

Schopmans, Hendrik; Tuncer Ebetürk, İrem

Article — Published Version

Techno-authoritarian imaginaries and the politics of resistance against facial recognition technology in the US and European Union

Democratization

Provided in Cooperation with:

WZB Berlin Social Science Center

Suggested Citation: Schopmans, Hendrik; Tuncer Ebetürk, İrem (2024) : Techno-authoritarian imaginaries and the politics of resistance against facial recognition technology in the US and European Union, *Democratization*, ISSN 1743-890X, Taylor & Francis, London, Vol. 31, Iss. 5, pp. 943-962,
<https://doi.org/10.1080/13510347.2023.2258803>

This Version is available at:

<https://hdl.handle.net/10419/308012>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



<http://creativecommons.org/licenses/by/4.0/>

RESEARCH ARTICLE



Techno-authoritarian imaginaries and the politics of resistance against facial recognition technology in the US and European Union^{*}

Hendrik Schopmans  and İrem Tuncer Ebetürk 

WZB Berlin Social Science Center, Berlin, Germany

ABSTRACT

While artificial intelligence technologies are increasingly studied as drivers of “digital authoritarianism,” resistance to this process has remained underexplored. Our paper addresses this gap by asking why and how citizens resist AI-powered autocratization in consolidated democracies. We first conceptualize this resistance as distinct from other forms of anti-autocratic resistance in that it is anticipatory rather than reactive, and directed at existing authorities rather than new democratic challengers. We then introduce techno-authoritarian imaginaries as a novel concept to understand the drivers and shapes of this resistance. First, we argue that activists from civil society draw on these broader, pre-existing imaginaries of authoritarian futures to make sense of new technologies and articulate technology-specific problem frames. Second, we propose that imaginaries are contingent on historical and political experiences and therefore differ between contexts. Such differences, in turn, shape how the respective targets respond to resistance. We illustrate our argument by case studies of campaigns against facial recognition technology in the U.S. and the European Union. Our paper enriches existing debates on resistance to autocratization and advocates for a more pronounced engagement with practices of future-making, as constructions of societal futures—both desirable and undesirable—are becoming an increasingly important source for democratic mobilization.

ARTICLE HISTORY Received 23 October 2022; Accepted 11 September 2023

KEYWORDS Artificial intelligence; autocratization; facial recognition technology; surveillance; frames; sociotechnical imaginaries

Introduction

Artificial intelligence (AI) has become ubiquitous in citizens’ lives. Across democratic states, public authorities now trust AI systems with decisions in critical domains, ranging from criminal justice to social benefits allocation.¹ While recognizing ethical risks, governments have legitimated their uptake of AI by invoking powerful visions

CONTACT Hendrik Schopmans  hendrik.schopmans@wzb.eu

^{*}This paper is a part of a special issue entitled Digital Authoritarianism and Beyond? Democratization in the Age of Artificial Intelligence.

© 2023 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group
This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

of the future. In national AI strategies, the US and members of the European Union (EU) have presented AI as a transformative general-purpose technology bound to unleash countless benefits – from discovering drugs and diagnosing diseases to helping solve the climate crisis.² For others, however, AI's potential benefits are overshadowed by a far less optimistic vision: one in which AI acts as an accelerator of democratic regression. China and other authoritarian regimes, who have exploited the technology to establish highly automated surveillance states, loom large as extreme cases of AI-driven autocratization.³ Yet, a vocal and organized group of actors from civil society – including concerned scholars, tech workers, and human and digital rights activists – have warned that even in consolidated democracies like the US, Germany, France, or the United Kingdom, the unregulated spread of AI systems may drastically undermine democratic processes in the future. Democratic governments, like their authoritarian counterparts, may not be immune to the temptation of AI-powered mass surveillance enabled by facial recognition technology (FRT) or predictive policing systems. Concerns have also mounted that a handful of corporations may exploit their monopoly over massive amounts of personal data to manipulate human behavior for profit.⁴ Consequently, grassroots activism against AI-powered autocratization has grown across democratic polities. However, there has been little scholarly engagement with why and how civil society mobilizes resistance against this anticipated threat to democracy.

To fill this gap, this article asks two questions: First, why do these resisters fear autocratization through technologies still in an early development and deployment stage? When resistance is forming, these systems' technical features are still evolving, information on how widely they are deployed is limited, and evidence of their risks to democracy is still scarce and contested. Given this uncertainty surrounding emerging surveillance technologies, resistance to AI-powered autocratization must be grounded in something other than tangible, systematic evidence that a democratic regression is already underway. Second, given that activists mobilize against *anticipated* rather than observable autocratization, how does the future nature of the threat shape advocacy strategies? Just like proponents speak of benefits that cannot be imagined in the present, resisters cannot be sure about the nature of harms resulting from future changes in the technology. This raises the question of how civil society actors deal with this uncertainty in the problem frames they develop to mobilize public support. We explore these questions empirically by studying campaigns against FRT in the US and the EU. As breakthroughs in AI have drastically expanded its potential to automate surveillance practices, FRT has been particularly contested. It thus serves as a suitable case to study the politics around anticipated, AI-powered autocratization.

In conceptual terms, our article draws on insights from science and technology studies (STS) and the sociology of expectations, which have extensively theorized how beliefs about the future shape political action in the present.⁵ Building particularly on the concept of sociotechnical imaginaries,⁶ we foreground *techno-authoritarian imaginaries* as a key concept to understand the causes and strategies of resistance against AI-powered surveillance technologies. We define techno-authoritarian imaginaries as collectively held visions of an undesirable societal future in which public and private actors systematically use technologies, which by their very design facilitate non-democratic practices, to retract the democratic rights of individuals or groups.

Our argument is twofold: First, we propose that resistance against anticipated autocratization is embedded in techno-authoritarian imaginaries. Activists draw on

collective imaginaries to make sense of new technologies and construct technology-specific problem frames. Accordingly, we treat imaginaries as conceptually distinct from frames;⁷ even though imaginaries are explicitly articulated only in the context of concrete technologies, they operate at a much broader level of meaning-making about social relations – and thus are more durable and abstract than the problem definitions and policy solutions activists develop for specific artifacts. Techno-authoritarian imaginaries, in short, reflect a deeply entrenched mistrust towards institutions of power – both public and private – which finds expression in activists’ communications about how malicious actors will misuse a specific technology unless they are stopped. At the same time, we recognize that the features of particular technologies are not inconsequential. Some technological designs are more likely to be perceived as inherently authoritarian than others and thus more readily made sense of through techno-authoritarian imaginaries.

Second, we argue that techno-authoritarian imaginaries are diverse and contested. Context-specific experiences with anti-democratic practices shape their content; accordingly, they differ across borders. At the same time, imaginaries are likely to be contested *within* societies, as societal actors vary in their beliefs about sociotechnical futures.⁸ The implications are twofold: First, invoking different imaginaries can result in different ways activists strategically frame a new technology as a problem. In the case of the US, for instance, frames presenting FRT as a racist tool of oppression became particularly prominent, whereas civil society organizations in the EU primarily portrayed FRT as a threat to the fundamental rights of *all* citizens. Second, we propose that such differences in strategic frames elicit different responses. Problematizing FRT based on racial bias in the US opened a debate about technical fixes, as corporations and law enforcement reframed discriminatory designs as temporary issues that technological progress would eventually remedy. By contrast, the dominant frame of EU-based activists – biometric mass surveillance *always* constituted a violation of fundamental rights – was less susceptible to such technical arguments.

Our article enriches the nascent literature on resistance to autocratization by foregrounding a less-studied category of contesters: actors who see a threat to democracy not only in the rise of populist parties but in the creeping surveillance practices of seemingly progressive actors and in the authoritarian technologies they rely on. Here, we highlight that understanding anti-autocratic resistance requires a deeper engagement with temporal politics. Our concept of techno-authoritarian imaginaries underlines that the study of democratization and autocratization can profit from a more thorough engagement with contested practices of future-making, as constructions of societal futures – both desirable and undesirable – are becoming an increasingly important source for present-day political mobilization.

