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CAN AI SAVE DEMOCRACY?

From Militant Democracy to Cyberocracy¹

ABSTRACT: We are currently struggling with two transforming phenomena. On the one hand, we are witnessing an unprecedented in the history of mankind acceleration of the amount of data we have and the corresponding ability to collect and analyse it. On the other hand, we are witnessing a constant struggle to make democracy as good as possible – regardless of how such a normative goal is defined. Among many available solutions, the paper concerns two examples. The first is militant democracy, one of the more traditional attempts at saving democracy. Acknowledging its critical challenges, the other solution that is gaining momentum nowadays is discussed: Artificial Intelligence, which is conceptualized here as cyberocracy. What results is the contention that the discrepancy between technology opportunities and the public's frustration with democratic politics calls for consideration since it may constitute a basis for mapping out some viable options to reinvigorate democratic systems. Through referring to theory of democracy, sample AI democracy-addressed innovations are related to five dimensions: electoral, liberal, participatory, deliberative, and egalitarian. Such conceptual assessment of AI exemplar technologies designed for diverse forms of engagement in democratic governance offers a conceptual mapping of technologies aligned with democratic principles and allows to move beyond the dominant dystopian approach to the topic.

Keywords: AI and democracy, militant democracy, democratic theory, technology and democracy

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It will always remain one of the best jokes of democracy that it provided its mortal enemies itself with the means through which it was annihilated.

Joseph Goebbels quoted in Jan-Werner Müller²

The more powerful the medium, the more effective it can be to a politician who gains control of it.

James Martin³

INTRODUCTION

We live in an exceedingly intricate, troubled, and convoluted information ecosystem that has never been witnessed before. Consequently, there is considerably massive hype – that occasionally turns into myopic paranoia – over developments in the area of advanced information and computational technologies: Artificial Intelligence (AI), big data, machine learning, blockchain, fake news, deep fakes and *infodemic*, Internet of Things, deep learning, astroturfing, AI generative models, cloud computing, nudging, cyber- and e- applications of nearly every conceivable nature. These exemplify merely a fraction of the most salient terminologies (and at times, encompassing buzzwords) that underpin the fourth industrial revolution. For many observers, recent developments in information and communication technologies (ICT) appear to render Thorstein Veblen's notion of 'technological determinism' more tangible than at any prior moment.

Indeed, it is challenging to disregard the extensive transformations in social, political, and economic environments that are ascribed to modern technologies – well beyond the generalized assertions, already acknowledged decades ago, regarding the deleterious potential of technology on social cohesion.⁴ The most recent technological developments range from artificial intelligence to biotechnology, neuroscience, robotics, semiconductors, and energy technologies – merely to name a few.⁵ However, for current purposes, what follows will concentrate on AI and its political ramifications.

² J.W. Müller, "Militant Democracy," in M. Rosenfeld, A. Sajó (eds), *The Oxford Handbook of Comparative Constitutional Law*, Oxford 2012, p. 1254.

³ J. Martin, *The Wired Society. A Challenge for Tomorrow*, New Jersey 1978, p. 243.

⁴ *Ibid.*; *Individual Rights and the Federal Role in Behavior Modification; A Study Prepared by the Staff of the Subcommittee on Constitutional Rights of the Committee on the Judiciary*, United States Senate, Ninety-third Congress, Second Session. Congress of the U.S., Washington 1974, at <https://files.eric.ed.gov/fulltext/ED103726.pdf>, 27 January 2025; L. Winner, *Autonomous Technology. Technics-out-of-Control as a Theme in Political Thought*, Cambridge 1978.

⁵ C. Rice, J. Taylor, J. Widom et al., *The Stanford Emerging Technology Review 2023. A Report on Ten Key Technologies and Their Policy Implications*, Stanford 2023.

The reason for this contention is that the way we govern and we are governed seems to be not on par with the continuously accelerating pace of ITCs technological advancement. To put it succinctly: contemporary government is ‘modern’ solely in the sense of being current, yet not up to date.⁶ This assessment may seem rather paradoxical if we only acknowledge that governance may be *machine-like in nature: tasks are subdivided and roles are specialized so as to perform the business of governance as efficiently as possible*⁷ and *democratic institutions are problem-solving tools, much like technology itself*.⁸ This conceptual framework is foundational for others who claim that *authority is increasingly expressed algorithmically*⁹ since, according to certain interpretations, politics and technology are *dialectically intertwined*¹⁰ and this interplay may either mobilize individuals or bind them to collective problem-solving endeavors.¹¹

The aforementioned phenomena, however significant and transformative, would not be as perplexing were they not associated with a multitude of formidable contemporary challenges confronting democracy. In other words, this lack of adaptability of the political world would not matter much if only democracy was working properly.

This growing discrepancy between technological opportunities and public frustration with democratic politics warrants an in-depth examination, as it may provide a foundation for discerning viable strategies to rejuvenate democratic systems. At the current moment, we are at the crossroads, or rather at the roadblock, ensnared between significant opportunities and substantial hazards. The imperative for action is stronger than ever, as pressing inquiries demand urgent contemplation: Is this the end of democracy as we know it? Should the way we approach democracy evolve? Are there ways to make democracy more resilient to better deliver its promises? How can we reimagine democracy to endure in an unpredictable future? The fact that democracy cannot keep up with the rapid transformations within societies that are increasingly reliant on ICTs establishes the context for these critical inquiries.

Obviously, the issue of technological imprint on elections, governance, participation, and deliberation is hardly a contemporary concern.¹² Among the most compelling

⁶ P. Diamandis, “Could Tech Make Government as We Know It Irrelevant?,” *Singularity Hub*, 12 October 2018, at <https://bit.ly/2mQUIRY>, 14 January 2025; P. Mancini, *Home Page*, at <https://www.piamancini.com/>, 12 February 2025; J. Naisbitt, *Megatrends. Ten New Directions Transforming Our Lives*, New York 1982, p. 160.

