Data Activism and Democratic Futures under Mechanised Citizenship

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Abstract: How is citizenship being reconfigured in datafied societies and what this means for understandings of digital citizenship? This chapter introduces the concept of mechanised citizenship to describe how rights, recognition, and participation are increasingly mediated by automated, data-driven systems. In this context, conventional notions of digital citizenship as participation and self-expression in digital environments appear insufficient. The chapter conceptualises data activism as a situated and critical form of digital citizenship, centred on engagement with data infrastructures themselves. It shows how data activism operates along two key functions: revitalisation, by restoring democratic values such as accountability and participation, and re-imagination, by generating new practices and imaginaries of civic agency. By mapping these functions across the administrative, experiential, and normative dimensions of mechanised citizenship, the chapter argues that data activism both extends and redefines digital citizenship, while also highlighting the limits and tensions inherent in data-driven forms of civic engagement.

Keywords: Data Activism; Mechanised Citizenship; Digital Citizenship; Datafication; Democratic Innovation; Civic Agency

In our increasingly data-driven society, data has become a central force in structuring everyday life. The collection, analysis, and application of vast amounts of digital information shape social, economic, and political processes. From geolocation data generated by smartphones to electronic payments, social media activity, and automated identity verification systems, individuals produce constant streams of data that are routinely captured, processed, and reporpused. These data flows are mediated and controlled by a range of actors, including infrastructure providers and data handlers: telecommunications firms, app providers, cloud platforms, and data centers determine the conditions under which data circulates and is monetized. Crucially, data also constitutes the core currency of artificial intelligence (AI) applications: without vast and continuous inputs, machine learning models cannot be trained, optimized, or deployed at scale.

While data is often framed as a neutral resource with the ability of fueling innovation and improving governance, its accumulation and deployment by a small number of powerful actors is deeply political (Kitchin, 2014; Mejias & Couldry, 2019). Data infrastructures and algorithmic systems not only reflect existing societal hierarchies but can also exacerbate inequalities and undermine the transparency essential for democratic decision-making (Dencik et al., 2018; Eubanks, 2018). Moreover, these systems contribute to a broader shift in the relationship between citizens and democratic institutions, including governmental agencies and public administrations, altering how authority is exercised, how accountability is distributed, and how information and political opinions, rights, identity, belonging, and access are mediated (see, e.g., Jungherr, 2023; Kreps & Kriner, 2023).

Amid these challenges, data activism has emerged as a compelling form of civic engagement that challenges the normative assumptions of citizenship in the digital age (Milan, 2017; Gutierrez, 2018). Data activism encompasses a broad spectrum of practices, ranging from exposing algorithmic bias to advocating for more equitable data governance frameworks. Through data activism, citizens assert their political agency over data and data infrastruture (Milan, 2018). They do so by critiquing, subverting, and reconfiguring the uses of data in society, thereby

contributing to revitalize the principles of accountability, justice, and participation that underpin democratic systems. Data activism allows individuals and groups to shift from passive roles of compliance (as passive users) or surveillance (as consumers) to active engagement with the systems and structures that today shape democratic and public life.

This chapter explores data activism as a critical site for the revitalisation of citizenship, while also demonstrating how it contributes to the re-imagination of democratic participation in data-driven societies. It explains how data activism redefines citizens' roles and responsibilities in relation to data, its infrastructures, and its governance—but ultimately also in relation to the institutions of democratic life. It argues that data activism not only resists the detrimental effects of datafication but also contributes to building new imaginaries of what it means to participate in public life in the 21st century. By connecting the micro-practices of activism with broader normative debates on the nature and dynamics of democratic societies in the digital age (e.g., Rouvroy, 2015; Ruppert et al., 2017), the chapter shows how data activism constitute an avenue of democratic innovation, offering both a blueprint for reclaiming democratic agency in data-driven societies and a means of future-proofing democratic participation.

