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Civic Participation in the Datafied Society

Introduction

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As data collection and analysis are increasingly deployed for a variety of both commercial and public services, state–citizen relations are becoming infused by algorithmic and automated decision making. Yet as citizens, we have few possibilities to understand and intervene into the roll-out of data systems, and to participate in policy and decision making about uses of data and artificial intelligence (AI). This introductory article unpacks the nexus of datafication and participation, reviews some of the editors' own research on this subject, and provides an overview of the contents of the Special Section "Civic Participation in the Datafied Society."

Keywords: datafication, data justice, critical data studies, participation, citizenship

Citizens are increasingly assessed, profiled, categorized, and "scored" according to data assemblages, their future behavior is predicted through data processing, and services are allocated accordingly. Government institutions and public administration capture, track, and analyze human activity to make decisions about public services such as social security, health, and housing, and state interventions

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such as policing and criminal justice. In "datafied societies," state–citizen relations thus become dependent on algorithmic decision making. Yet while people become infinitely knowable, they typically have little understanding or knowledge about how and why this happens and what the implications are for their lives, and they have little ability to interrogate and object to the use of their data. This raises significant challenges for democratic processes, active citizenship, and public participation.

How, then, do we participate as active citizens in a society in which we are constantly assessed according to data analytics that we cannot access or engage with? How do we intervene into algorithmic governance processes and affect the development and management of the very data systems that increasingly organize society? How do we maintain and expand civic participation in a context of rapid technological and social transformation, and how do we develop new democratic processes to ensure participation, transparency, and accountability?

Inspired by these and other questions, over 100 speakers and 1300 registered participants came together online on May 20 and 21, 2021, for the second international data justice conference on the theme of "Civic Participation in the Datafied Society." Organized by the Data Justice Lab at the School of Journalism, Media and Culture (JOMEC) at Cardiff University, the conference gathered scholars, practitioners, and activists who explored the challenges of civic agency in data governance; questions of data literacy, data rights, and data activism; participatory data uses and civic tech initiatives; and a variety of other concerns that have been discussed in the academic fields of critical data studies and data justice. This Special Section of the *International Journal of Communication* brings together several presenters of this conference who investigate different dimensions of the broader theme of civil participation in the datafied society.

Alongside the Data Justice Lab's continuous research into data justice, the conference was informed by a three-year research project titled "Towards Democratic Auditing: Civic Participation in the Scoring Society" funded by the Open Society Foundations. As part of this project, we investigated how citizens can intervene in the development and implementation of data systems and the opportunities and challenges currently facing civic participation (see Hintz et al., 2022). Building on this research, this Special Section explores practices, structures, and constraints of citizen engagement by showcasing a range of significant work presented at the conference within the wider nexus of participation and datafication.

Datafication and Data Justice

The emerging capacities in analyzing "big data" have led to opportunities "to extract new insights or create new forms of value" (Mayer-Schönberger & Cukier, 2013, p. 8). Data analytics have promised a scientific and fact-based method for tackling uncertainty and for improving "proactive" forms of governance, including the delivery of public services and responses to social problems. However, these assumptions have been critically interrogated over the past decade, particularly in the emerging academic field of critical data studies. Investigating "the process of coding the world" (Crawford, Milner, & Gray, 2014), scholars have criticized the "carefully crafted fictions" (Kitchin, 2017, p. 17) of data as benign, neutral, and objective and that reflects "the world as it is" (Kitchin & Lauriault, 2018, p. 5) and have highlighted that data is always constructed based on the goals, interests, and cultures of institutions and individuals. Data often has been used by those with authority to consolidate power in ways that serve discriminatory systems or agendas

(Benjamin, 2019; Eubanks, 2017; Gandy, 1993). Data can thus be generative and performative (Kitchin, 2014), and shape reality by focusing on specific objects, methods of knowing, and understandings of social life (boyd & Crawford, 2012; Cheney-Lippold, 2017). Rather than representing society, data may construct it—as Kitchin (2017) notes, data "are engines not cameras" (p. 25).

Further, critics have exposed the risks and implications of increased monitoring and surveillance of populations through data (van Dijck, 2014) and have analyzed a wide range of harms that may be caused by the use of big data—from discrimination to the exclusion from basic necessities that are required for life (Redden, 2022). They have raised concerns regarding preemptive forms of governance that challenge practices and understandings of the democratic process (Andrejevic, 2017) and focus on managing the consequences, rather than seeking to understand underlying causes, of social ills (Lyon, 2015). The practice of "citizen scoring" (Dencik, Redden, Hintz, & Warne, 2019) through the use of scoring systems and other forms of data analytics in the public sector has particularly highlighted these concerns.