Our article furthermore responds to the Special Issue’s objective to generate empirically informed accounts of how the proliferation of AI shapes contentious politics in consolidated democracies. Our analysis moves beyond the current focus on how AI-powered surveillance technologies shape government-opposition dynamics in autocracies. We show that, contrary to a prominent political narrative that contrasts “Western,” democratic AI with AI empowering digital authoritarianism, concerns over automated mass surveillance are a powerful source for anti-autocratic mobilization in the US and the EU. Despite their successful agenda-setting, however, our article reveals that the nascent advocacy coalition confronts a powerful adversary: Governments and corporations that counter claims of impending

autocratization by promoting attractive visions of AI as an agent of beneficial technological change.

The article proceeds as follows. The next section reviews how existing studies have approached resistance to autocratization and introduces our theoretical approach. Leveraging the literature on technological expectations, we develop the concept of techno-authoritarian imaginaries. The third section outlines our methodological approach. The fourth section provides empirical evidence for our argument by examining campaigns against FRT in the US and the European Union.

Techno-authoritarian imaginaries as drivers and shapers of anti-autocratic resistance

How and when does civil society resist perceived threats to democracy? In recent years, this question has attained renewed relevance as processes of democratic backsliding have unfolded across the world.⁹ Scholars have identified a “third wave of autocratization” defined by gradual forms of democratic regression rather than military coups and illegal power grabs.¹⁰ While many works have sought to capture the causes of autocratization – an umbrella concept that refers to “any move away from [full] democracy”¹¹ – less attention has been paid to the actors who resist this process. As Tomini, Gibril, and Bochev (2023) note, “very little is known about these actors and their strategies in fighting autocratization.”¹² The authors differentiate between various types of resistance actors whose salience in the struggle against autocratization varies according to how far an authoritarian transition has progressed. However, like other studies on resistance to autocratization, their focus is mainly on cases where autocratization is already underway.¹³

Recent literature on democratic resilience, by contrast, has examined the potential for resistance strategies at an earlier stage of the democracy-autocracy continuum: when democracies are still consolidated and autocratization can still be averted.¹⁴ To this end, scholars have first identified the structural causes of autocratization, such as widespread societal polarization or an inadequate supply of democratic parties.¹⁵ Autocratization, from this view, can be forestalled through measures as diverse as addressing societal grievances, employing counter-polarization strategies, and fostering civic education.¹⁶ While scholars’ concern with pre-empting autocratization speaks to the type of resistance we are interested in, they tell us more about structural reforms aimed at nipping authoritarian tendencies in the bud – and less about the actors who attempt to pre-emptively avert anticipated threats to democracy.

Consequently, even though both research strands provide a fertile conceptual ground for this article, they do not capture the forms of anti-autocratic resistance we observe in the case of surveillance technologies. The latter type of resistance is distinctive in two ways: First, it is pre-emptive in that it seeks to counter an *anticipated* autocratization rather than one already underway. Civil society actors mobilize not because they observe tangible indicators of autocratization, but because they expect authorities to abuse new technologies for cutbacks on democratic rights in the future. This, then, raises the question why these actors believe that such a future would materialize in the first place. Second, the actors resisting anticipated autocratization do not believe that the primary threat to democracy necessarily stems from the rise of populist actors. Instead, they presume that democratic erosion might also emanate from established, progressive actors such as liberal governments. Therefore,

understanding this distinct form of anti-autocratic resistance requires an analytical lens that accounts for why actors engage in resistance if the threat of autocratization is not yet materializing but an anticipated possibility. Our focus here will be on the activities of *social resisters*: actors including civil society organizations, social movements, and individuals who – unlike resisters from within state institutions or political parties – organize resistance at the grassroots level.¹⁷

To study resistance against anticipated autocratization, we leverage insights from Science and Technology Studies (STS), a discipline that has widely studied how visions of the future can drive political action in the present. Studies of technoscientific expectations foreground how promises, imaginaries, and other forms of anticipatory discourse shape how actors develop, govern, and contest new technologies.¹⁸ Much of this literature has centered on scientific establishments who construct “regimes of promises” around new technologies to attract funding from public and private sponsors.¹⁹ The key proposition is that scientists’ promises and visions are “the future made present”²⁰ – they may pertain to the future but still exercise effects in the present, such as shaping public perceptions about a technology’s risks and benefits.²¹ More recent work has established that governments, too, legitimize policies by articulating visions of better futures made possible through technoscientific progress. Jasanoff and Kim (2015) capture this process through the concept of sociotechnical imaginaries, which they define as “collectively held, institutionally stabilized, and publicly performed visions of desirable futures, animated by shared understandings of forms of social life and social order attainable through, and supportive of, advances in science and technology.”²² Again, imaginaries shape the present: they influence technological design choices, the allocation of funds, or whether political dissent towards technologies is accepted or suppressed.²³

Building on these insights, we propose the concept of techno-authoritarian imaginaries as an analytical tool to shed light on the causes and strategies of resistance against the democratic threat associated with AI-powered surveillance technologies. Our concept shifts the analytical focus from the mostly positive imaginaries articulated by scientists and governments to more pessimistic imaginaries constructed by oppositional actors. Not everyone may believe that technological progress will create a future where everyone is freer, healthier, and better off. It may also result in catastrophic accidents, environmental degradation, and democratic recession. To study such alternative imaginaries, we engage with scholars who have traced how so-called counter-imaginaries inform attempts by civil society to “re-appropriate and subvert the dominant imaginary of technological innovation, societal benefit, and inevitability of surveillance.”²⁴ However, our focus here is not just on *counter*-imaginaries, as this presupposes that imaginaries necessarily develop in opposition to a dominant imaginary. Instead, we propose that oppositional actors may be the first to articulate imaginaries publicly. In the case of surveillance technologies, for instance, the public may often not be aware of their use before activists make them visible as problems through constructions of dystopian futures. We, therefore, follow Hess’ (2015) ambition

to track and interpret oppositional imaginaries. This approach [...] is based on the idea that mobilized publics not only contest the assumptions of official imaginaries but also create their own imaginaries.²⁵

We define techno-authoritarian imaginaries as collectively held visions of an undesirable societal future in which public and private actors systematically use technologies,

which by their very design facilitate nondemocratic practices, to retract the democratic rights of individuals or groups. These imaginaries act as a rationale and a rhetorical resource for activists engaging in anti-autocratic resistance.

We make two propositions to guide the study of techno-authoritarian imaginaries. First, we build on the literature's assumption that sociotechnical imaginaries are grounded in broader, collective understandings about social order and technology that are forged over time; thus, they endure independent of temporary "ideas and fashions."²⁶ Accordingly, techno-authoritarian imaginaries are rarely defined by concerns about a single technology but stem from a deep-seated mistrust in the relationship between technologies and institutions of power. The mere arrival of new technologies rarely suffices to spur visions of a pessimistic future. Instead, civil society actors often make sense of new technologies through broader, pre-existing imaginaries. These imaginaries provide resisters with an orienting vision in a political environment where the "complexity and rapid pace of change in its sociotechnical arrangements [...] create[s] a shifting milieu of threats."²⁷ Even if the technical features of a technology change, the imaginary's more abstract societal future, remains relatively stable. Therefore, we treat imaginaries as conceptually different from frames, as the former "are less explicit, less issue-specific, less goal-directed, and less politically accountable."²⁸ Activists use techno-authoritarian imaginaries as reference points when developing frames for new technologies – ie why a specific technology is problematic and what should be done about it.