To make these claims, the chapter takes a sociological perspective and draws on empirical findings from a five-year project on data activism (data-activism-net). It proceeds as follows. First, it llustrates how citizenship is evolving in the data-driven society by examining the rise of what I call *mechanised citizenship*—where rights, recognition, and access are increasingly mediated through automated data-driven systems—and identifying the three dimensions most affected by digital transformation. Second, it defines data activism and presents its core features. Third, it explores the potential of data activism as a countervailing force against the erosion of civic agency, highlighing two key functions in relation to citizenship: revitalisation and re-imagination. Finally, the chapter grounds revitalisation and re-imagination in the analysis of mechanised citizenship, reflecting on the normative and institutional challenges posed by data activism. It derives implications for rethinking citizenship in practice, offering insights into how democratic systems might adapt to this evolving landscape.

1. The rise of mechanized citizenship

As interactions between the state and its citizens become increasingly automated (consider, for example, the growing use of chatbots in public service delivery), citizenship itself becames increasingly "mechanized". Mechanized citizenship refers to a procedural yet substantive aspect of the enactment of citizenship: *how* rights and belonging, and even political speech, are processed through technical systems that privilege efficiency, categorization, and automation over human discretion. In line with feminist and critical scholarship (e.g., Mouffe, 1992; Lister, 2007; Isin & Nielsen, 2008), I use citizenship here not in its narrow, exclusionary sense of formal legal status or passport holding, but in its broader meaning as *lived practices of belonging, recognition, and participation*. From this perspective, mechanised citizenship points to how these practices are increasingly mediated and constrained by automated infrastructures.

Put differently, the infrastructure through which citizenship is enacted today (think of automated eligibility checks) is increasingly structured by algorithmic logics, reshap[ing both how people experience citizenship and how states exercise authority. Aaradau and Blanke (2022) describe this as "algorithmic reason", the force that holds together messy and mundane practices of governance. Yeung (2018) similarly identifies a "new system of social ordering", or algorithmic regulation, in which control is exerted "through continual computational generation of knowledge" (507). Because computation is inseparable from software design, this shift entails a distinctive form of design-based governance, where "power [is] exercised ex ante via choice architectures defined through protocols, requiring lower levels of commitment from governing

actors" (Gritsenko & Wood, 2020, p. 1). As a result, the relationship between individuals and the state is increasingly structured, mediated, and enforced through automated, data-driven systems rather than through direct, human, or deliberative processes.

It is important to note, however, that citizenship has always been mediated by bureaucratic procedures (Scott, 1998; Desrosières, 1998) as well as control over information (Braman, 2006). From the paper archives and welfare registers of the 19th and 20th centuries, to the e-government and digital government reforms (Dunleavy et al., 2006) inspired by New Public Management, states have long relied on standardized procedures and administrative infrastructures to regulate rights and entitlements (Porter, 1995; Bowker & Star, 1999).

What distinguishes the current moment is not the existence of bureaucratic mediation and what scholars have described as the state's obsessive control over information (Gandy, 1993; Lyon, 2001), but the unprecedented scale and the deep-seated *automation of procedures*. Where earlier bureaucratic systems involved routinised human discretion, today's algorithmic infrastructures embed authority directly in code and data, processing decisions at speed, with little or no transparency in how decisions are reached, and often without meaningful avenues for appeal. Mechanised citizenship thus continues the rationalising tendencies of bureaucracy, but it does so in ways that are both qualitatively (automated, inscrutable, and increasingly reliant on private digital infrastructures) and quantitatively different (at unprecedented scope, scale, and reach).

These changes are here to stay, and their consequences are becoming more pronounced with the progress of technological innovation and its penetration into the state machinery. They can be mapped onto three layers:

a) The administrative dimension: many rights and entitlements (e.g., access to welfare, healthcare, education, or mobility) are increasingly granted, verified, or denied through digital infrastructures—automated identity verification, biometric databases, scoring systems, or algorithmic eligibility checks.
b) The experiential dimension: everyday interactions with the state are mediated through digital platforms, portals, and apps. Citizenship is less about personal interaction with institutions and more about being able to exibit the "right credentials" in machine-readable form.
c) The normative dimension: the ideals of citizenship, such as participation, equality, and recognition, risk being reduced to whether data entries align with predefined categories, rather than to human judgment, and political negotiation or rationality.