Data justice has become a prominent lens within this growing research agenda, as it focuses on the intersection of datafication and social justice. Explorations into data justice investigate how datafication affects broader social justice concerns—such as social welfare, civic rights, equality, and environmental justice—and how, in turn, social, political, and economic developments impact datafication (Dencik, Hintz, Redden, & Treré, 2022). They foreground the importance of "historical contexts, social structures and dominant agendas" (Dencik & Sanchez-Monedero, 2022, p. 3) and "suggest a need to position data in a way that engages more explicitly with questions of power, politics, inclusion and interests, as well as established notions of ethics, autonomy, trust, accountability, governance and citizenship" (Dencik et al., 2019, p. 874). Analyses applying a data justice framework have reflected on "the way people are made visible, represented and treated as a result of their production of digital data" (Taylor, 2017, p. 1), explored a broad range of data harms and global data inequalities (Redden, Brand, & Terzieva, 2020; Treré, 2022), and enquired about citizens' roles in the deployment and management of data systems, and thus the state of democracy in an increasingly datafied world (Hintz, Dencik, & Wahl-Jorgensen, 2019).

Participation

The concept of participation lies at the core of the democratic principle, as well as its recent challenges. Yet in its different iterations, from grassroots movements to institutional forms, it has come to mean different things to different people. As Carpentier (2016) notes, there is "hardly a consensus on how participation should be theorised [and] researched" (p. 70). While a narrow (political) notion focuses on "the equalization of power inequalities in particular decision-making processes" (Carpentier, 2016, p. 72), a wider (sociological) definition may encompass partaking in a broader set of social processes and societal exchanges. Pateman (1970) highlights the importance of power and influence in assessing different forms of participation. A seat at the table of decision-making processes without actual decision-making power would thus be "pseudo participation"; the ability to influence a decision would amount to "partial participation," while "full participation" would consist of "a process where each individual member of a decision-making body has equal power to determine the outcome of decisions" (Pateman, 1970, pp. 68–71). Arnstein's (1969) "ladder of citizen participation" has been influential in operationalizing these distinctions through a typology of eight rungs—from "manipulation" to "citizen control."

What these scholars have in common is that they invite us to investigate the social, political, and economic context of participation and draw attention to the role of both actors and institutions. They situate participation in considerations of political and economic power and in examinations of different knowledges, interests, and stakes (Carpentier, 2016). This perspective points us to the centrality of political and institutional structures and to the broader goals and motivations of engaging the public: Does this engagement involve an actual transfer of power? What is the shape and degree of influence that is conveyed to citizens and communities? Or is participation closely limited and thus to be understood as a management or public relations tactic—"participation washing"—rather than the delegation of power?

The nexus of participation and technology has been approached from two different directions. One is concerned with the use of digital technologies to facilitate participation, the other with public participation in decision making on the use of technology. In the area of the former, we can consider discussions on the democratic potential of social media (Christensen, 2011; Morozov, 2012) and digital participation platforms (Aragón et al., 2017; Peña-López, 2019; Ramos, Sweeney, Peach, & Smith, 2019). Some have reflected on how big data could be used by citizen participation initiatives (Bright & Margetts, 2016) and on the potential impacts of artificial intelligence for political participation (Savaget, Chiarini, & Evans, 2018), while research on data activism has explored the use of data by social movements and civil society (Milan, 2017). Participation in decision making on the use of data technologies has received less scholarly attention but is becoming an increasingly pressing issue. This is reflected in activities of policy institutions, such as the UK Royal Society for Arts, Manufacture and Commerce, which has highlighted the need to involve the public in decisions around automated decision-making systems (Royal Society of the Arts, 2019), while the civil society organization Involve states that "the public needs to have the opportunity to contribute to discussions about the appropriate uses of data" (Adams & Burall, 2019, p. 3). Citizens participating in engagement initiatives, according to Patel and Peppin (2020), have highlighted that "people want to and have the right to engage with and shape decisions about technologies that have huge social impact" (para. 23).