We do not claim that the relationship between techno-authoritarian imaginaries and specific technological artifacts is unidirectional or that activists will make sense of *any* new technology through the imaginary. As Winner (1980) highlights, technological artifacts can have political properties; some technologies are more compatible with certain political and social relationships than others.²⁹ The very design of technology can embody political values and make it more susceptible to be constructed as (in)compatible with democratic political orders. In some cases, developers actively attempt to design technology in a way that supports democratic values. Chile's efforts to develop computer and communications technology in line with democratic socialism³⁰ or plans to overcome election fraud in Chad through biometric voter registration are just two examples of such attempts.³¹ On the flip side, the design processes underlying most surveillance technologies make them more prone to be perceived as inherently authoritarian. The eventual use of Chad's biometric system to suppress voters provides an excellent demonstration of how these technologies can end up constraining democracy despite their introduction with opposite intentions. Similarly, according to Magnet (2011), biometric technologies generally rely on erroneous assumptions about the biological nature of race, gender, and sexuality, thus codifying existing inequalities. Since "biometric errors are endemic to their technological functioning," it is impossible to fix these issues and deploy biometric technologies in a democratically safe way.³² Accordingly, such technological designs are more likely to activate and feed into techno-authoritarian imaginaries than others.

Our second proposition builds on the finding that the societal futures outlined in sociotechnical imaginaries are historically conditioned, politically contingent, and contested. According to Jasanoff and Kim, imaginaries are "temporally situated and culturally particular" and embedded in distinct national histories and political traditions.³³ While imaginaries differ across borders, multiple imaginaries can also coexist in tension within the same society.³⁴ For our analysis of techno-authoritarian

imaginaries, this “multiple” and “contested”³⁵ character of imaginaries matters for two reasons: First, the technology-specific problem frames activists use in their advocacy are likely to differ. When translated into frames, therefore, imaginaries can become a source of tension within activist communities.³⁶ Second, the contents of the imaginary that activists draw on shape how external actors – governments, corporations, and the public – respond to them. When civil society warns that surveillance technologies in the hands of certain actors will inevitably engender the retraction of democratic processes, these actors are likely to challenge such visions. This may result in a standoff between contradictory imaginaries articulating competing visions of the future.³⁷ For instance, Silicon Valley corporations have legitimized their practices through techno-solutionist imaginaries presenting technology as inherently democratic and supportive of individual freedom.³⁸ Proponents of technologies may either articulate such imaginaries pre-emptively or in response to activist challenges.³⁹

Methods and data

To explore our theoretical propositions empirically, we focus on FRT as an AI-powered technology that has been a prominent target of activism in recent years. Despite the launch of dedicated campaigns across democratic states, organized opposition to FRT has received scant scholarly attention so far. Existing studies have largely focused on individual-level resistance, for instance, through practices of masking and camouflage.⁴⁰ To explore why and how civil society organizations have problematized FRT, we examined campaigns against FRT in two democratic polities: the United States and the EU, where campaigns have (re-)emerged in the late 2010s. In both cases, the issue has achieved considerable political salience, as evidenced by mounting action at the policy-making level, making these two cases promising testing grounds for our theoretical propositions. Moreover, studying two political contexts allows us to account for possible differences in imaginaries, associated problem frames, and political responses.

Our analysis draws predominantly on campaign websites and documents such as annual reports and press releases. Among the actors and campaigns investigated are the EU-wide Reclaim Your Face Campaign and its local chapters, European Digital Rights (EDRi), the American Civil Liberties Union (ACLU), and the Surveillance Technology Oversight Project (STOP). We also analyse responses to activist mobilization from technology corporations, government agencies, and legislators by extracting information from websites, newspaper articles, and press releases. To supplement our analysis, we conducted ten semi-structured interviews with activists and policy experts from the US and Europe. The interviews took place online between March and September 2022. We identified potential interviewees by reaching out to organizations that produced key documents and asking for further recommendations once we had interviewed them. Interviews lasted between forty minutes and an hour. Before starting each interview, we informed respondents about our handling of their data and obtained consent to record their voices. Even though most interviewees were willing to be named, we decided to proceed uniformly and anonymize them to protect their identity, indicating only the respective organization with whom they were associated. Conducting the interviews, we reflected on how our position towards the use of FRT may affect the responses and accordingly allowed interviewees to lead the conversation.

We chose different approaches to discern imaginaries and frames, respectively. To identify imaginaries, we analysed campaign documents regarding how they depict

technological and societal futures. What visions of desirable/undesirable futures do actors articulate? Who uses technology in such a future society, and to what end? And what role is attributed to technology in bringing about or averting these futures? In our interviews, we asked interviewees about imaginaries both implicitly (e.g. *Why do you think FRT is a problem?*) and more explicitly (e.g. *Do you think FRT can ever be part of society in a non-problematic way?*). In a second step, we identified the specific problem frames actors used to mobilize political action. Frames are schemata of interpretation that serve as rhetorical organizing devices, selecting some aspects of reality and putting them in the spotlight while silencing others.⁴¹ We operationalize frames by breaking them down into their diagnostic and prognostic components.⁴² The diagnostic component of a frame constitutes the problem definition: What are we talking about? What is wrong? And who is responsible for this problem? The prognostic element articulates a solution to the problem. What is political action meant to achieve? In a final step, frames were examined for traces of larger imaginaries, e.g. to what extent the problem definition was informed by visions of a techno-authoritarian society.

Orwellian danger or “just” a biased technology? Tracing imaginaries in resistance campaigns against FRT in the United States and the European Union

This section empirically explores our theoretical propositions on how techno-authoritarian imaginaries shape resistance against anticipated autocratization. Our analysis shows that activists in both the US and EU have embedded FRT in an imaginary that portrays a dystopian future society where authorities abuse FRT to monitor citizens. Yet, the two cases differ regarding *whose* democratic rights will be violated. In the US, activists initially presented FRT as a threat to all citizens; following technological and societal changes, however, they increasingly made sense of FRT through a second imaginary that reimagined surveillance as a highly racialized practice. A comparable imaginary of racialized surveillance was not as dominant among activists in the EU. Here, opponents of FRT mainly presented the widespread use of the technology as a threat to *all* citizens' fundamental rights.

From mass to racialized surveillance – and back? Activism around FRT in the US

Though research on FRT dates to at least the 1960s, the technology only achieved political salience in the early 2000s, when research matured and government agencies developed a pronounced interest.⁴³ FRT first caught the attention of civil rights activists at the 2001 Super Bowl, where the faces of audience members were scanned and cross-referenced with a database of criminals without prior consent. Alerted by the experiment, the ACLU asked the Tampa police for data about the use and effectiveness of FRT. In a subsequent report, it concluded that facial recognition systems performed poorly in identifying faces and that their alleged benefits did not justify the possible privacy and freedom violations that the technology entailed.⁴⁴

While activism was still nascent at the time, the ACLU report already contained traces of an imaginary that would guide how opponents of the technology made sense of FRT: that of an all-seeing surveillance state exploiting technology to

monitor citizens. FRT, according to the authors, poses “Orwellian dangers” and would “threaten the privacy, freedom and safety of everyone in America.”⁴⁵ What concerned activists about FRT was its ability to remotely capture biometric data unique to each individual, which would make it possible to collect this data without citizens’ knowledge. The belief that the government would abuse its powers to engage in mass surveillance, however, was hardly sparked by FRT and had already materialized in previous debates over identification cards.⁴⁶ Rather than engendering a new techno-authoritarian imaginary, therefore, FRT and the arrival of biometric technologies just gave a new face to existing fears.