⁷ J. Danaher, M. Hogan, C. Noone et al., “Algorithmic Governance. Developing a Research Agenda through the Power of Collective Intelligence,” *Big Data & Society*, vol. 4, no. 2 (2017), p. 2.

⁸ L. Bernholz, H. Landemore, R. Reich, “Introduction” in L. Bernholz, H. Landemore, R. Reich (eds), *Digital Technology and Democratic Theory*, Chicago 2021, p. 8.

⁹ F. Pasquale, *The Black Box Society. The Secret Algorithms That Control Money and Information*, Cambridge 2015, p. 8.

¹⁰ S. Coleman, *Can the Internet Strengthen Democracy?*, Malden 2017.

¹¹ D. Lee, M. Levi, J. Brown, “Democratic Societal Collaboration in a Whitewater World,” in L. Bernholz, H. Landemore, R. Reich (eds), *Digital Technology and Democratic Theory*, Chicago 2021, pp. 225-231.

¹² L. Bernholz, H. Landemore, R. Reich, “Introduction...,” p. 5.

innovations that facilitated public feedback was the pushbutton telephone, engineered in the late 1970s, which was purposed to continuously gather user preferences and transmit these data to a local computing system, subsequently relaying them to a central terminal for the aggregation of votes.¹³ Interestingly, even within one of the relatively early analyses (i.e., prior to the advent of massive and commercial Internet), the term ‘new media technologies’ is explicitly referenced while examining their ramifications on the democratic landscape at that time.¹⁴ As a result, there exists a body of research focused on the implications of emerging technologies and communication processes.¹⁵ Furthermore, there is even some evidence that technology may be a remedy for a ‘democratic limbo.’¹⁶ Nevertheless, it is imperative to exercise caution, and at least two significant caveats must be acknowledged.

First, ICTs represent merely one of many other forms of revitalizing modern democratic practices,¹⁷ with preliminary initiatives from the nascent consumer Internet age, such as electronic town meetings, having been tested as early as the late 1970s.¹⁸ Nonetheless, the existing body of literature indicates discernible deficiencies in theoretical foundations, methodological rigor, and empirical verification. Second, when the quality of scholarly work is deemed adequate, it remains inconclusive, as it traverses a spectrum of perspectives articulated by techno-optimists and dystopian technology-sceptic ‘Pyrrhonians’. In a similar vein, even the comparatively well-examined domain of new communication technologies reveals that authors exhibit variability in their responses to the intricate inquiry of whether social media possesses the capacity to modify¹⁹ or, conversely, does not influence²⁰ the trajectory of specific political developments, such as protest movements. Likewise, certain empirical findings indicate that technology may exacerbate political cleavages; however, this phenomenon is nuanced, as it is con-

¹³ J. Martin, *The Wired Society...*, p. 72.

¹⁴ J. Abramson, Ch. Arterton, G. Orren, *The Electronic Commonwealth. The Impact of New Media Technologies on Democratic Politics*, New York 1988.

¹⁵ S. Coleman, J. Blumler, *The Internet and Democratic Citizenship: Theory, Practice and Policy*, Cambridge 2009; A. Chadwick, “Web 2.0: New Challenges for the Study of E-Democracy in an Era of Informational Exuberance,” *I/S: A Journal of Law and Policy for the Information Society*, vol. 5, no. 1 (2009), pp. 9-41; L. Ceccarini, “Could the Internet Be a Safety-Net for Democracy in Crisis?,” *Italian Political Science Review/Rivista Italiana Di Scienza Politica*, vol. 50, no. 1 (2020), pp. 125-141.

¹⁶ S. Coleman, *Can the Internet...*

¹⁷ J. Drew, “Can Local Government by Lottery Increase Democratic Responsiveness?,” *Policy and Politics*, vol. 47, no. 4 (2019), pp. 621-636; P. Levy, *Collective Intelligence: Mankind’s Emerging World in Cyberspace*, Cambridge 1997; G. Smith, *Democratic Innovations. Designing Institutions for Citizen Participation*, Cambridge 2009.

¹⁸ J. Abramson, Ch. Arterton, G. Orren, *The Electronic Commonwealth...*, pp. 178-184.

¹⁹ J. Tucker, J. Nagler, M. Metzger et al., “Big Data, Social Media, and Protest: Foundations for a Research Agenda,” in R.M. Alvarez (ed.), *Computational Social Science. Discovery and Prediction*, Cambridge 2016, pp. 199-224.

²⁰ M. Gladwell, “Small Change: Why the Revolution Will Not Be Tweeted,” *The New Yorker*, 27 October 2010, at <https://www.newyorker.com/magazine/2010/10/04/small-change-malcolm-gladwell>, 17 January 2025.

tingent upon the dynamics between technology's beneficiaries and detractors.²¹ Furthermore, a prevailing lack of consensus persists regarding the extent of big technology's influence over international politics.²² Consequently, at the most general level, what follows aims to engage with and rectify some of these discrepancies. Due to the limitations set on the length of this article, it does not claim to be an exhaustive and systematic treatment of the subject. For this single reason, argument presented here has obvious potential limitations that may affect the research results. At the same time, however, it should be treated as an attempt to enable broad theoretical discussion and fill some gaps in the literature.

However, prior to engaging in a more comprehensive examination, it is imperative to consider one of the established remedies that have been formulated to address the deficiencies of democratic governance: Militant Democracy. This framework would provide a more resilient conceptual basis for the discourse surrounding the preservation of democratic principles.

SAVING DEMOCRACY: MILITANT DEMOCRACY

The concept of 'Militant Democracy' has been the subject of academic (as well as public/political) debate for almost a century. At the same time, however, it is mainly developed in law, particularly in constitutional law. This observation is noteworthy, as the concept is intrinsically related to one of the key categories of political science research: democracy. Therefore, it is imperative to consider the insights garnered from militant democracy research in the context of both current and prospective initiatives aimed at enhancing the functioning of the democratic system. To facilitate this, it is beneficial to reference the classification of militant democracy that is predicated on both temporal and functional dimensions.