Understanding the technological systems that profile and categorize us is the first step toward such engagement. Research on auditing algorithms (O'Neil, 2016; Reisman, Schultz, & Crawford, 2018) has aimed at unwrapping the "black box" (Pasquale, 2016) of data systems and addressing the obscurity of their functions, and computational scholars have explored the reverse engineering of algorithms as a strategy to improve their transparency (Diakopoulos, 2014). Algorithmic accountability has emerged as a field of research that seeks to understand how bias and inequality are coded into algorithms and how to achieve just forms of algorithmic decision making (Wieringa, 2020). Explainable artificial intelligence may enable human comprehension of how automated decision-making systems reach decisions, and thereby render them more trustworthy and contestable (Barocas, Selbst, & Raghavan, 2020; Mittelstadt, Russell, & Wachter, 2019; Wachter, Mittelstadt, & Russell, 2018). However, the focus on technical expertise inherent in this approach poses limits to its value as a broader strategy of participation. A growing range of scholars have critiqued technical solutions as data harms emerge as "a product of societal inequity rather than as solely a result of inaccurate performance by models" (Katell et al., 2020, p. 46) and have highlighted the significance of social context and structures in relation to automated decision making (e.g., Green, 2020).

Institutional responses to data governance may advance participation in how data is managed and used. The idea of data trusts and other forms of data stewardship is to mediate the relation between the

individual data subject and powerful actors collecting and processing data. Operating on behalf of data subjects, they assign citizens a voice in how data about them is treated (O'Hara, 2019). Data cooperatives expand this principle by allowing for democratic decision making and an immediate connection with the collective interests of members (Ada Lovelace Institute, 2021). Models of data stewardship thus offer an important building block in advancing civic participation in the datafied society, yet they, too, have limitations in addressing broader public debate on, and engagement with, datafication. If data systems affect the core processes of society, they require a response that is political, societal, and democratic.

We may ask, then, about the role of established and formalized forms of democratic participation—elections—in contemporary systems of representative democracy. While these remain important, they have faced challenges in appropriately addressing the implications of technological development, and mechanisms of majority rule have limitations in tackling the unequal effects of datafication on different parts of the population. More broadly, popular dissatisfaction has consistently grown regarding core institutions of the democratic state and their ability to achieve social justice, economic well-being, and meaningful participation (Fung & Wright, 2001; Patriquin, 2020). There is thus growing interest in enhancing the participatory and deliberative qualities of democracy outside narrow democratic procedures (Cox, 2020). Calls for democratic innovation have highlighted the need to "increase and deepen citizen participation in the political decision-making process" (Smith, 2009, p. 5) and to "take us beyond traditional modes of institutionalised engagement" (p. 6).

Towards Democratic Auditing

In our own work, we have built on an understanding of participation that considers the role of actors and institutions in the context of political and social power, a concern with the societal dimension of democracy, and the need for public involvement in decision making about the deployment of data systems. Our investigation as part of the three-year project "Towards Democratic Auditing" stretched across six distinct areas and explored their specific roles in advancing civic participation and intervention:

- Institutional dynamics: What spaces does (local) government offer for consultations, feedback, and critique, and to what extent does it provide opportunities for meaningful citizen contributions?
- Models of civic engagement: What are the prospects and challenges of citizen assemblies, citizen juries, and other practices of citizen deliberation and participation?
- Oversight and advisory bodies: Do current institutions and mechanisms offer spaces for participatory forms of oversight?
- Civil society strategies: How can organized civil society advance people's voices and concerns with regards to datafication, and what obstacles does it face?
- Alternative imaginaries: What new agendas, concepts, and practices are emerging in support of people-centered data infrastructures?
- Data literacy: How can knowledge about datafication advance people's role in data-related debates?

Based on 64 interviews with representatives of government, oversight institutions, civil society organizations, and developers of technical tools and infrastructures; a comprehensive review of academic literature, reports, and policy documents; and a multistakeholder workshop with experts and practitioners of civic engagement, we explored, mapped, and analyzed pioneering citizen practices and emerging forms of institutional reform (Hintz et al., 2022).

The research on *institutional dynamics* points to a widespread absence of citizen and civil society consultations by UK local authorities regarding the implementation and use of data systems, as well as a predominant view that it is not necessary for the public to be consulted. While some efforts have been made to inform the public, citizen views are rarely incorporated in policy development. Ethics committees and advisory groups often appear to be a missed opportunity to seek public input. Our investigation into *models of civic engagement*, in contrast, mapped an increasing range of citizen juries and similar initiatives on questions of data and AI, with the involvement of major policy advisory institutions strengthening their prominence in public debate as well as policy impact. As deliberative mechanisms, they do not transfer actual decision-making power to citizens, though; the need for larger organizing institutions limits participants' ability to steer the debate (or to question datafication more profoundly); and often the design of the process is biased toward recognizing the value of data. Further, the goal of these "mini-publics" to represent society as a whole requires revision in order to consider the uneven implications of data systems and prioritize the experiences of affected communities and marginalized groups. Some of these models and methods are used by the growing set of *oversight and advisory bodies* in the UK that form a significant infrastructure to uphold accountability in the development and use of data and AI and provide guidance to both government and industry. However, their efforts of involving the public are largely limited to short-term projects or sporadic exercises of gathering public opinion that do not constitute a coherent or systematic civic participation paradigm. While these institutions are often guided by public interest goals, their main focus is not on providing opportunities for direct and participatory public scrutiny into data governance. New forms of community oversight are emerging but rely on grassroots initiatives guided by a more fundamentally participatory approach.