From a citizen perspective, we cannot but note how voice is dimished, and civic agency is reduced to transactional engagements with algorithmic systems, which "flatten" complex democratic relationships into scripted, non-negotiable exchanges.

As others have noted, these developments do not merely signal a technical shift but a political one (Hintz et al., 2018). Power is redistributed between citizens, states, and private actors in ways that may jeopardize democratic practice. By embedding political authority in opaque infrastructures, mechanised citizenship raises pressing questions about accountability, transparency, and the democratic legitimacy of contemporary governance. Against this backdrop, data activism emerges as an alternative set of practices that both disrupt entrenched power asymmetries and to reimagine the terms of citizenship in data-driven societies.

To be sure, the advent of the data-driven society has also introduced new opportunities into the relationship between state and citizens, reshaping the terms of democratic participation. Digital

technologies expand the ways in which citizens engage in public debate and provide feedback to state institutions (Hood & Margetts, 2007; Coleman & Blumler, 2009). For instance, rather than expressing their preferences and values only during scheduled elections, citizens now participate through a variety of instant messaging tools, online consultations, and feedback loops facilitated by digital platforms. Yet, these opportunities are largely shaped by the priorities of the state and the logics of the market, raising questions about how far they genuinely expand civic agency and democratic voice (van Dijck et al., 2018).

In this context, the emergence of data activism represents a significant shift in how individuals and groups engage with data-driven technologies and infrastructures. It explicitely challenges dominant paradigms of datafication and redefines notions of agency and citizenship in the digital age. This section explores the conceptualization, practices, and implications of data activism.

2. Making sense of data activism

Data activism is situated within broader tradition of media activism, that is to say the strategic use of media technologies and media practices by individuals, social movements, and civil society groups to advance political or socio-cultural goals (Downing, 2001; Carroll & Hackett, 2006; Milan, 2013). Like its predecessors, it takes information—in this case, data—and the related practices, technologies, and infrastructures as both a site of struggle and a tool for resistance (Milan, 2017).

To illustrate what is at stake, consider the case of citizen-led air quality monitoring initiatives. In many cities, residents have deployed low-cost sensors to collect data on pollution levels in their neighbourhoods, often in response to the perceived inadequacy or absence of official measurements. These initiatives do more than generate data: they render environmental harm visible, challenge institutional narratives, and support local advocacy for policy change. By producing and mobilising their own data, citizens are able to intervene in public debates, question the categories and thresholds used by authorities, and demand accountability (Schaefer et al., 2020). This example captures key features of data activism: the appropriation of data as both a site of contestation and a resource for action, the creation of alternative infrastructures for knowledge production, and the reconfiguration of civic agency in relation to datafied systems.

We can distinguish between *reactive* and *proactive* forms of data activism. Reactive data activism focuses on resisting harmful data practices "from above", such as mass surveillance or algorithmic bias, while proactive data activism involves creating alternative data infrastructures and advocating for more equitable data governance (Milan & van der Velden, 2016). This dual framework underscores the diverse strategies employed by activists to confront the political and social implications of data.

A second distinction is between *data-as-stakes* and *data-as-repertoire* (Beraldo & Milan, 2019). In the first case, data *itself* becomes the object of contestation, visible, for example, in resistance to biometric identity systems (Madison & Klang, 2019), or to the intrusiveness of algorithmic systems (Kazansky & Milan, 2021). In the second, data functions as a resource to be appropriated, reinterpreted, and mobilized in civic struggles. This is evident in projects such as feminist "data rescue" campaigns (Chenou & Cepeda-Másmela, 2019), or the use of crowdsourced data to "bear witness" to war crime online (Gray, 2019). Taken together, these distinctions highlight both the defensive and generative dimensions of data activism, showing how it resists dominant datafication practices while also experimenting with new forms of civic agency and participation.

Data activism manifests through various tactics, including digital rights advocacy, awareness-raising and literacy initiatives, and the development of alternative technologies such as data analysis software. Activists frequently engage in "counter-data" practices, such as creating open data repositories on feminicide (D'Ignazio, 2024), leveraging data to highlight systemic inequalities such as police violence against racialized individuals (Currie et al., 2016). Initiatives like the Data for Black Lives, a spin-off of the racial justice movement Black Lives Matter, use data to expose racial disparities in areas like policing and healthcare, demonstrating how data can serve as a tool for social justice (Data for Black Lives, n.d.).