In its original meaning, militant democracy was a response to mid-war European struggles with a rising wave of fascism. Given the gravity of the situation, one conceivable response was the acceptance of the premise that 'fire is fought with fire'.²³ In essence, there existed extraordinary conditions that necessitated extraordinary measures – far surpassing the limitations imposed by mere 'constitutional scruples'.²⁴ What may be perceived as contentious from a contemporary viewpoint, Loewenstein's

²¹ T. Kurer, N. Schöll, "How Technological Change Affects Regional Voting Patterns," *Political Science Research and Methods*, vol. 12, no. 1 (2024), pp. 94-112.

²² S. Walt, "Big Tech Won't Remake the Global Order," *Foreign Affairs*, 8 November 2021, at <https://foreignpolicy.com/2021/11/08/big-tech-wont-remake-the-global-order>, 17 January 2025; I. Bremmer, "The Technopolar Moment. How Digital Powers Will Reshape the Global Order," *Foreign Affairs*, vol. 100, no. 6 (2021), pp. 112-128.

²³ K. Loewenstein, "Militant Democracy and Fundamental Rights, II," *American Political Science Review*, vol. 31, no. 4 (1937), p. 656.

²⁴ K. Loewenstein, "Militant Democracy and Fundamental Rights, I," *American Political Science Review*, vol. 31, no. 3 (1937), p. 432.

interpretation of democracy (and constitutional governance) was predicated solely upon rational justification; he contended that democracy was distinctly incapable to ‘mobilize emotionalism.’²⁵ Furthermore, despite his inherent naivety and idealism, the arsenal of militant democracy was intended to be a provisional measure: since its facilitators were liberals, once they had fulfilled their roles, they would ostensibly relinquish their authority and retire. What appears to be even more problematic is the assignment of ‘liberal-minded men’ with the responsibility of saving democracy from within by instituting ‘disciplined authority.’²⁶

Table 1. Militant democracy: A typology of possible strategies

		Temporal dimension	
		Short term	Long term
Functional dimension (measures used)	Repressive, offensive, coercive	formal and/or informal (‘cordon sanitaire’) restriction of civil rights	removal of opponents from public offices (=purges)
	Preventive, accommodative, defensive	inclusion of opponents in system activities	civic education for strengthening democratic values

For further reading, see: G. Capoccia, *Defending Democracy. Reactions to Extremist Parties in Interwar European Democracies*, Baltimore 2005; A. Esmark, *The New Technocracy*, Bristol 2020; pp. 232-233; C. Kaltwasser, “Populism and the Question of How to Respond to It,” in C.R. Kaltwasser, P. Taggart, P. Ochoa Espejo et al. (eds), *The Oxford Handbook of Populism*, Oxford 2017, pp. 489-507

The cost of such an approach must have been substantial. The proposed remedy was one that embraced an ‘anything it takes’ philosophy – *even at the risk and cost of violating fundamental principles*.²⁷ Indeed, ‘What doesn’t kill us, makes us stronger’ could serve as Loewenstein’s epigraph. Alternatively, to rephrase Saint-Just’s renowned aphorism: There is no democracy for the enemies of democracy. In this respect, the remedy suggested by Loewenstein was, in essence, no superior to the disease itself, as its means encompassed the abuse of power, infringement of rights, and subversion of laws. Ultimately, Loewenstein’s militant democracy devolves into a form of non-democracy or, more accurately, poses an imminent threat to democratic ideals. This inherent paradox did not constitute a dilemma for Loewenstein; rather, it casts a long shadow over his theoretical framework.²⁸ Similarly, he appears to have a clear understanding regarding the enemies of democracy – namely, fascists and their henchmen. However, what of other hostile entities? For instance, what if certain religious groups advocate against

²⁵ Ibid., p. 428.

²⁶ K. Loewenstein, “Militant Democracy and Fundamental Rights, II...,” p. 658.

²⁷ K. Loewenstein, “Militant Democracy and Fundamental Rights, I...,” p. 432.

²⁸ P. Macklem, “Militant Democracy, Legal Pluralism, and the Paradox of Self-Determination,” *International Journal of Constitutional Law*, vol. 4, no. 3 (2006), pp. 488-516. There exists an additional, well-recognized democratic paradox: the potential for self-annihilation of democracy itself in the course of its self-defence, see J.W. Müller, “Militant Democracy...” p. 1254.

democratic principles?²⁹ Should we then consider suspending religious freedoms? Additionally, does artistic activity contesting democracy fall under the protection of freedom of speech? Loewenstein is silent about such issues.

From a contemporary perspective, the initial concept is increasingly invoked in response to distinct challenges facing modern democracies, with ‘illiberal constitutionalism’³⁰ of ‘neo-militant democracies’³¹ serving as two pertinent illustrations. For our purposes, it is particularly interesting to acknowledge that Loewenstein believed that militant democracy was nothing more than a *transitional stage until a better social adjustment to the conditions of the technological age has been accomplished*.³² In the subsequent analysis, it will be argued that we may have entered an era of such a *better social adjustment to the conditions of the technological age*.

ARTIFICIAL INTELLIGENCE AND DEMOCRACY: REVIEW OF SYSTEMATIZATION APPROACHES

Militant Democracy represents just one of solutions to save democracy. Considering the recent advancements in advanced information/computer technologies – mainly artificial intelligence – there exists a considerable temptation to regard these innovations as a possible arsenal of further weapons to save democracy from its adversaries.

There are at least two overarching justifications for employing a diverse array of AI-driven tools. The first justification leverages contemporary technological advancements fueled by an unparalleled volume of data accrued in human history, alongside the evolution of increasingly sophisticated algorithms and hardware solutions. The second justification arises from the recognition that many social and political processes are structured, meaning they reveal specific patterns amenable to modeling. The aforementioned motivations, while potentially transformative, are underscored by numerous challenges confronting modern democracy. This situation opens the debate regarding the utilization of existing AI tools to bolster democratic integrity. To elucidate this argument, it is worth starting with presenting selected attempts aimed at systematizing the phenomenon of AI’s application within democratic contexts.