Although the US government intensified its use of biometric surveillance in the aftermath of 9/11 – supported by companies who “jumped over the disaster to sell their products”⁴⁷ – FRT’s limited effectiveness meant it received only scant attention from activists. For about another decade, the ACLU, for instance, did not collect systematic data on FRT use. At the same time, the imaginary never disappeared: as theorized, techno-authoritarian imaginaries are rooted in more foundational understandings about social order and technology that endure even when individual technologies fall out of fashion. When the Snowden revelations in 2011 uncovered that the NSA had collected thousands of images for use in FRT, civil liberties advocates expressed concerns that FRT might soon overcome its technical limitations and lead to the erosion of privacy.⁴⁸ More importantly, the imaginary of indiscriminate mass surveillance informed how a growing community of privacy activists framed other biometric technologies whose use was drastically expanded. The FBI’s automated fingerprint system IAFIS, for instance, engendered fears of a “big brother” system – an increased, “paternalistic” government presence in citizens’ life, whose use of biometric technologies amplified its ability to infringe on civil liberties.⁴⁹

In the mid-2010s, breakthroughs in AI reignited activism around FRT. Deep learning algorithms demonstrated unprecedented accuracy on image classification tasks, as the arrival of massive image datasets gave these algorithms an unparalleled training ground. Consequently, Amazon, IBM, and smaller start-ups began developing new systems and – largely under the radar – cooperating with police forces. Around 2016, civil society organizations became increasingly aware of how prevalently FRT had been developed and deployed by US government institutions, realizing it was far more pervasive than they had imagined: “it is real, happening now, not a thing of an Orwellian future.”⁵⁰ As governments largely shielded FRT use from the public and no systematic data on its effectiveness was readily available, activists mobilized against the technology in a familiar way: by invoking the dystopian imaginary of a society where governments would violate every citizen’s privacy through government mass surveillance. The nationwide campaign Fight for the Future warned that FRT “threatens our future, it enables automated and ubiquitous monitoring of an entire population. If we don’t stop it from spreading [...] it will be used to control and oppress us.”⁵¹ The solution these groups proposed was unequivocal: not regulation, but only an all-out ban on the use of FRT would avert the dangers they anticipated.

Our theoretical framework postulated that artifacts can have politics: the link between a specific technology and the imaginary activists embed it in is at least partly predicated on technological features. Accordingly, changes in the technological design of FRT – and the resulting emergence of new “endemic” harms⁵² – activated a second imaginary through which activists in the US made sense of FRT: one that portrayed technological surveillance as a historically entrenched, highly racialized

institution that did not affect all citizens equally, but specifically targeted people of color. On the one hand, the emerging Black Lives Matter (BLM) movement and its critique of institutionalized racism in the US, profoundly shaped the imaginary. On the other hand, linking the imaginary of racialized surveillance to FRT became possible through the technology's increasing reliance on deep learning algorithms, which researchers found reproduced historical biases from training data. The *Gender Shades* project, for instance, discovered that an IBM system produced an error rate of 34.7% for dark-skinned women compared to 0.3% for light-skinned males.⁵³

Consequently, activists invoked a new imaginary that was less future-oriented but rather foregrounded the enduring racist practices permeating police surveillance in the US. In this new imaginary, FRT was considered yet another manifestation of the discriminatory practice of policing black communities. In their effort to link historical practices and current uses, activists incorporated growing scholarship on the history of policing and surveillance into their discourses.⁵⁴ Referring to Simone Browne, for instance, activists likened the current uses of FRT to eighteenth-century lantern laws when "New York City demanded that Black, mixed-race and Indigenous enslaved people carry candle lanterns with them if they walked about the city after sunset."⁵⁵ Drawing on this broader imaginary, activists explicitly linked racial justice frames articulated by BLM with anti-surveillance discourses:

We are at a critical moment. The fight against face recognition comes alongside a nationwide reckoning with racism and policing led by the Black Lives Matter movement. We must take this opportunity to recognize the role of surveillance in exacerbating the inherent racism of our law and immigration enforcement systems.⁵⁶

Though the strategic frames derived from the two imaginaries problematized FRT surveillance in slightly different ways – as a future threat to all citizens and the continuation of racist policing by other means – their prognostic components were strikingly similar: only an all-out ban on FRT would be able to stop the systematic misuse of the technology.

We have argued that the presence of multiple techno-authoritarian imaginaries within the same society matters: it can create tensions within activist communities and shape how policymakers and corporations respond. Prior to its linkage to racial justice causes, calls for regulating FRT had been confronted with reluctance by policymakers as these technologies were considered "investigative tools that work great."⁵⁷ Corporations, too, had shunned concerns about mass surveillance and privacy violations and mainly adhered to a techno-solutionist counter-imaginary, promoting claims that "technology is the cure to social problems" and that FRT helps to "combat crime and fraud, keep communities safe and industry and commerce secure, protect victims and promote justice."⁵⁸ By contrast, policymakers and corporations proved more willing to respond to frames that presented FRT as a discriminatory tool. Most notably, in a highly symbolic move, IBM, Amazon, and Microsoft announced to abandon or temporarily halt the provision of FRT to law enforcement agencies when BLM protests erupted nationwide following the murder of George Floyd in June 2020.

Why were proponents of FRT suddenly more responsive to activists' claims about the technology's harms? In short, acknowledging bias in current systems allowed corporations and law enforcement to reframe problems with FRT as temporary and solvable technical issues rather than structural problems inherent to FRT. In 2018, for instance, Microsoft announced that it had developed technical solutions, in particular

more diverse datasets, to improve its systems' ability to recognize gender across skin tones.⁵⁹ Similarly, IBM released an open-source toolkit, *AI Fairness 360*, meant to help developers "examine, report, and mitigate discrimination and bias in machine learning models throughout the AI application lifecycle."⁶⁰ Smaller tech companies producing FRT, too, responded to mounting accusations of racial bias in their systems. Paravision AI, for instance, released a set of AI principles in which it pledged to "create AI models that treat all individuals and groups fairly and equitably regardless of their demographic profiles."⁶¹

Law enforcement representatives similarly emphasized the technical rather than structural dimension of biased FRT. For instance, following activist mobilization, several US cities decided to ban the use of FRT by law enforcement agencies. In San Francisco, a ban imposed in 2019 was justified based on the technology's discriminatory potential:

While surveillance technology may threaten the privacy of all of us, surveillance efforts have historically been used to intimidate and oppress certain communities and groups more than others, including those that are defined by a common race, ethnicity, religion, national origin, income level, sexual orientation, or political perspective.⁶²

Representatives of San Francisco's law enforcement agencies responded by pointing out technology's utility in fighting crime and that technological progress would remedy FRT's faults. In *The New York Times*, the President of the San Francisco Police Officers Association stated that "although we understand that it's not a 100 percent accurate technology yet, it's still evolving."⁶³ Similarly, Joel Engardio, vice-president of Stop Crime SF, stated that

we agree there are problems with facial recognition ID technology and it should not be used today. But the technology will improve and it could be a useful tool for public safety when used responsibly. We should keep the door open for that possibility.⁶⁴

By presenting racial bias as a technical problem, proponents of FRT foregrounded their own techno-solutionist imaginary – one in which further technological progress would remedy present-day faults and unleash the technology's real potential. Self-regulation on the part of companies would suffice, whereas any ban or legislation would unduly restrict a promising technology.

In our interviews, US activists expressed cautious concerns about the increased narrowing of debates around FRT to issues of racial bias. One interviewee worried that bias was too much of a focus and that even if bias were technologically "solvable," the structural issue would persist.⁶⁵ Others went further and portrayed the development of technical solutions as a danger in itself, as a perfect technical system would be too powerful to be entrusted to the police. FRT, from this view, "doesn't work, when it works it works racistly, and when it gets better it is going to become more dangerous."⁶⁶ Activist Zoe Samudzi expressed similar concerns in an op-ed:

this is not simply a problem of "racist code" that can be fixed with diversity initiatives [...]. The problem is that black people are simply not human enough to be recognized by the racist technology created by racist people imbued with racist worldviews.⁶⁷

In summary, activism against FRT in the US illustrates how the presence of multiple imaginaries can have political effects unforeseen by activists. Frames that presented FRT as an issue of racial bias drew a more pronounced political response than

frames portraying the technology as a harbinger of indiscriminate mass surveillance – mainly because proponents of FRT co-opted the bias argument and reinterpreted the problem as one fixable by technical means.