Our research on agendas of civic participation by *civil society* groups, their priorities and their challenges highlights different strategies to protect civic rights, prevent harms from datafication, and enhance citizen voices, including policy advocacy, strategic litigation, research investigations, engagement with oversight bodies, and the creation of data rights tools. Whilst these have advanced citizen rights and interests, they have largely focused on individual rights and responses rather than collective approaches and systemic change, and have been hampered by a fragmented civil society and a separation between technology-focused (e.g., digital rights) and social justice (e.g., welfare or migrants' rights) approaches. Research on *alternative imaginaries* provides further evidence of both promising practices and the challenge of fragmentation. A set of interesting models and norms have emerged in social movement responses to datafication as alternative normative (and practical) frameworks, including the understanding of data as a public good, algorithmic accountability, a focus on citizen participation through participatory governance bodies, and "big data abolition" as an agenda to dismantle power structures that advance unequal forms of datafication. However, there is tension (and contradiction) between those and a lack of a more widely accepted normative foundation. Our investigation into *data literacy*, finally, demonstrated a growing recognition that literacy efforts need to incorporate a broader understanding of data collection and analytics,

as well as of ideologies, political-economic structures, and power relations that underpin datafication. Online tools that provide citizens with practical means to scrutinize data practices and to understand, shape, object, and protest their datafied realities can play an important role. Yet, critical awareness does not necessarily translate into participatory action, and attempts to "scale-up" literacy may not be as successful as approaches that are more contextual and anchored to the everyday realities of the communities they are designed for.

These six dimensions of civic participation offer significant insights into the possibilities and challenges of advancing citizen voices in the governance of data. They constitute puzzle pieces of an emerging mosaic of public involvement in relation to data-driven decision making that includes a variety of relevant avenues. At the very least, they reflect a growing recognition that people have been subjected to far-reaching forms of data analytics, with their lives being significantly affected, but without much understanding, voice, and influence. Our research demonstrates that the inaccessibility of data-related decision making is not grounded in the complexity of the issue, as "normal people" are capable of understanding and deciding on questions of datafication both regarding specific applications and wider societal consequences. We have seen that there is no lack of ideas and concepts to both imagine and construct participatory forms of data governance. And, perhaps most significant, a wide variety of existing practices—from citizen summits to community oversight, and from civil society campaigns to data literacy online tools—are carving out participatory spaces piece by piece and enhancing civic engagement.

These are nascent practices, though, which are often isolated and ad-hoc. There is tension between institutionalized forms of engagement, with potentially greater policy impact but less influence by citizen participants, and bottom-up organizing, which may develop genuine citizen agendas but faces problems of resources and an often hostile political environment. Underlying concepts and normative frames are fractured, and so are practices of intervention. With Pateman (1970), we can observe cases of "partial participation" in which participants, organizations, and initiatives are able to influence decision making; Arnstein's (1969) "tokenism" (power holders allowing citizens "to hear and be heard" but without necessarily implementing their decisions and perspectives); and perhaps "placation"—whereby participants have an advisory role but power holders maintain the right to decide. While the diverse experiences of engagement and intervention remain far from a coherent and systematic democratization of data governance, they point to a dynamic field of experiments and interventions and offer building blocks toward a greater involvement of citizens in decisions about the deployment and use of data systems.

Outline of This Special Section

The contributions in this Special Section of the *International Journal of Communication* explore a wider set of questions at the intersection of data and participation. They investigate the role of citizen voices in decision making about data systems as well as the participatory opportunities of data use; they refer to participatory institutions as well as to the wider social and political debate on participation; and they highlight experiences from different parts of the world. They share a foundation, though, in a concern for social justice in the context of datafication and are embedded in the growing research agenda of data justice.

Bringing together different dimensions of the intersection of participation and the digital, Rikki Dean offers a conceptual overview that unpacks and categorizes scenarios of participation in a datafied world. His article "Participatory Governance in the Digital Age: From Input to Oversight" surveys the interaction of four digital technologies with four modes of public participation: knowledge transfer, collective decision making and action, choice and voice, and judgment and oversight. It enquires how different modes of participation are shaping the adoption of digital technologies and how digital technologies can amplify, challenge, or reshape modes of participation. The comparative approach enables a nuanced account of the ambivalent mixture of potentials and risks that sensing technology, data analytics, governance platforms, and social media represent for each participation mode. Dean argues that digitalization recalibrates the composition of participatory activity, shifting emphasis from inputting expertise and preferences before a decision to oversight and judgment of decisions and implementation.