As software is acknowledge to be an enabler of activism when complex layers of information are involved, tech-savvy data activists create their own software or database infrastructure to take action. For example, platforms such as Ushahidi for crisis mapping (Gutierrez, 2019), GlobaLeaks for secure whistleblowing (Di Salvo, 2020), or the security-oriented operating system Qubes (Kazansky & Milan, 2021) illustrate how activist-built software can expose injustice, protect rights, and enable civic participation.

From a sociological perspective, the collective identity of data activism is still in formation—and remains largely analytical category, with varying degrees of overlap with how actors self-identify on the ground. Data activism encompasses a wide range of subcultures and practices, including digital rights advocacy and privacy activism (Postigo, 2012), open data and civic hacking communities (Schrock, 2016), "civic tech" initiatives (Wissenbach, 2020), and hacktivist networks such as Anonymous or local hacklabs. These strands diverge in their methods, values, and political orientations, including their attitudes towards data, which range from quasi-positivistic enthusiasm to radical critique. Yet they converge in recognizing data and data infrastructures as central sites of struggle in contemporary societies. Rather than a unified movement, data activism should therefore be understood as a fluid and evolving field of action, marked by heterogeneous actors, tactics, imaginaries, and identities.

In virtue of this diversity, the range of partnerships and alliances established by data activists is particularly broad. It tends to reflect the multiplicity of their orientations and of their focus areas (e.g., enviromental activism or domestic violence), extending across civil society organizations, academic and technical communities, technology experts, journalists and storytellers, and occasionaly even public institutions or industry actors. For instance, open data activists have collaborated with municipalities on transparency initiatives, privacy advocates have worked with investigative journalists to expose surveillance practices, and civic tech groups such as mySociety often partner with local governments to improve public service delivery (Baack, 2018).

Data activism has potentially profound implications for democratic systems. The notion of data justice, as articulated by scholars like Linnet Taylor (2017) and Lina Dencik and colleagues (Dencik et al., 2022), provides a critical lens for situating data activism in relation to democratic values. Data justice highlights the normative dimensions of data practices, advocating for fairness, transparency, and accountability in data practices and governance. Related work by Heeks and Renken (2018), Benjamin (2019), Milan and colleagues (2021) and Masiero (2024), among others, has further expanded this debate into the domains of development, racial justice, and the Majority World. While strands of data activism occasionally embrace more positivist orientations—emphasizing the capacity of data itself—its practices broadly align with the principles of data justice by confronting algorithmic discrimination, privacy violations, and unequal access to data resources.

In an ideal dialogue with this perspective, this chapter argues that data activism contributes to democratic renewal by redefining citizenship around data literacy and meaningful participation,

as well as an emphasis on equity in participation and voice. It challenges traditional, passive understandings of citizenship, replacing compliance with the active contestation of data infrastructures and the co-creation of more equitable data practices and policies. From a data justice perspective, this renewal is not only about expanding participation but also about ensuring that such participation is inclusive and equitable, countering the structural inequalities that datafication often reproduces. The following section explores this claim by mapping how data activism revitalises and re-imagines citizenship in data-driven societies.

3. Challenging mechanised citizenship: The promise of data activism

This section examines two key functions of data activism in relation to citizenship: revitalisation and re-imagination. Revitalisation refers to practices that restore and protect democratic values such as accountability, justice, and participation, which have been weakened by the rise of mechanised citizenship. Re-imagination, by contrast, highlights how data activism generates new imaginaries and practices of belonging, recognition, and civic agency in data-driven societies. Put differerently, revitalisation points to renewal in the present—restoring what mechanisation has eroded—whereas re-imagination projects explicitely into the future, inventing forms of citizenship that do not yet exist.

3.1 Resisting in the present: Data activism as revitalization of citizenship

Revitalizing citizenship means renewing or reactivating democratic values and practices that have been weakened or sidelined by the technological and socio-political transformations brought about by mechanised citizenship. Data activism contributes to this revitalisation not by inventing something radically new, but by restoring vitality to democratic ideals, such as accountability, voice and participation, and making them relevant and effective again in a data-driven context.