²⁹ Ibid., p. 1256; A. Bień-Kacała, A. Jackiewicz, “Militant Democracy – demokracja, która sama się broni (?)” [Militant Democracy – a Democracy That Defends Itself (?)], *Państwo i prawo*, vol. 8 (2017), p. 37, A. Sajó, “Militant Democracy and Emotional Politics,” *Constellations*, vol. 19, no. 4 (2012), pp. 562-574.

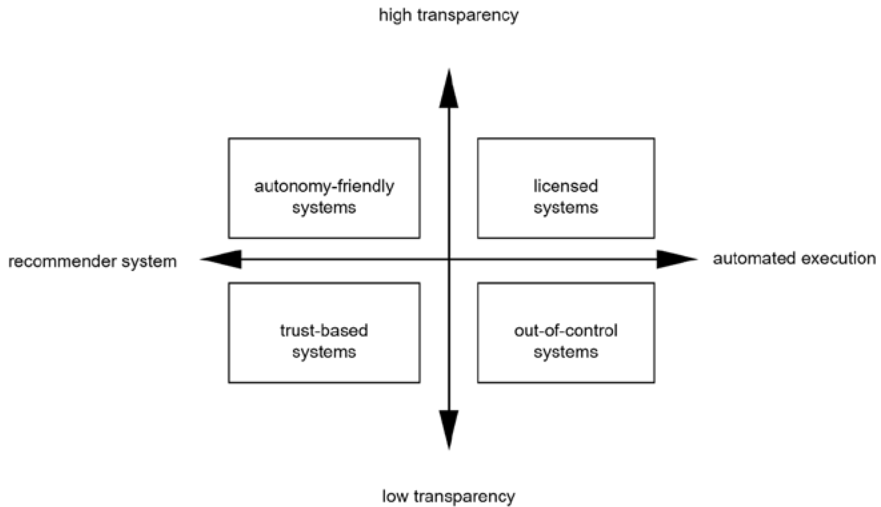
³⁰ T. Drinóczi, A. Bień-Kacała, *Illiberal Constitutionalism in Poland and Hungary. The Deterioration of Democracy, Misuse of Human Rights and Abuse of the Rule of Law*, London 2022.

³¹ J. Rak, R. Bäcker (eds), *Neo-Militant Democracies in Post-Communist Member States of the European Union*, London 2022; J. Rak (ed.), *Why Neo-Militant Democracies Endure. The Inner Six in Comparative Perspective*, London–New York 2024.

³² K. Loewenstein, “Militant Democracy and Fundamental Rights, II...,” p. 658.

Katzenbach and Ulbricht structure the debate around the concept of algorithmic governance.³³ To evaluate its performance against normative benchmarks, they propose four Weberian-style ideal types of algorithmic governance, which are categorized across two dimensions: degree of automation vs. transparency.

Figure 1. Types of algorithmic governance systems



Source: Ch. Katzenbach, L. Ulbricht, "Algorithmic Governance," *Internet Policy Review*, vol. 8, no. 4 (2019), p. 8

Although they are based on different digital tools and diverse governance applications, their approach can also be applied to AI use in democratic systems. Indeed, it would be awkward to overlook the fact that transparency constitutes one of the fundamental characteristics of democracy. Likewise, the level of automation significantly contributes to the discourse surrounding democracy, as it pertains to essential notions such as legitimization, accountability, responsibility, and human subjectivity. Consequently, it is unsurprising that these elements are manifested in a multitude of AI applications discussed subsequently in this text.

A different systematizing approach is presented by Sætra.³⁴ Here, it is suggested that AI applications may *support*, *assist*, *alleviate*, *augment* or *supplant* human decision makers. To emphasize the conceptual framework, the metaphor of human-machine decision-making loop is applied.

³³ Ch. Katzenbach, L. Ulbricht, "Algorithmic Governance," *Internet Policy Review*, vol. 8, no. 4 (2019), pp. 1-18.

³⁴ H. Sætra, "A Typology of AI Applications in Politics," in A. Visvizi, M. Bodziany (eds), *Artificial Intelligence and Its Contexts. Advanced Sciences and Technologies for Security Applications*, Cham 2021, pp. 27-43.

Table 2. Typology of AI systems in political contexts

Type	AI's role	Constellation of 'decision loop'
support	prepare	machine-out-of-the-loop
assist	automate and prepare	human-in-the-loop
alleviate	automate	human-on-the-loop
augment	guide and tutor	machine-on-the-loop
supplant	decide	human-out-of-the-loop

Source: H. Sætra, "A Typology of AI Applications in Politics," in A. Visvizi, M. Bodziany (eds), *Artificial Intelligence and Its Contexts. Advanced Sciences and Technologies for Security Applications*, Cham 2021, p. 32

In this context, allusions to democracy are clearly articulated and encompass the AI applications delineated below. Nonetheless, it is imperative to recognize that these typologies lead to the 'technocratization' of politics, signifying its interpretation through the lens of issues that can be systematically managed and definitively resolved, ultimately and efficiently, employing a rational strategy designed to enhance the decision-making process.

A markedly different logic underpins the work of Sousa et al., who reference the well-established OECD categorization of governmental functions.³⁵ The functional approach applied here covers the following ten categories: General public services, Defence, Public order and safety, Economic affairs, Environmental protection, Housing and community amenities, Health, Recreation, culture and religion, Education, and Social protection. While this classification proves to be quite beneficial, it concurrently possesses a universal applicability that transcends any specific government system; whereas our focus here is on concepts that are more specifically tailored for democratic contexts. Consequently, the ensuing discussion is informed by such conceptual considerations.