Katherine Reilly and Esteban Morales explore grassroots- and civil society–based practices of self-organized auditing as forms of intervention into, and shaping of, the governance of data. In their article "Citizen Data Audits in the Contemporary Sensorium," they review the viability of auditing methods to offer individuals and communities practical possibilities to analyze, reflect on, and evaluate their engagement with datafied and algorithmic societies. Moreover, the authors apply the case of auditing to unpack cultural and economic participation patterns that result from datafication. Building on Jesús Martín-Barbero's theorization of the contemporary sensorium to foreground citizens' situated, affective responses to datafication, they demonstrate how responses to data power are historically situated and contextually bound.

Paola Pierri and Elizabeth Calderón Lüning explore the intersection of sovereignty, locality, rights, and participation in their contribution. Their article "A Democratic Approach to Digital Rights: Comparing Perspectives on Digital Sovereignty on the City Level" draws on two cases to reflect on the impact of different ways of practicing civic engagement in urban digitalization policy. Through this, the authors explore the importance of cities in the promotion of digital rights, public participation in digital policy making, and the literacy needs in enabling democratic conversations on digital transformation. They investigate what modes of governance should be implemented for improving digital sovereignty and what role locally grounded politics may have. Theoretically, the article frames these issues within the literature on "digital sovereignty," understood as going beyond national territory toward questions of independence, democratic control, and autonomy over digital infrastructures, technologies, and content.

Elinor Carmi and Simeon Yates make the case for considering data literacies and capabilities as an integral part of both data justice and civic participation in data governance. In their contribution, "Data Citizenship: Data Literacies to Challenge Power Imbalance Between Society and 'Big Tech,'" they review focus group data collected as part of a three-year empirical research project. They find that citizens remain unaware of key aspects of the digital ecosystem, which exacerbate the power imbalance between big technology (data processors) companies and citizens (data subjects). While citizens feel concerned about the way this ecosystem is operating, they do not have confidence in their abilities to address this shortcoming. The authors find that "networks of literacy" among friends, colleagues, and trusted organizations are crucial for citizens' capabilities. These networks influence citizens' ability to convert their available means into capabilities to support civic engagement and their communities.

Practical engagement with data production can be a crucial dimension of participation and intervention. In their article "Another Infrastructure Is Possible: Grassroots Citizen Sensing and Environmental Data Justice in Colombia," Carlos Barreneche and Andres Lombana-Bermudez consider air quality–sensing infrastructures as objects of public deliberation and contestation. Key obstacles to accessing environmental justice in Latin America, they argue, include a lack of evidence in the form of environmental data, and distrust in public data as well as the institutions that manage them. The authors thus follow a grassroots citizen sensing project in Colombia to analyze how, through building alternative community infrastructures and bringing together citizen science and proactive activism repertoires, activists may instigate public discussion on environmental governance and influence change in air quality standards. The case shows the potential of mobilizing citizen-generated data for advancing environmental data justice in contexts characterized by deep structural inequalities, "data corruption," and precarious infrastructure.

Finally, Natalie Fenton's article "Understanding Civic Participation and Realizing Data Justice" points us toward a way forward that showcases the fruitful connection between civic participation and data justice that underpins this Special Section. Fenton claims that, to understand civic participation in the datafied society and the possibilities for social change, we must foreground social and political injustices and consider how citizens are frozen out of society and democratic processes in general. She argues for a decentering of technology in our analyses and instead focuses on the structural imbrication of injustices in a broader social, political, and economic context. Tracing how British civil society has lost influence in democratic processes and how dissenting voices have been disciplined, the article urges us to take a holistic and structural approach to data injustices situated in conditions of oppression and domination. Ultimately, Fenton critiques technical and regulatory fixes that merely tweak and tame data harms, arguing that only a newly imagined democratic political economy beyond capitalism can lead to a more just form of datafication and more profound participation.

Together, these articles explore multiple facets of the data-participation nexus. They highlight the diversity of possible responses to the obscurity and democratic challenge of datafication and the various ways in which individuals, communities, and institutions have intervened. Hence, they demonstrate multiple approaches to rethink the question of participation since how we are seen, treated, and governed is increasingly bound up with the collection and use of data. As our own work has also illustrated, this question remains crucial for engaging with the societal implications of datafication, and, together, this Special Section allows us to advance our understanding of how civic participation is changing in a datafied society.

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