A threat to all of us: Reclaim Your Face and activism in the European Union

Activists in the EU, too, did not conceive of FRT as a novel techno-political issue but made sense of it through a pre-existing techno-authoritarian imaginary. While they problematized the racial justice implications of FRT in Europe, their advocacy has predominantly been informed by an imaginary of totalitarian mass surveillance that threatens *all* citizens.

Like in the US case, the techno-authoritarian imaginary informing activism in the EU emerged from distinct historical experiences. Contrary to the US, however, references to specific historical experiences of authoritarianism – such as the fascist regimes of the 1930s or Soviet communism in Eastern Europe – are less explicitly spelled out in activists' discourses. The imaginary's origins can be traced back to the 1960s and 1970s when large data integration projects across European states first raised fears of an all-seeing government apparatus with unprecedented surveillance capabilities.⁶⁸ Concerned over intensifying data collection by the state and rapid progress in information technologies, data protection advocates began to form into a Europe-wide coalition towards the late 1990s – including EDRI, an umbrella organization that would spearhead European-level advocacy. A 1999 report by the NGO Statewatch summarized the growing fears of these organizations, warning of the “dark, dangerous side” of information technology, which would enable surveillance “which quickly is coming to a point where it threatens the democratic fibers of our societies.”⁶⁹ Mistrust towards the state built the cornerstone of this imaginary, as evidenced by the claim that “the engagement of the state is particularly dangerous because it is to a large extent clouded in secrecy, and because we do not recognize it in our daily lives.” Similar to the US, activists' fears were further fueled by the expansion of biometric technologies following 9/11. In 2000, the database Eurodac had already been established to store fingerprints from asylum seekers; in 2004, the EU passed another regulation requiring states to include biometric data, particularly facial images and fingerprints, in passports. Though privacy activists contested these policy measures, mobilization against mass surveillance did not gain larger traction until 2013, when the Snowden leaks exposed the extent of data collection by US agencies and turned the dangers of state surveillance into a global talking point.⁷⁰

As theorized, techno-authoritarian imaginaries operate at a high level of abstraction and inform how its adherents make sense of various rather than one specific technological development. In subsequent debates about the EU's General Data Protection Regulation, advocacy groups used the momentum generated by the Snowden revelations, drawing on the imaginary of indiscriminate, ubiquitous mass surveillance to push for strict privacy requirements. Describing data as the “new currency,” EDRI raised concerns over public and private actors using data “to put people under complete surveillance, in breach of their fundamental rights.”⁷¹ When interest and investment into FRT re-emerged in the mid-2010s, then, EU advocacy groups extended the frames they had developed in the years prior. Like advocacy groups in the US, privacy activists were initially surprised when they started collecting systematic data on the

use of FRT by law enforcement and realized some projects had been going on for a decade. As an activist from a French NGO recounts, “in the beginning, we were speaking in the abstract, something that will emerge or something we see abroad. We were not necessarily expecting to see the things we later documented in France and Europe.”⁷²

Confronted with the prevalence of FRT across European law enforcement agencies, activists intensified efforts to make the issue visible to the European public, culminating in the *Reclaim Your Face* campaign launch in October 2020. Coordinated by EDRI and supported by local organizations across Europe, the campaign once again invoked its vision of a dystopian future in which an all-knowing surveillance state controls citizens based on unconstrained access to their biometric data. Two aspects of the imaginary are particularly salient: biometric data’s uniqueness and current surveillance technologies’ mass character, i.e. their ability to indiscriminately collect and process biometric data at massive scales.

First, activists are troubled by the collection of biometric data since such data is particular to each individual and “can be used to infer protected and intimate information about who we are, our health, and more.”⁷³ In the imaginary evoked by the *Reclaim Your Face* campaign, state agencies rely on biometric data to feed algorithms that manipulate the choices of individuals or restrict their ability to participate in society. These algorithms categorize individuals based on opaque assumptions undergirded by “illegitimate science.”⁷⁴ The fundamental concern is that by merging biometric data with other information collected by the state, authorities “claim to know what we are thinking, how we are feeling or what we might be about to do next.”⁷⁵ According to the campaign, individuals lose the right to decide their futures because.

once you are watched and categorized like this, your future can be decided for you. [...] You could be considered a troublemaker in the eyes (and the official watchlists) of the police. The way you dress, look or act today, the places you go to and the people you associate with, could become a barrier for employment, education or travel tomorrow. Your future freedom can be taken away simply for being who you are.⁷⁶

FRT is considered just one example of biometric data in this imaginary, ranging from fingerprints and DNA to retina scans. Activists fear that biometric data collection is initially justified with seemingly innocent purposes but then quickly re-purposed in a manner that escapes public oversight:

You’re talking about biometric surveillance to limit the spread of coronavirus, or limit the spread of terrorism. There’s usually a very specific goal in mind. But at the same time, you can often see that these technologies and biometric databases then tend to flow from sector to sector. [...] Nothing ever really ends. [...] That particular issue is not reversible, and it’s really scary, at least for me.⁷⁷

The second defining element of the imaginary is the anticipated mass character of surveillance. Technologies like FRT are imagined to collect data on everyone indiscriminately, with no justification or consent of those surveilled. According to the campaign, “we will wake up one day and find that the terror of mass surveillance is far more severe than any other we have ever seen.”⁷⁸ Unlike in the US, where the racialized nature of surveillance became a rhetorical driver of mobilization against FRT, EU-based activists put less emphasis on the disproportionate surveillance of minorities. To some extent, activists highlighted the potential of biometric surveillance to exacerbate racist policing and ethnic profiling in border controls.⁷⁹ However, absent a comparable movement to

BLM in the US, the imaginary of a racialized surveillance state did not emerge as prominently. Furthermore, European activists were more cautious about using the bias frame, seemingly concerned about how it would shift the debate. According to one activist,

it is an invitation to say once these biases are corrected, FRT is fine. Unbiasing is the lesser evil. But it does not seem more desirable to us. [...] But we use the bias argument. We try not to use these frames but we do.⁸⁰

Consequently, activists decided that arguments highlighting technical faults such as bias or lack of effectiveness should only form subsidiary arguments. Instead, the techno-authoritarian imaginary predominantly revolved around an imagined surveillance state that would monitor *every* citizen. EU activists attributed the cause of the problem to structural factors – state agencies or corporations that cannot be trusted – rather than the design of the technology itself. When asked whether FRT constituted a new problem, one activist responded that “if you had unlimited police officers, or a really big police force, you could in theory achieve the same, it would just take so much money and human force that it is not possible,” suggesting that the real problem lies in the state’s inherent desire for mass surveillance for which FRT merely serves as a facilitator.⁸¹

According to our theoretical expectations, techno-authoritarian imaginaries shape not just how activists make sense of new technologies but also which technology-specific policy frames they develop. In the EU case, however, it is notable how advocacy groups put less rhetorical emphasis on the dystopian future enabled by government abuses of biometric mass surveillance when translating this imaginary into concrete policy demands. As momentum for an EU-wide, AI-specific regulatory framework grew in early 2020, activists began framing the detrimental effects of biometric mass surveillance as an issue of fundamental rights, such as privacy, freedom of expression, and assembly. Here, the problem they diagnosed concerning biometric surveillance was its fundamental incompatibility with essential normative principles of the EU.⁸² Because biometric surveillance constituted a “practice that unfairly treats everyone like a suspect,” activists expressed concerns about its “chilling effect” on people’s decision to exercise their democratic rights.⁸³ The solution activists articulated was unequivocal: banning all forms of biometric surveillance, as this is “the only solution for a future where our choices are made by us, not by algorithms.”⁸⁴