ARTIFICIAL INTELLIGENCE AND DEMOCRACY: MOVING CONCEPTUALLY FORWARD

When looking for such solutions directly aimed at democracy, it is useful to refer to its classical dimensions: electoral, liberal, participatory, deliberative, and egalitarian. For the sake of clarity, Table 3 summarizes the above democratic features.

³⁵ W. Gomes de Sousa, E.R. Pereira de Melo, P.H. De Souza Bermejo et al., "How and Where Is Artificial Intelligence in the Public Sector Going? A Literature Review and Research Agenda," *Government Information Quarterly*, vol. 36, no. 4 (2019), 101392.

Table 3. Dimensions of democracy as defined by the V-Dem project

Democracy principle (dimension)	Explanation
electoral	'making rulers responsive to citizens through periodic elections'
liberal	'embodies the intrinsic value of protecting individual and minority rights against a potential 'tyranny of the majority' and state repression. This principle is achieved through constitutionally-protected civil liberties, strong rule of law, and effective checks and balances that limit the use of executive power'
participatory	'direct rule and active participation by citizens in all political processes. ... it also emphasizes non electoral forms of political participation, such as civil society organizations and other forms of both non electoral and electoral mechanisms of direct democracy'
deliberative	'political decisions in pursuit of the public good should be informed by a process characterized by respectful and reason-based dialogue at all levels'
egalitarian	'all groups should enjoy equal <i>de jure</i> and <i>de facto</i> capabilities to participate; to serve in positions of political power; to put issues on the agenda; and to influence policymaking'

Source: M. Coppedge, J. Gerring, C. Knutsen et al., *V-Dem Methodology V9*, Gothenburg 2019, pp. 4-6

The source of this framework is the V-Dem project, formally referred to as the Varieties of Democracy. Notably, in its provision of valuable multidimensional and disaggregated empirical data concerning political regimes globally, the V-Dem methodology makes a rather limited endeavor to encapsulate the intricate nature of the concept of democracy itself. It prioritizes the notion of liberal democracy as a central ideal type, thereby overlooking the significance of conceptual pluralism, which potentially encompasses a myriad of alternative democratic forms throughout history and across various geographical contexts.³⁶ Nevertheless, the V-Dem methodology may be employed here, albeit not for its original intent of evaluating different regimes. Instead, it functions as a conceptual framework that is pertinent for the examination of AI applications within any democratic context, that is to say, without necessitating adherence to any of the criteria assigned by V-Dem.

³⁶ J.P. Gagnon, "Signs of Democracy (Adjectival Modifications of the English Noun 'Democracy')," Canberra, 20 April 2021; F. Schaffer, J.P. Gagnon, "Democracies Across Cultures," *Democratic Theory*, vol. 10, no. 1 (2023), pp. 91-104; M. Adams, C. Prins, "Digitalization through the Lens of Law and Democracy," in C. Prins, C. Cuijpers, P.L. Lindseth et al. (eds), *Digital Democracy in a Globalized World*, Cheltenham 2017, pp. 3-24.

Table 4. A selection of democracy-addressed AI applications

Democracy principle (dimension)	Examples of AI innovations
electoral	<ul style="list-style-type: none"> • I-Voting, Taiwan (https://ivoting.taipei) • YourSAy, Australia (https://yoursay.sa.gov.au) • HelloVote, USA (https://www.hello.vote/#what-is-hellovote) • improving security systems of electoral authorities (e.g. electoral forensics)
liberal	<ul style="list-style-type: none"> • Machine Learning for Peace Project, USA (https://web.sas.upenn.edu/mlp-devlab) • Rosie Project, Brazil (https://serenata.ai/en) • state- and regional-level AI regulatory initiatives • combating disinformation measures
participatory/ deliberative	<ul style="list-style-type: none"> • Computational Democracy Project, USA (https://pol.is/home) • Klimarat, Austria (https://klimarat.org) • 2021 national referendum debate, Uruguay (https://github.com/proyectourgente/cuestionario-luc/tree/main/datos) • United Nations Development Programme (UNDP) Youth Conversations, Bhutan, Pakistan, Timor Leste (https://www.youthconversations.org) • HiveMind, New Zealand (https://info.scoop.co.nz/HiveMind) • vTaiwan, Taiwan (https://info.vtaiwan.tw) • Talk to the City, USA (https://ai.objectives.institute/talk-to-the-city)
egalitarian	<ul style="list-style-type: none"> • Slavery from Space, UK (https://www.nottingham.ac.uk/research/beacons-of-excellence/rights-lab/programmes/data/index.aspx) • School-Effect Indicator, Brazil (https://oecd-opsi.org/innovations/school-effect-indicator) • Kommunale Gebärdensprach-Avatar [Municipal sign language avatar], Germany (https://www.gebaerdensprach-avator.de) • Hua Ki'i AI Prototype App, Canada (https://github.com/rngwlf/hua_kii) • government automation in public service delivery

Source: author's own assessment based on literature review and Internet searches. The search strategy was adjusted to reflect the geographical diversity of relevant projects. Accuracy of Web links as of mid-2024

These illustrative use cases elucidate the operative potential inherent in what may be referred to as cyberocracy. The term is frequently attributed to David Ronfeldt's examination of the political ramifications stemming from the information revolution during the early 1990s. He succinctly asserted that cyberocracy simply *signifies rule by means of information*.³⁷ Notably, the term in question encompasses two meanings of the prefix cyber. One is derived from the Greek word *kybernan* (=to steer, to govern), as in the scientific discipline of cybernetics. On the other hand, it also invokes a plethora of *cyber*-terms prevalent in contemporary world. As a result, a multitude of digital solutions

³⁷ D. Ronfeldt, *Cyberocracy, Cyberspace, and Cyberology. Political Effects of the Information Revolution*, Santa Monica 1991, p. 8, at <https://bit.ly/2Q2xC27>, 17 January 2025; D. Ronfeldt, "Cyberocracy Is Coming," *The Information Society*, vol. 8, no. 4 (1992), p. 244.

is addressed explicitly. The second chunk of the word (*-cracy*) is evidently connected to the Greek *kratos* (=to rule). Consequently, cyberocracy can be conceptualized in terms of how information systems revolutionize governance amidst the fourth industrial revolution, as it pertains to concepts such as governing and ruling. This nexus holds particular significance in the present context, even though it has been acknowledged for some time that the profusion of digital technologies, with artificial intelligence as a paramount today's exemplar, renders the matter a central concern for scholars and practitioners of democracy in contemporary society.