Data activism revitalises citizenship in the present in three main ways.

First, data activism spotlights and leverages opportunities for civic engagement created by the growing availability of public data in the public domain. A well-known example is OpenSpending (openspending.org), launched by the non-profit Open Knowledge Foundation. This community-driven project builds on the obligation of public administrations to release information as "open data", enabling anyone to search, visualise, and analyse fiscal data. The platform offers tools (such as OpenSpending Viewer for visualizing data, or OpenSpending DataMine for the experimental analysis of data) to empower non-expert users to investigate data and create stories to support local advocacy on public spending priorities.

Second, data activists proactively create new opportunities for intervention by generating or gathering data to address pressing societal issues. By generating evidence to corroborate normative claims, they help to make manifest an issue in the public opinion. As mentioned above, environmental and urban activists across the globe have built sensors to monitor and expose the impact of air pollution or noise (Berti Suman & van Geenhuizen, 2020; Gabrys, 2022). Meanwhile, in Latin America feminist activists have crowdsourced databases on gender-based violence, helping to make the problem visible to policymakers and the public (D'Ignazio, 2024). These initiatives show how data activism re-opens avenues for participation and collective problem-solving.

Third, data activism partakes in reactivating dormant democratic values that mechanised citizenship has rendered fragile or seemingly futile. By mobilising and weaponizing data and data infrastructures, activists restore practices of accountability and participation that automated governance tends to flatten into mere compliance. For example, data-based advocacy initiatives enable people to influence decision-making and assert their rights

rather than passively navigating opaque digital systems. Such practices push back against the erosion of democratic life, reaffirming that civic participation is still meaningful and impactful.

In this way, data activism resist the erosion of democratic life, pushing back against the ways mechanised, datafied governance reduces citizenship to transactional or machine-readable categories. It protects and revitalises civic agency by reclaiming spaces for citizen voice and discretion in systems increasingly designed to bypass human judgment. In doing so, it reasserts accountability, justice, equity, voice, and participation as core principles guiding the relationship between state and citizens.

In sum, data activism revitalises citizenship by renewing democratic values and practices in the here and now, countering the erosion brought about by mechanised governance and demonstrating that citizenship remains meaningful in a datafied society. Yet, its roles does not end with renewal. Many initiatives move beyond restoration by experimenting with new infrasturcture and meanings of participation. This points to a second function of data activism—the re-imagination of citizenship, which highlights its creative capacity to invent alternative democratic futures.

3.2 Inventing futures: Data activism as re-imagination of citizenship

Renewal is only part of the story. Data activism also projects forward, re-imagining citizenship for the future. Rather than simply restoring what has been lost or sidelined, it actively invents new practices and visions, experimenting with democratic forms that could define citizenship in the 21st century and beyond.

Re-imagining citizenship entails attributing new meanings to its values and practices—meanings that can bridge the gap between people and the state, motivate participation and voice, and counter the disaffection and disengagement that characterize many advanced democracies. In this sense, data activism moves beyond restoring "old" practices of citizenship: it creates new ways of being a citizen, expanding the repertoire of engagement and building new imaginaries of what it means to participate in public life today and in the (near) future.

Data activism contributes to the re-imagination of citizenship in three main ways.

First, it redefines everyday practices of engagement. Through participatory mapping, crowdsourcing data, and feminist data initiatives, data activism reconfigures how people relate to institutions and to each other. Examples include the Humanitarian OpenStreetMap Team (HOT, hotosm.org), where volunteers create crisis maps to support disaster response, and "data rescue" campaigns that archive and preserve climate data under threat of political erasure (Vera et al., 2018). These practices expand the repertoire of citizenship, enabling forms of engagement that are distributed, networked, and often transnational.

Second, it creates alternative infrastructures for civic participation. Activists experiment with grassroots data platforms, civic data commons, and community-driven repositories that enable people, including non-experts, to generate, share, and govern data outside state or corporate frameworks. For example, the *Decidim* platform in Barcelona allows residents to co-create policy proposals and monitor their implementation (Cardullo et al., 2023). Such infrastructures show how citizens can autonomously design systems that embody public values like openness, equity, and solidarity.