Activist efforts to frame FRT and other biometric technologies as incompatible with EU fundamental rights seemed to yield results. In 2021, Italy introduced the first moratorium on the use of FRT in public spaces. Most notably, public pressure played a role in FRT’s inclusion in the proposal for a European AI Act, introduced by the European Commission in April 2021.⁸⁵ The proposed Act prohibited the use of biometric surveillance by law enforcement – though it kept the door open for several exceptions and permitted the use of these technologies by other authorities and private corporations.⁸⁶ Despite welcoming the proposal as a step in the right direction, advocacy groups pushed further. According to one interviewee,

It [the AI Act] acknowledges our call is relevant in this context and that all this mobilization really did affect the drafting of the law, so why not try and affect negotiations further down the line. (...) And from there on we started to be much more strategic and followed the legislative procedure.⁸⁷

Consequently, they urged decision-makers to not only ban FRT use by law enforcement but any actor, public or private.⁸⁸ And again, advocacy seemed to have an

effect: In September 2022, amendments to the AI Act by members of the European Parliament stated the need for a total ban on all uses of remote biometric identification.⁸⁹

Though the AI Act is still in the making and may be further amended, the proposed ban on FRT can be considered a first success for advocacy groups in the EU. It illustrates how translating an imaginary into strategic policy frames can create resonance with policymakers and elicit a desired political response. Whereas the techno-authoritarian imaginary of a powerful, all-seeing surveillance state served as a meaning-making device for activists, framing FRT as an infringement on citizens' democratic rights restated their concerns in a language with which policymakers could work. Attributing the problem to the inherent propensity of state institutions to abuse their power would likely have been less well-received among policy elites. The approach of linking FRT to the EU's existing fundamental rights framework, by contrast, bore fruit in activist groups' correspondences with the European Parliament: following a meeting with EDRI, Dragos Tudorache, the co-lead MEP on the AI Act, stated: "Biometric identification is clearly a highly intrusive piece of technology [...], highly intrusive in our privacy and in our rights."⁹⁰

Despite similarities, the different historical and political contexts in which debates around FRT unfolded in the US and the EU resulted in different ways of imagining and framing the technology. At the same time, our explorative case studies illustrate that not all these differences resulted from differences in imaginaries, but rather stemmed from activists' strategic engagements with the political opportunity structures they were embedded in. Despite the power of techno-authoritarian imaginaries as sense-making devices, therefore, activists are strategic in how they translate these extreme future visions into their policy advocacy work.

Conclusion

Resistance to autocratization comes in many shapes. This article has taken the growing mobilization against AI-powered surveillance technology as a starting point to highlight a less studied form of anti-autocratic resistance: anticipatory rather than reactive, and one that sees dangers to democracy in existing authorities rather than the rise of new, anti-democratic challengers. We have argued that techno-authoritarian imaginaries are crucial to understanding the actors engaged in this resistance. These visions of technology-enabled, autocratic futures explain how certain advocacy groups make sense of sociotechnical developments and serve as reference points when these groups mobilize society-wide resistance. By invoking imaginaries, activists turn non-issues into problems and alert citizens that seemingly innocent actions of public and private authorities are mere prologue to a dire future. Because they are pertaining to the future, imaginaries are inherently more ambiguous and contested than other drivers of anti-autocratic resistance. Yet, as our case study of FRT has shown, their strategic translation into issue-specific policy frames can still affect political outcomes in the present.

Despite their close intertwinement with technology, techno-authoritarian imaginaries are not only about technology; they are also manifestations of broader societal mistrust in the democratic credentials of government institutions and transnational corporations. As our article illustrates, such mistrust may feed off different historical experiences: In the US, advocacy groups believed that police usage of FRT would

automate a centuries-old practice of racist oppression, whereas in Europe, the imaginary of indiscriminate, totalitarian mass surveillance featured more prominently. How the targets of this mistrust respond to activist pressure depends on how contesters translate their imaginaries into policy frames. At the EU level, activists' emphasis on FRT's incompatibility with fundamental rights resonated with policymakers and contributed to a proposed ban on remote biometric technologies. In the US, individual cities and states have implemented bans, but we have also seen attempted co-optation of the racial justice frame by corporations and law enforcement, who have reframed the debate around technical solutions to bias to dodge more restrictive regulation.

Tracing the larger techno-authoritarian imaginaries that inform activism can help us understand how activists make sense of new sociotechnical developments in other issue areas. For instance, in the wake of the Supreme Court decision that overturned *Roe v Wade* in June 2022, activists warned that apps tracking menstrual cycles would now be used to identify and prosecute women planning to have an abortion. Once again, the overarching imaginary remained the same: that of powerful institutions, public and private, which could not be trusted as they would use technologies at their disposal to expand their control over citizens.

To conclude, there is a growing recognition that autocratization processes are increasingly intertwined with technological progress, culminating in new forms of digital authoritarianism. Understanding resistance to this process requires us to draw on new conceptual repertoires that account for practices of future-making – practices with which disciplines like STS have long engaged in the context of scientific and technological innovation. As imaginaries of (un)desirable futures increasingly act as reference points for anti-autocratic resistance, we encourage democratization research to engage with works that deal with the impact of the future on democratic contestation in the present.

Notes

1. Eubanks, *Automating Inequality*; O'Neil, *Weapons of Mass Destruction*.
2. Bareis and Katzenbach, "Taking AI into Being"; Ferrari, "Technocracy Meets Populism."
3. Andersen, "The Panopticon."
4. Zuboff, *The Age of Surveillance*.
5. Borup et al., "The Sociology of Expectation"; Brown et al., "Contested Futures."
6. Jasanoff and Kim, *Dreamscapes of Modernity*; Mager and Katzenbach, "Future Imaginaries in the Making."
7. Eaton et al., "Bioenergy Futures."
8. Jasanoff, "Future Imperfect."
9. Waldner and Lust, "Unwelcome Change"; Diamond, "Democratic Regression"; Merkel and Lührmann, "Resilience of Democracies."
10. Lührmann and Lindberg, "A Third Wave."
11. Ibid.
12. Tomini, Gibril, and Bochev, "Standing up against autocratization."
13. Gamboa, "Opposition at the Margins."
14. Boese et al., "How Democracies Prevail."
15. Lührmann, "Disrupting the Autocratization."
16. Somer et al., "Pernicious Polarization"; Lührmann, "Disrupting the Autocratization."
17. Tomini, Gibril, and Bochev, "Standing Up Against Autocratization."
18. Borup et al., "The Sociology of Expectation"; Brown et al., "Contested Futures."
19. Robinson et al. "Enemies of the Future."