Nevertheless, while recognizing its original meaning, the term cyberocracy ought not to be conflated with democracy. It rather deals with *any* system of government and *any* technological development towards communication facilitation. Instead, it pertains to any form of government and any advancements in technology that facilitate communication. Yet, for the purposes of this analysis, it can be seamlessly applied to modern democratic systems, although without a definitive assessment of their performance or the specific variant of democracy that is employed. In this context, cyberocracy enhances other similar concepts that have been previously developed in scholarly discourse (e.g. infocracy, e-Democracy, digital democracy, cyberdemocracy, algorithmic governance, democracy 2.0, government as a platform, etc.) by merging conceptually technology with governance/power. At the same time, it also allows for overcoming limitations inherent to the well-known terms like e-Democracy, digital democracy, or teledemocracy which are considerably limited to two areas: computer-mediated communication processes and voting.³⁸ In other terms, the concept of cyberocracy articulated herein transcends the emphasis on voting and the online deliberative/mobilization turn in democratic governance, positioning these elements as foundational building blocks of the analysis rather than its focal point.³⁹ Cyberocracy also releases some inherent limitations of the concept of algorithmic governance ('algocracy'), which is focused on 'algorithm-based decision-making systems'⁴⁰ given that the aforementioned instances extend well beyond the decision-making/voting framework (for one of the examples within this area, see the now defunct project D-CENT⁴¹). To sum up, for the current purposes, cyberocracy encompasses instances of artificial intelligence technologies that are tailored for various modalities of participation in democratic governance across its diverse conceptual dimensions.

³⁸ J. Abramson, Ch. Arterton, G. Orren, *The Electronic Commonwealth...*, p. 9, pp. 297-298, M. Moore, "Protecting Democratic Legitimacy in a Digital Age," *Political Quarterly*, vol. 90, no. S1 (2019), pp. 92-106; N. Persily, "Can Democracy Survive the Internet?," *Journal of Democracy*, vol. 28, no. 2 (2017), pp. 63-76; G. Vilella, *E-Democracy. On Participation in the Digital Age*, Baden-Baden 2019.

³⁹ M. Jäske, M. Setälä, "A Functionalist Approach to Democratic Innovations," *Representation. Journal of Representative Democracy*, vol. 56, no. 4 (2020), pp. 467-483.

⁴⁰ J. Danaher, M. Hogan, C. Noone et al., "Algorithmic Governance...", p. 2; J. New, D. Castro, "How Policymakers Can Foster Algorithmic Accountability," *Center for Data Innovation*, 21 May 2018, at <http://www2.datainnovation.org/2018-algorithmic-accountability.pdf>, 7 January 2025.

⁴¹ *Decentralised Citizens Engagement Technologies*, 2016, at <https://dcentproject.eu/about-us>, 13 January 2025.

SUMMARY

It is sometimes posited that contemporary technologies can be managed and regulated with relative ease, even in the absence of comprehensive understanding regarding their potential and capabilities.⁴² However, in the context being examined herein, the opposite appears to prevail. Specifically, while there exist recognized, validated, and empirically supported avenues for the application of artificial intelligence in the realm of politics, we continue to encounter significant challenges concerning the regulatory dimensions. Turning to a summary of these opportunities for the use of AI-based tools, the following conclusions may be offered.

First, artificial intelligence can be employed – with considerable efficacy – across all dimensions of democratic theory: electoral, liberal, participatory/deliberative, and egalitarian. Naturally, an examination of the applications of artificial intelligence within democratic contexts reveals that certain domains are disproportionately represented, as most clearly is illustrated by the dominance of solutions designed to enhance the participatory and deliberative aspects. Here, social networks and other Web-based means of communication are one of the most prominent examples of the role played by AI in moderating communication today.

Second, an examination of the aforementioned applications confirms a widely acknowledged assertion concerning the intrinsic characteristics of artificial intelligence and algorithmic instruments employed within the public sphere: these tools are inherently neither detrimental (i.e., anti-democratic) nor beneficial (i.e., pro-democratic) by design. What is accessible literally at our fingertips is merely a collection of (powerful) instruments for potential deployment, contingent upon the objectives of the users. This observation also culminates in the inference that AI-based solutions exhibit notable efficacy within operational democratic frameworks, whereas, in authoritarian regimes, they are exploited to fortify the authority of dictators.⁴³ Therefore, we are offered a well-known parable in political science, derived from the Gospel of St. Matthew: *For unto every one that hath shall be given, and he shall have abundance: but from him that hath not shall be taken away even that which he hath* (Mt 25:29).

Furthermore, AI tools ought not to be regarded as a ‘universal cure’ for all diseases plaguing modern democracies. Rather, it constitutes one of numerous potential remedies that leverage technological advancements to enhance the integrity and quality of democracy. Among various illustrative instances, it is worth mentioning the initiatives pertaining to smart cities concept or more conventional e-government solutions.

And last but not least, it is pertinent to address the efficacy of the activities that are the focus of the aforementioned analysis. One of the compelling dimensions of this topic is the relatively prevalent reluctance to incorporate automation into decision-making processes – particularly in the context of political decisions within a democratic

⁴² H. Sætra, “A Typology of AI Applications in Politics...,” p. 30.