Third, it generates new normative imaginaries of citizenship. By articulating data as a resource for collaboration rather than extraction, or by mobilising counter-datasets to contest

dominant narratives, data activists envision citizenship as grounded on first-person engagement, co-creation sustained over time, inclusivity, and justice. Indigenous data sovereignty movements, which advance collective rights to data governance and self-determination, highlight how new imaginaries can reshape both public debate and institutional practice (Walker et al., 2021). These imaginaries point to democratic futures where citizens are not only subjects of governance but active designers of data relations and infrastructures.

Ultimately, re-imagining citizenship through data activism highlights its creative and innovative dimensions. It shows that citizenship in the datafied society is not fixed or predetermined, but an evolving field of experimentation—one in which democratic futures are continually being imagined and made.

4. What data activism can contribute to democratic innovation

Democratic innovation is commonly understood as the introduction of new practices, institutions, or technologies designed to deepen citizen participation and strengthen democratic values. It matters because it offers ways to revitalize legitimacy, trust, and engagement in political systems facing widespread disaffection (Newton & Geissel, 2012; Flesher Fominaya, 2020).

We have seen how data activism represents a vital response to the challenges posed by mechanised citizenship, offering new pathways for reclaiming agency, promoting justice, and revitalizing democratic norms. In what ways does data activism contribute to democratic innovation? To answer this question with reference to the challenges of mechanised citizenship, this section maps revitalisation and re-imagination of citizenship onto the three dimensions of mechanised citizenship—namely administrative, experiential and normative. This mapping illustrates how data activism both resists the erosion of democratic values and experiments with alternative modes of participation across the three dimensions of mechanised citizenship. In its revitalising function, data activism restores accountability, participation, and voice by contesting opaque systems, re-opening meaningful interactions with governance, and reaffirming core democratic principles. In its re-imagining function, it projects forward by building new infrastructures, inventing novel practices of engagement, and generating alternative imaginaries of citizenship grounded in inclusivity, solidarity, and justice. Taken together, these functions show how data activism operates simultaneously in the present and towards the future: reclaiming democratic space here and now while also envisioning democratic futures that do not yet exist.

Democratic innovations are typically understood as institutional or procedural reforms, such as participatory budgeting, citizens' assemblies, or deliberative forums designed to deepen citizen involvement in decision-making (Smith, 2009). This chapter adopts a broader understanding that includes bottom-up, practice-based forms of experimentation emerging outside formal political arenas. In this vein, data activism extends this tradition in important ways. Similar to what observed by Flesher Fominaya about grassroots mobilizations in Spain (2020), it shows how democratic innovation also emerges from below, through grassroots practices that reclaim, repurpose, and re-imagine data infrastructures as sites of civic engagement. In this sense, In this sense, data activism does not fit neatly within established models of democratic innovation, but expands the concept by showing how innovation can *also* emerge through dispersed, grassroots engagements with data and data infrastructures and forms of experimentation that are equally consequential for legitimacy, trust, and participation.

Seen through this lens, the contribution of data activism to democratic innovation lies not only in correcting the democratic deficits produced by mechanised citizenship but also in expanding the repertoire of democratic practice. It resists democratic erosion by restoring accountability

and participation in data-driven systems, while at the same time experimenting with novel infrastructures and imaginaries that point to democratic futures yet to come.

→ Functions of data activism vis-à-vis democracy ↓ Dimensions of mechanised citizenship	Revitalisation of citizenship = resistance + restoration	Re-imagination of citizenship = creativity + innovation
a) Administrative	*Resists* opaque, automated systems; *demands* accountability in the management of public resources and in the delivery of welfare services.	Builds alternative infrastructures (e.g., civic data commons, grassroots monitoring platforms) that *model* participatory and equitable governance.
b) Experiential	*Restores* meaningful participation in everyday encounters with data-driven governance; uses data tools and infrastructure, amd advocacy to ensure citizens can influence decision-making rather than passively comply.	*Redefines* everyday practices of engagement through data and data infrastructure. Exposes discriminatory practices in everyday interactions; restores recognition and avenues for redress.
c) Normative	*Reasserts* ideals of voice and participation, equity and justice, against algorithmic flattening of democratic values; keeps alive the notion that rights and belonging are subject to political negotiation.	Generates new normative imaginaries of citizenship through, e.g., feminist data practices, counter-datasets, and civic technologies grounded in co-creation, inclusivity, and solidarity.