20. Koselleck, "Futures Past."
21. Konrad et al., "Performing and Governing."
22. Jasanoff and Kim, *Dreamscapes of Modernity*; Jasanoff, "Future Imperfect", 4.
23. Jasanoff and Kim, "Containing the Atom."
24. Kazansky and Milan, "Bodies not Templates"; Spektor, "Imagining the Biometric Future."
25. Hess, "Publics as Threats", 77.
26. Jasanoff and Kim, *Dreamscapes of Modernity*, 19.
27. Kazansky and Milan, "Bodies not Templates."
28. Eaton et al., "Bioenergy Futures."
29. Winner, "Do Artifacts have Politics?"
30. Medina, *Cybernetic Revolutionaries*.
31. Debos, "Biometrics and the Disciplining of Democracy."
32. Magnet, *When Biometrics Fail*, 6.
33. Jasanoff and Kim, *Dreamscapes of Modernity*, 19.
34. Jasanoff, "Future Imperfect."
35. Mager and Katzenbach, "Future Imaginaries in the Making."
36. Lehtiniemi and Ruckenstein, "The Social Imaginaries."
37. Spektor, "Imagining the Biometric Future."
38. Ferrari, "Technocracy Meets Populism"; Morozov, *To Save Everything*; Sadowski and Bendor, "Selling Smartness."
39. Bain et al., "Emerging Sociotechnical Imaginaries."
40. Monahan, "The Right to Hide"; de Vries and Schinkel, "Algorithmic Anxiety."
41. Goffman, *Frame Analysis*.
42. Benford and Snow, "Framing Processes."
43. Gates, *Our Biometric Future*.
44. Stanley and Steinhardt, *ACLU Special Report*.
45. Ibid.
46. Rule et al., "Documentary Identification."
47. Interview with US based activist. 31.03.2022. Surveillance Technology Oversight Project; Introna and Wood, "Picturing Algorithmic Surveillance."
48. Risen and Poitras, "NSA Collecting."
49. Nelson, *America Identified*.
50. Interview with US based activist. 30.03.2022. ACLU.
51. <https://www.fightforthefuture.org/>.
52. Magnet, *When Biometrics Fail*.
53. Buolamwini and Gebru, "Gender Shades."
54. Muhammad, *The Condemnation of Blackness*.
55. <https://www.aclu.org/news/privacy-technology/how-is-face-recognition-surveillance-technology-racist>.
56. <https://www.aclu.org/news/privacy-technology/how-face-recognition-fuels-racist-systems-of-policing-and-immigration-and-why-congress-must-act-now>.
57. Interview with US based activist. 11.05.2022. Georgetown Center on Privacy and Technology.
58. <https://www.clearview.ai/principles>.
59. <https://blogs.microsoft.com/ai/gender-skin-tone-facial-recognition-improvement/>.
60. <https://aif360.mybluemix.net/>.
61. <https://www.paravision.ai/ai-principles/>.
62. https://cdn.vox-cdn.com/uploads/chorus_asset/file/13723917/ORD__Acquisition_of_Surveillance_Technology.pdf.
63. Conger et al., "San Francisco Bans FRT."
64. <https://stopcrimesf.com/blog/2019/5/14/statement-on-san-franciscos-ban-of-facial-recognition-technology>.
65. Interview with US-based expert, 11 May 2022, Georgetown Center on Privacy and Technology.
66. Interview with US based activist, 31 March 2022, Surveillance Technology Oversight Project.
67. <https://www.thedailybeast.com/bots-are-terrible-at-recognizing-black-faces-lets-keep-it-that-way>.
68. Bennett, The Privacy Advocates.

69. <https://www.statewatch.org/publications/reports-and-books/on-globalisation-of-control-towards-an-integrated-surveillance-system-in-europe/>.
70. Dencik, Hintz and Cable, "Towards Data Justice."
71. https://edri.org/files/paper06_datap.pdf.
72. Interview with EU-based activist, 3 May 2022, La Quadrature.
73. <https://reclaimyourface.eu/the-problem/>.
74. <https://edri.org/wp-content/uploads/2020/05/Paper-Ban-Biometric-Mass-Surveillance.pdf>.
75. <https://reclaimyourface.eu/>.
76. *ibid.*
77. Interview with EU-based activist, 26 April 2022, Državljan D.
78. <https://reclaimyourface.eu/>.
79. <https://www.statewatch.org/publications/reports-and-books/building-the-biometric-state-police-powers-and-discrimination/>.
80. Interview with EU-based activist, 3 May 2022, La Quadrature.
81. Interview with EU-based activist, 4 April 2022, Gesichtserkennung Stoppen.
82. <https://edri.org/wp-content/uploads/2020/05/Paper-Ban-Biometric-Mass-Surveillance.pdf>.
83. <https://reclaimyourface.eu/the-problem/>.
84. <https://reclaimyourface.eu/>.
85. Interview with EU official. 28 September 2022. Solarova, Podroužek, Mesarčík, Gavornik and Bielikova, "Reconsidering the Regulation of Facial Recognition in Public Spaces."
86. <https://edri.org/our-work/eus-ai-law-needs-major-changes-to-prevent-discrimination-and-mass-surveillance/>; Veale and Borgesius, "Demystifying the Draft EU Artificial Intelligence Act"; Madięga and Mildebrath, "Regulating Facial Recognition in the EU"; Edward, "The EU AI Act."
87. Interview with EU-based activist, 24 March 2022, EDRI.
88. <https://edri.org/our-work/eus-ai-proposal-must-go-further-to-prevent-surveillance-and-discrimination/>.
89. <https://edri.org/our-work/european-parliament-calls-loud-and-clear-for-a-ban-on-biometric-mass-surveillance-in-ai-act/>.
90. <https://reclaimyourface.eu/reclaim-your-faces-coalition-53-orgs-made-it-leading-eu-politician-speaks-against-biometric-mass-surveillance/>.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Notes on contributors

Hendrik Schopmans is a PhD candidate at WZB Berlin Social Science Center and Free University Berlin.

Irem Tuncer-Ebetürk is a Post-doctoral Research Fellow at the WZB Berlin Social Science Center.

ORCID

Hendrik Schopmans  <http://orcid.org/0000-0002-4030-7483>

Irem Tuncer Ebetürk  <http://orcid.org/0000-0001-5024-5725>

References

- Andersen, Ross. "The Panopticon is Already Here." *The Atlantic*, September 2020.
- Bain, Carmen, Sonja Lindberg, and Theresia Sella. "Emerging Sociotechnical Imaginaries for Gene Edited Crops for Foods in the United States: Implications for Governance." *Agriculture and Human Values* 37, no. 2 (2020): 265–279.