⁴³ S. Feldstein, *The Rise of Digital Repression. How Technology Is Reshaping Power, Politics, and Resistance*, New York 2021.

framework. The reason is that this domain presents correspondingly elevated stakes in comparison to applications designed to facilitate routine business decisions, wherein artificial intelligence has already been implemented – albeit with varying levels of success – for many years. On the other hand, the question remains: To what extent are the recommendations generated by automated decision-making systems ‘inferior’ to those provided by human agents, particularly those formulated by experts, namely individuals possessing specialist knowledge?⁴⁴

The above picture shows that there are many forms of applying technological transformations that are mainly developed in and are designed to strengthen the democratic system of government.⁴⁵ That said, the other side of the issue is also important, i.e. documented instances of the use of technology for surveillance in democracies. While this topic is undoubtedly captivating, it is beyond the purview of the current analysis, as it pertains to a distinct area of scholarly inquiry.⁴⁶ Regardless of the perspective we adopt concerning artificial intelligence, the ultimate decision regarding our trajectory remains in our hands: we may opt for quick measures and seek superficial resolutions, or we may judiciously and intentionally navigate the trajectory of AI in order to actualize the commitments of democracy.

REFERENCES

- Abramson J.B., Arterton Ch., Orren G.R., *The Electronic Commonwealth. The Impact of New Media Technologies on Democratic Politics*, New York 1988.
- Adams M., Prins C., “Digitalization through the Lens of Law and Democracy,” in C. Prins, C. Cuijpers, P.L. Lindseth et al. (eds), *Digital Democracy in a Globalized World*, Cheltenham 2017, pp. 3-24.
- Bernholz L., Landemore H., Reich R., “Introduction,” in L. Bernholz, H. Landemore, R. Reich (eds), *Digital Technology and Democratic Theory*, Chicago 2021, pp. 1-22.
- Bień-Kacała A., Jackiewicz A. “Militant Democracy-demokracja, która sama się broni (?)” [Militant Democracy – a Democracy That Defends Itself (?)], *Państwo i Prawo*, vol. 8 (2017), pp. 25-41.
- Bremmer I., “The Technopolar Moment. How Digital Powers Will Reshape the Global Order,” *Foreign Affairs*, vol. 100, no. 6 (2021), pp. 112-128, <https://www.jstor.org/stable/27121446>.
- Capocchia G., *Defending Democracy. Reactions to Extremist Parties in Interwar European Democracies*, Baltimore 2005.

⁴⁴ E. Yong, “A Popular Algorithm Is No Better at Predicting Crimes Than Random People,” *The Atlantic*, 17 January 2018, at <https://www.theatlantic.com/technology/archive/2018/01/equivant-compas-algorithm/550646>, 23 November 2024.

⁴⁵ As already mentioned, text length restrictions do not allow for a detailed analysis of concrete examples here. The breadth of this issue requires a separate study. I would like to thank one of the reviewers for pointing this out.

⁴⁶ S. Feldstein, *The Rise of Digital Repression...*, pp. 223-225.

- Ceccarini L., "Could the Internet Be a Safety-Net for Democracy in Crisis?" *Italian Political Science Review/Rivista Italiana Di Scienza Politica*, vol. 50, no. 1 (2020), pp. 125-141, <https://doi.org/10.1017/ipo.2019.24>.
- Chadwick A., "Web 2.0: New Challenges for the Study of E-Democracy in an Era of Informational Exuberance," *I/S: A Journal of Law and Policy for the Information Society*, vol. 5, no. 1 (2009), pp. 9-41.
- Coleman S., *Can the Internet Strengthen Democracy?*, Malden 2017.
- Coleman S., Blumler J.G., *The Internet and Democratic Citizenship: Theory, Practice and Policy*, Cambridge 2009.
- Coppedge M., Gerring J., Knutsen C.H., et al., "V-Dem Methodology V9." Gothenburg 2019, <https://bit.ly/2pi3jcw>.
- Danaher J., Hogan M.J., Noone Ch. et al., "Algorithmic Governance. Developing a Research Agenda through the Power of Collective Intelligence," *Big Data & Society* 4, no. 2 (2017), <https://doi.org/10.1177/2053951717726554>.
- Decentralised Citizens Engagement Technologies*, 2016, at <https://dcentproject.eu/about-us>.
- Diamandis P., "Could Tech Make Government as We Know It Irrelevant?," *Singularity Hub*, 12 October 2018, at <https://bit.ly/2mQUlRY>.
- Drew J., "Can Local Government by Lottery Increase Democratic Responsiveness?," *Policy and Politics*, vol. 47, no. 4 (2019), pp. 621-636, <https://doi.org/10.1332/030557319X15653392161339>.
- Drinóczi T., Bień-Kacała A., *Illiberal Constitutionalism in Poland and Hungary. The Deterioration of Democracy, Misuse of Human Rights and Abuse of the Rule of Law*, London 2022.
- Esmark A., *The New Technocracy*, Bristol 2020.
- Feldstein S., *The Rise of Digital Repression. How Technology Is Reshaping Power, Politics, and Resistance*, New York 2021.
- Gagnon J.P., Signs of Democracy (Adjectival Modifications of the English Noun 'Democracy'), Canberra, 20 April 2021, <https://doi.org/10.17632/pthgd7rx92.1>.
- Gladwell M., "Small Change. Why the Revolution Will Not Be Tweeted," *The New Yorker*, 27 September 2010, at <https://www.newyorker.com/magazine/2010/10/04/small-change-malcolm-gladwell>.
- Gomes de Sousa W., Pereira de Melo E.R., De Souza Bermejo P.H. et al., "How and Where Is Artificial Intelligence in the Public Sector Going? A Literature Review and Research Agenda," *Government Information Quarterly*, vol. 36, no. 4 (2019), 101392, <https://doi.org/10.1016/j.giq.2019.07.004>.
- Individual Rights and the Federal Role in Behavior Modification; A Study Prepared by the Staff of the Subcommittee on Constitutional Rights of the Committee on the Judiciary*, United States Senate, Ninety-third Congress, Second Session. Congress of the U.S., Washington 1974, at <https://files.eric.ed.gov/fulltext/ED103726.pdf>.
- Jáske M., Setälä M., "A Functionalist Approach to Democratic Innovations," *Representation. Journal of Representative Democracy*, vol. 56, no. 4 (2020), pp. 467-483, doi.org/10.1080/0344893.2019.1691639.