Table 1. Challenging Mechanised Citizenship: The democratic innovations of data activism

While this mapping highlights the democratic potential of data activism across the administrative, experiential, and normative dimensions of mechanised citizenship, it is important to remain attentive to its limits. We can identify at least five such limits: structural and participation limits, co-optation risks, burden shift, and epistemic limits. Data activism operates within structural constraints that shape who can participate and with what resources, raising concerns about uneven access to skills, infrastructures, and forms of data literacy. Moreover, initiatives (think of civic tech) may be co-opted or absorbed into institutional and market logics, particularly when grassroots efforts align with state agendas or platform-based ecosystems. There is also a risk that the emphasis on citizen-led engagement (e.g., in countering surveillance) shifts responsibility onto individuals and communities, obscuring the accountability of states and corporations in governing data. Finally, by working through data and data infrastructures, data activism may reproduce some of the epistemic limitations it seeks to challenge, privileging forms of knowledge that can be rendered as data while sidelining others. These tensions do not undermine the contribution of data activism to democratic innovation, but they call for a more situated and critical understanding of its scope and effects.

5. Conclusions

This chapter has examined how citizenship is reshaped in the age of datafication through the rise of mechanised citizenship, where rights, recognition, and participation are increasingly mediated by automated, data-driven systems. It argued that while such developments extend earlier bureaucratic logics, they also transform the relationship between citizens and institutions in qualitatively new ways—embedding authority in code, reducing discretion, and narrowing opportunities for voice and accountability—besides extending the scope and scale of data collection.

Amid these dynamics, the chapter introduced data activism as both critique and counter-force. Defined as a heterogeneous set of practices that mobilise data and data infrastructures as sites of struggle and resistance, data activism was shown to operate along two key functions. In its revitalising function, it restores and protects democratic values such as accountability, justice, voice, and participation that have been eroded by mechanised citizenship. In its re-imagining function, it invents new practices, infrastructures, and imaginaries of citizenship, projecting democratic futures that do not yet exist.

By mapping these functions onto the administrative, experiential, and normative dimensions of mechanised citizenship, the chapter demonstrated how data activism simultaneously resists democratic erosion in the present and opens space for innovation. In so doing, it contributes to democratic innovation, extending this tradition beyond institutional reforms to include grassroots, bottom-up experimentation with data infrastructures.

Looking ahead, the evolving field of data activism continues to raise critical questions about the interplay between technology, power, and citizenship. As generative AI and other emerging technologies reshape the conditions of governance, data activism offers both a diagnostic lens and a toolkit for defending civic agency and imagining alternative futures. In this sense, data activism is more than resistance: it is a democratic innovation in its own right, reclaiming citizenship in the present while imagining more just and participatory futures.

These reflections also invite a reconsideration of digital citizenship. Digital citizenship has often been framed in terms of empowerment through participation and self-expression in digital environments. Yet, under conditions of mechanised citizenship, such an understanding is no longer sufficient. When rights, recognition, and access are increasingly mediated by automated, data-driven systems, civic agency cannot be reduced to participation through digital platforms alone. What is at stake is participation in relation to the data infrastructures that structure the terms of citizenship itself. In this sense, data activism is not simply an instance of digital citizenship, but its reconfiguration in datafied societies. It enacts civic agency not only by mobilising digital tools, but by interrogating, contesting, and reconfiguring the data-driven systems through which citizenship is enacted. By shifting attention from platforms to data regimes, data activism foregrounds a form of citizenship that is less about presence within digital spaces and more about the capacity to challenge, reshape, and co-create the socio-technical conditions under which citizenship is constituted. In this light, data activism consolidates its role as a form of democratic innovation, through which citizenship is both reclaimed in the present and re-imagined for datafied futures.

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