through social and political conflicts. However, it is important to understand conflicts not only as open disputes of opinion but also as conflicts over resources and power. To ensure that everyone can shape the future, we must acknowledge the historical and structurally maintained power dynamics embedded in socio-technical systems as explicated in the "Decolonizing Digital Rights" framework (Digital Freedom Fund, 2023). This framework reflects "on the way in which uneven power dynamics, exclusion, and privilege [...] shape the way in which digital rights are conceived and how they are protected" (ibid.).

Instead of viewing digital technologies as neutral tools independent of their social and political context, we need a more nuanced understanding of the interplay between technology, society, and politics. We need to ask: How are new digital technologies embedded in our society, and how do they maintain power structures? We must also explore how political decisions and economic factors have weakened communities and paved the way for new technologies to thrive. Technology affects society, and society affects our understanding, usage, and deployment of technology. This interaction can be seen, for example, through the interplay of economic incentives, political regulation, and social practices. Engaging in conflict and making conflicts visible — such as those in the supply chain (e.g., mining of precious metals, human rights violations, environmental destruction) — involves asking critical questions: Who bears the costs of digitization? How is AI developed, used, and by whom? Who benefits?

The vision of an experimental and future-opening democracy emphasizes that democracy requires not just equal opportunities for participation and influence in political decisions but also "organized collective power" (Klein, 2022, p. 27). Two ideas are particularly relevant here. Firstly, we must understand democratic institutions not only as "fair procedures for resolving disagreements", but also as mechanisms for the "organization of power in society" (ibid., p. 26; 27). Secondly, it follows from this insight that "democratic institutions [must] organize the collective power of the generally disorganized majority" (ibid., p. 39). How can experimental

democracy organize collective power? Experimentation, as a practice that engages in conflict and is future-opening, can help organize collective power by opening new political imaginaries and building power.

We must ensure that technology serves democracy, the public interest, and community building. To achieve this, we need to regulate technologies and digital infrastructures in the public interest and transform data into a public good that citizens can effectively control. Community-led research, such as technology-enabled citizen science, is also a key strategy for scaling power. For example, the government in Barcelona developed a pilot program that used citizen-placed sensors to gather data on social and environmental issues, such as pollution. Based on this data, political measures to tackle the problems have been developed in a collective and participatory process.

Opening up the future for everyone also requires experimenting with power-shifting structures, such as the Workers' Algorithm Observatory (WAO). Kevin Zawacki (2023) explains that the goal of the WAO is to empower workers, including those doing gig work on Uber and other platforms, to study the black box platform algorithms. As he specifies, WAO facilitates worker-led audits where allies with specific technical skill and abilities help crowdsource and analyze data on pay, schedule, ratings, and other complex and opaque algorithmic management systems (ibid.). The WAO also serves two other empowering functions: it enables gig workers to organize for better working conditions, which allows them to rally one another and their allies to change or enforce laws and policies for their rights and protections in the platform economy (ibid.).

For an experimental and future-opening democracy to be successful, democratic practices and processes must be organized around the principle of *plurality*. Focusing on community experiences is central, as is including different stakeholders in the development of standards and rules that govern digital systems. Given that these systems shape the future of democratic societies, democratic control over them is crucial, including participating in the development of digital technologies and in decisions that influence hardware and software. Other measures include establishing decentralized structures of shared power, ensuring that citizens, workers, and communities understand the technologies that impact their daily

lives, and supporting the exchange of technological skills. Ultimately, we need an ecosystem of democratic alternatives: from new ownership structures to participatory online platforms and design principles that serve communities and the environment.

When we speak of a democracy that opens up the future, it requires us to embrace *radical uncertainty* as a fundamental condition of democracy. Uncertainty is crucial because democracy demands a commitment not only to civil rights and inclusivity, but also to participatory problem-solving. The future of democracy also depends on ongoing experimentation with new political ideas and alternative practices and institutions to address today's urgent social and political challenges. A democratic culture of experimentation thrives on engaging in conflicts, acknowledging the importance of collective organizing, embracing the courage to change, and fostering a culture of failure and learning through experimentation. We need to think again in terms of social alternatives and pre-enact alternative futures. We must also create environments where individuals and social groups can experience how they can initiate change themselves. In this spirit, the future of democracy must inherently be experimental.

How does an experimental and future-opening democracy work in practice? An experimental governance model operates in three ways: by implementing a democratic experimental clause, by prototyping digital futures, and by open-sourcing democratic processes.

An experimental governance model supports, firstly, the integration of a *democratic experimental clause* into democratic procedures. The goal is to test democratic innovations and digital technologies for the public interest. As a legal instrument, the experimental clause is part of German law and provides the basis for “regulatory sandboxes” (BMWi, 2020, p. 6; BMWi, 2019, p. 7). Experimental clauses serve as a tool to test innovations, such as e-government, that cannot otherwise be tested due to existing restrictive regulations (BMWi, 2020, p. 3; 8). Crucially, an experimental governance model uses an experimental clause not only as the legal basis for regulatory sandboxes but also as a driver for democratic change. As such, it provides opportunities for developing legal, governance, and technical blueprints to strengthen new democratic politics and cultures of democratic experimentation.

This brings us to the second feature of an experimental governance model: prototyping alternative democratic and digital futures. One example of a prototype is the data governance experiment in Berlin, which aims to establish structures for data-sharing between the economy and the city of Berlin (Bielawa, 2023). Another example is The New Hanse, a data experiment by THE NEW INSTITUTE and the City of Hamburg, with the goal of developing legal, technical, and governance blueprints for data commons (The New Institute, 2023). The smart city initiative *Gemeinsam Digital: Berlin* provides another fascinating example for prototyping digital futures. It has developed an inclusive and participatory strategy and “a continuous learning process” for creating, testing, and developing prototypes that empower people to shape the future of the city (*Gemeinsam Digital Berlin*, 2023).

A third feature of an experimental governance model is to *open-source democratic processes*. This strategy acknowledges that the problem often lies not in open-sourcing the code but in open-sourcing the process itself. This can be achieved by establishing online libraries of successful experimental prototypes. These archives are important for effectively scaling technical, legal, and governance blueprints.

Finally, we must ask how we have succeeded in the past. The answer to this question certainly does not lie solely in technological innovations, citizens' assemblies, or discursive power. Instead, history teaches us that political movements have played a vital role in driving democratic change. To ensure a future that is truly democratic, we also need a better understanding of how pressing political issues, such as climate change, global inequalities, and new forms of oppression, are intertwined with the use of new digital technologies. Ultimately, to successfully revitalize democracy and address today's pressing challenges, democratizing AI technologies (development, access, usage, etc.) must go hand in hand with democratizing democratic societies.

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