- Kaltwasser C.R., "Populism and the Question of How to Respond to It," in C.R. Kaltwasser, P. Taggart, P. Ochoa Espejo et al. (eds) *The Oxford Handbook of Populism*, Oxford 2017, pp. 489-507.
- Katzenbach Ch., Ulbricht L., "Algorithmic Governance," *Internet Policy Review*, vol. 8, no. 4 (2019), pp. 1-18, <https://doi.org/10.14763/2019.4.1424>.
- Kurer T., Schöll N., "How Technological Change Affects Regional Voting Patterns," *Political Science Research and Methods*, vol. 12, no. 1 (2024), pp. 94-112, <https://doi.org/10.1017/psrm.2022.62>.
- Lee D., Levi M., Brown J.S., "Democratic Societal Collaboration in a Whitewater World," in L. Bernholz, H. Landemore, R. Reich (eds) *Digital Technology and Democratic Theory*, Chicago 2021, pp. 219-240.
- Levy Pi., *Collective Intelligence. Mankind's Emerging World in Cyberspace*, Cambridge 1997.
- Loewenstein K., "Militant Democracy and Fundamental Rights, I," *The American Political Science Review*, vol. 31, no. 3 (1937), pp. 417-432, <https://doi.org/10.2307/1948164>.
- Loewenstein K., "Militant Democracy and Fundamental Rights, II," *The American Political Science Review*, vol. 31, no. 4 (1937), pp. 638-658, <https://doi.org/10.2307/1948103>.
- Macklem P., "Militant Democracy, Legal Pluralism, and the Paradox of Self-Determination," *International Journal of Constitutional Law*, vol. 4, no. 3 (2006), pp. 488-516, <https://doi.org/10.1093/icon/mol017>.
- Mancini P., *Home Page*, at <https://www.piamancini.com/>.
- Moore M., "Protecting Democratic Legitimacy in a Digital Age," *The Political Quarterly*, vol. 90, no. S1 (2019), pp. 92-106, <https://doi.org/10.1111/1467-923X.12572>.
- Müller J.W., "Militant Democracy," in M. Rosenfeld, A. Sajó (eds), *The Oxford Handbook of Comparative Constitutional Law*, Oxford 2012, pp. 1253-1269.
- Naisbitt J., *Megatrends. Ten New Directions Transforming Our Lives*, New York 1982.
- New J., Castro D., "How Policymakers Can Foster Algorithmic Accountability," *Center for Data Innovation*, 21 May 2018, at <http://www2.datainnovation.org/2018-algorithmic-accountability.pdf>.
- Pasquale F., *The Black Box Society. The Secret Algorithms That Control Money and Information*, Cambridge 2015.
- Persily N., "Can Democracy Survive the Internet?," *Journal of Democracy*, vol. 28, no. 2 (2017), pp. 63-76, <https://doi.org/10.1353/jod.2017.0025>.
- Rak J. (ed.), *Why Neo-Militant Democracies Endure. The Inner Six in Comparative Perspective*, London–New York 2024.
- Rak J., Bäcker R. (eds), *Neo-Militant Democracies in Post-Communist Member States of the European Union*, London 2022.
- Rice C., Taylor J.B., Widom J. et al (eds), *The Stanford Emerging Technology Review 2023. A Report on Ten Key Technologies and Their Policy Implications*, Stanford 2023.
- Ronfeldt D., *Cyberocracy, Cyberspace, and Cyberology: Political Effects of the Information Revolution*, Santa Monica 1991, at <https://bit.ly/2Q2xC27>.
- Ronfeldt D., "Cyberocracy Is Coming," *The Information Society*, vol. 8, no. 4 (1992), pp. 243-296, <https://doi.org/10.1080/01972243.1992.9960123>.

- Sajó A., "Militant Democracy and Emotional Politics," *Constellations*, vol. 19, no. 4 (2012), pp. 562-574, <https://doi.org/10.1111/cons.12011>.
- Sætra H.S., "A Typology of AI Applications in Politics," in A. Visvizi, M. Bodziany (eds), *Artificial Intelligence and Its Contexts. Advanced Sciences and Technologies for Security Applications*, Cham 2021, pp. 27-43.
- Schaffer F.Ch., Gagnon J.P., "Democracies Across Cultures," *Democratic Theory*, vol. 10, no. 1 (2023), pp. 91-104, <https://doi.org/10.3167/dt.2023.100107>.
- Smith G., *Democratic Innovations. Designing Institutions for Citizen Participation*. Cambridge 2009.
- Tucker J.A., Nagler J., MacDuffee Metzger M. et al., "Big Data, Social Media, and Protest: Foundations for a Research Agenda," in R.M. Alvarez (ed.), *Computational Social Science: Discovery and Prediction*, Cambridge 2016, pp. 199-224.
- Vilella G., *E-Democracy. On Participation in the Digital Age*, Baden-Baden 2019.
- Walt S.M., "Big Tech Won't Remake the Global Order," *Foreign Affairs*, 8 November 2021, at <https://foreignpolicy.com/2021/11/08/big-tech-wont-remake-the-global-order/>.
- Winner L., *Autonomous Technology. Technics-out-of-Control as a Theme in Political Thought*, Cambridge 1978.
- Yong, Ed, "A Popular Algorithm Is No Better at Predicting Crimes Than Random People," *The Atlantic*, 17 January 2018, at <https://www.theatlantic.com/technology/archive/2018/01/equivalent-compass-algorithm/550646>.

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