- Bareis, Jascha, and Christian Katzenbach. "Talking AI into being: The Narratives and Imaginaries of National AI Strategies and their Performative Politics." *Science, Technology, & Human Values* 47, no. 5 (2021).
- Benford, Robert, and David Snow. "Framing Processes and Social Movements: An Overview and Assessment." *Annual Review of Sociology* 26, no. 1 (2000): 611–639.
- Bennett, Colin. *The Privacy Advocates: Resisting the Spread of Surveillance*. Boston: MIT Press, 2010.
- Boese, Vanessa, Amanda Edgell, Sebastian Hellmeier, Seraphine Maerz, and Staffan Lindberg. "How Democracies Prevail: Democratic Resilience as a Two-Stage Process." *Democratization* 28, no. 5 (2021): 885–907.
- Borup, Mads, Nik Brown, Kornelia Konrad, and Harro Van Lente. "The Sociology of Expectations in Science and Technology." *Technology Analysis & Strategic Management* 18, no. 3-4 (2006): 285–298.
- Brown, Nik, Brian Rappert, and Andrew Webster. *Contested Futures: A Sociology of Prospective Techno-Science*. New York: Ashgate, 2000.
- Buolamwini, Joy, and Timnit Gebru. "Gender Shades: Intersectional Accuracy Disparities in Commercial Gender Classification." In *Proceedings of Machine Learning Research* 81 (2018): 1–15.
- Conger, Kate, Richard Fausset, and S. Kovaleski. "San Francisco Bans Facial Recognition Technology." *The New York Times*, May 14, 2019.
- Debos, Marielle. "Biometrics and the Disciplining of Democracy: Technology, Electoral Politics, and Liberal Interventionism in Chad." *Democratization* 28, no. 8 (2021): 1406–22.
- Dencik, Lina, Arne Hintz, and Jonathan Cable. "Towards Data Justice? The Ambiguity of Anti-Surveillance Resistance in Political Activism." *Big Data & Society* 3, no. 2 (2016): 1–12.
- de Vries, Patricia, and Willem Schinkel. "Manufacturing Process Data Analysis Pipelines: A Requirements Analysis and Survey." *Journal of Big Data* 6, no. 1 (2019): 1–12. doi:[10.1186/s40537-018-0162-3](https://doi.org/10.1186/s40537-018-0162-3).
- Diamond, Larry. "Democratic Regression in Comparative Perspective: Scope, Methods, and Causes." *Democratization* 28, no. 1 (2021): 22–42.
- Eaton, Weston, Stephen Gasteyer, and Lawrence Busch. "Bioenergy Futures: Framing Sociotechnical Imaginaries in Local Places." *Rural Sociology* 79, no. 2 (2014): 227–256.
- Edward, Lilian. *The EU AI Act: A Summary of its Significance and Scope*. London: The Ada Lovelace Institute, 2022.
- Eubanks, Virginia. *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor*. New York: St. Martin's Publishing Group, 2018.
- Ferrari, Elisabetta. "Technocracy Meets Populism: The Dominant Technological Imaginary of Silicon Valley." *Communication, Culture and Critique* 13, no. 1 (2020): 121–24.
- Gamboia, Laura. "Opposition at the Margins: Strategies Against the Erosion of Democracy in Colombia and Venezuela." *Comparative Politics* 49, no. 4 (2017): 457–77.
- Gates, Kelly. *Our Biometric Future: Facial Recognition Technology and the Culture of Surveillance*. New York: NYU Press, 2011.
- Goffman, Erving. *Frame Analysis: An Essay on the Organization of Experience*. New York: Harvard University Press, 1974.
- Hess, David. "Crosscurrents: Social Movements and the Anthropology of Science and Technology." *American Anthropologist* 109, no. 3 (2007): 463–72.
- Introna, Lucas, and David Wood. "Picturing Algorithmic Surveillance: The Politics of Facial Recognition Systems." *Surveillance and Society* 2 (2002): 177–198.
- Jasonoff, Sheila. "Future Imperfect: Science, Technology, and the Imaginations of Modernity." In *Dreamscapes of Modernity: Sociotechnical Imaginaries and the Fabrication of Power*, edited by Sheila Jasonoff and Sang-Hyun Kim, 1–34. Chicago and London: University of Chicago Press, 2015.
- Jasonoff, Sheila, and Sang-Hyun Kim. "Containing the Atom: Sociotechnical Imaginaries and Nuclear Power in the United States and South Korea." *Minerva* 47 (2009): 119–146.
- Jasonoff, Sheila, and Sang-Hyun Kim, eds. *Dreamscapes of Modernity: Sociotechnical Imaginaries and the Fabrication of Power*. Chicago and London: University of Chicago Press, 2015.
- Kazansky, Becky, and Stefania Milan. "'Bodies not Templates': Contesting Dominant Algorithmic Imaginaries" *New Media & Society* 23, no. 2 (2021): 363–381.
- Konrad, Kornelia, Harro van Lente, Christopher Groves, and Cynthia Selin. "Performing and Governing the Future in Science and Technology." In *The Handbook of Science and Technology Studies, Fourth Edition*, 465–493. Boston: MIT Press, 2016.

- Koselleck, Reinhart. *Futures Past: On the Semantics of Historical Time*. New York: Columbia University Press, 2004.
- Lehtiniemi, Tuukka, and Minna Ruckenstein. "The Social Imaginaries of Data Activism." *Big Data & Society* 6, no. 1 (2019).
- Lührmann, Anna. "Disrupting the Autocratization Sequence: Towards Democratic Resilience." *Democratization* 28, no. 5 (2021): 1017–39.
- Lührmann, Anna, and Staffan Lindberg. "A Third Wave of Autocratization is Here: What is New About it?" *Democratization* 26, no. 7 (2019): 1095–1113.
- Madiega, Tambiama, and Hendrik Mildebrath. *Regulating Facial Recognition in the EU*. European Parliament Research Service, 2021.
- Mager, Astrid, and Christian Katzenbach. "Future Imaginaries in the Making and Governing of Digital Technology: Multiple, Contested, Commodified." *New Media & Society* 23, no. 2 (2021): 223–36.
- Magnet, Shoshana. *When Biometrics Fail: Gender, Race, and the Technology of Identity*. Durham: Duke University Press, 2020.
- Medina, Eden. *Cybernetic Revolutionaries: Technology and Politics in Allende's Chile*. Boston: MIT Press, 2011.
- Merkel, Wolfgang, and Anna Lührmann. "Resilience of Democracies: Responses to Illiberal and Authoritarian Challenges." *Democratization* 28, no. 5 (2021): 869–84.
- Monahan, Torin. "The Right to Hide? Anti-Surveillance Camouflage and the Aestheticization of Resistance." *Communication and Critical/Cultural Studies* 12, no. 2 (2015): 159–78.
- Morozov, Evgeny. *To Save Everything, Click Here: The Folly of Technological Solutionism*. New York: Hachette UK, 2013.
- Muhammad, Khalil Gibran. *The Condemnation of Blackness: Race, Crime, and the Making of Modern Urban America, with a New Preface*. Cambridge, MA: Harvard University Press, 2019.
- Nelson, Lisa S. *America Identified: Biometric Technology and Society*. Boston: MIT Press, 2010.
- O'Neil, Cathy. *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy*. New York: Penguin, 2017.
- Risen, James, and Laura Poitras. "N.S.A. Collecting Millions of Faces from Web Images." *The New York Times*, June 1, 2014.
- Robinson, Douglas K. R., Marc Audétat, Pierre-Benoit Joly, and Harro Van Lente. "Enemies of the Future? Questioning the Regimes of Promising in Emerging Science and Technology." *Science and Public Policy* 48, no. 6 (2021): 814–17.
- Rule, James, Douglas McAdam, Linda Stearns, and David Uglow. "Documentary Identification and Mass Surveillance in the United States." *Social Problems* 31, no. 2 (1983): 222–34.
- Sadowski, Jathan, and Roy Bendor. "Selling Smartness: Corporate Narratives and the Smart City as a Sociotechnical Imaginary." *Science, Technology, & Human Values* 44, no. 3 (2019): 540–63.
- Solarova, Sara, Juraj Podroužek, Matúš Mesarčík, Adrian Gavornik, and Maria Bielikova. "Reconsidering the Regulation of Facial Recognition in Public Spaces." *AI and Ethics* 3 (2023): 625–635.
- Somer, Murat, Jennifer McCoy, and Russell Luke. "Pernicious Polarization, Autocratization and Opposition Strategies." *Democratization* 28, no. 5 (2021): 929–48.
- Spektor, Michelle. "Imagining the Biometric Future: Debates Over National Biometric Identification in Israel." *Science as Culture* 29, no. 1 (2020): 100–126.
- Stanley and Steinhardt. "Drawing a Blank: The Failure of Facial Recognition in Tampa, Florida." 2002.
- Tomini, Luca, Suzan Gibril, and Venelin Bochev. "Standing up Against Autocratization Across Political Regimes: A Comparative Analysis of Resistance Actors and Strategies." *Democratization* 30, no. 1 (2023): 119–138.
- Veale, Michael, and Frederik Borgesius. "Demystifying the Draft EU Artificial Intelligence Act – Analysing the Good, the Bad, and the Unclear Elements of the Proposed Approach." *Computer Law Review International* 22 (2021): 97–112.
- Waldner, David, and Ellen Lust. "Unwelcome Change: Coming to Terms with Democratic Backsliding." *Annual Review of Political Science* 21, no. 1 (2018): 93–113.
- Winner, Langdon. "Do Artifacts Have Politics?" *Daedalus* 109, no. 1 (1980): 121–136.
- Zuboff, Shoshana. *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*. London: Profile Books, 2019.