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## اختبار الترجمة من الإنكليزية إلى العربية

### **Technologizing Democracy or Democratizing Technology? A Layered- Architecture Perspective on Potentials and Challenges**

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Democracy is in the midst of a credibility crisis. Some of the most well-established Western democracies have become increasingly polarized to the point of tribalism and authoritarianism.<sup>1</sup> The information sources that voters use to understand the world and make their decisions are increasingly suspect.<sup>2</sup> While democracy preaches a gospel of treating all citizens as equal, established democracies fail in numerous ways to protect the equality of citizens' influence at the ballot box.<sup>3</sup>

Outside the ballot booth, people in real democracies depend on government to protect not only their physical safety but also their economic and social equality and human rights. Here, too, established democracies fail to protect their citizens from private coercion or feudal rent-seeking structures.<sup>4</sup>

They fail to ensure equal access to equal economic opportunity by accelerating transfers of public wealth to the already rich in the face of skyrocketing economic inequality.<sup>5</sup> They fail to offer an adequate social safety net to protect the ability of the unlucky or disadvantaged to participate in society as equals with dignity, and they even fail even to protect many people from effective slavery.<sup>6</sup> As Robert Dahl asked: "In a political system where nearly every adult

may vote but where knowledge, wealth, social position, access to officials, and other resources are unequally distributed, who actually governs?”<sup>7</sup>

Many perceive tremendous potential for technology to improve democracy: for example, by making it more convenient (vote from home with your laptop or smartphone), more participatory (express your opinion more than once every few years), or more inclusive (even in the developing world smartphones have become ubiquitous). But this somewhat “techno-utopian” view, common among the denizens of the early internet, has gradually been overshadowed by our realization of the many ways technology can undermine democracy, either by accident or by design.

Technologists have often talked about technology as somehow inherently “democratizing”— using that term simplistically to refer to technological capabilities becoming inexpensive and widely available. The unstated and evidence-free implication embedded in this use of the term democratizing, however, is that any inexpensive and widely available technological gadget somehow makes society automatically more democratic. Our actual experience in practice seems to suggest the opposite. The evolution of “democratized” social networking capabilities into advertising-driven instruments of mass surveillance; the weaponization of “democratized” free expression capabilities into instruments of fear, chaos, and polarization; the transformation of “democratized” financial technologies like Bitcoin into shiny objects mainly attracting money launderers and financial scammers: all offer abundant experiential evidence of how antidemocratic a “democratizing” technology can be.

But we have also seen how technology is almost infinitely flexible and adaptable. Technology is what we design it to be. Can we design technology to be genuinely democratic— to support and facilitate democracy reliably rather than undermining it? This chapter explores several ways in which democracy in today’s digital world increasingly depends on technology for better or worse, ways that technology is currently failing democracy, and potential ways in which technology could be fixed to support democracy more effectively and securely.

Because effective democracy depends on far more than the occasional act of voting, we explore technology’s interaction with democracy “top to bottom,” across multiple levels at which the ability of people to self-govern depends on behavioral practices that are heavily affected by technology. Yes, effective democracy requires people to have both the right and the ability to vote. When they do vote, they need effective choice, not just a choice “between Tweedledum and Tweedledee.”<sup>8</sup> Technologies such as e-voting, online deliberation, and liquid democracy show promise in expanding the convenience and effectiveness of

democratic choice, but each brings associated risks and major unsolved challenges that we outline.

Effective democracy also requires that people live in a social and economic environment satisfying the conditions for intelligent, informed, and effective democratic choice. People need reliable information sources protected from both subversion through “fake news” and polarization through automated overpersonalization. People need free expression and free association to discuss ideas and organize effectively— but they also need protection from trolls and other abusers seeking to amplify their voices via sock puppets (multiple fake identities orchestrated by one person) or via fully-automated, anonymous bot armies. People need an economic environment offering them the empowerment and leisure time needed to become informed and participate deeply in the deliberative phases of democracy, and not just in the final vote. Finally, people need the digital ecosystem to be able to recognize and identify them as people— that is, as formal “digital citizens”— and to be able to distinguish these real people from the millions of fake accounts of bot farmers inhabiting the internet,<sup>9</sup> without undermining effective participation through exclusionary and abuse- ridden digital identity systems.

Having examined some of the promises, failures, and unsolved challenges at each of these levels, I attempt to sketch briefly a long- term vision of a potential architecture for effective digital democracy, layered in the classic fashion followed in network protocol architecture.<sup>10</sup> The following sections outline, from top to bottom, such a layered architecture for digital democracy.

The top layer, which I address first, represents the highest- level functionality that I consider the primary end goal: namely effective technology supported self- governance through democratic deliberation and social choice. Subsequent sections address critical “building block” layers for effective technology- supported democracy: an information layer ensuring that participants have manageable feeds of high- quality, accurate, and unbiased information as an adequate basis for deliberation and decisions; an economic foundation layer to help ensure that citizens have the baseline means and freedoms to invest the time and attention required for genuine democracy; and finally, a digital citizenship layer ensuring that technology can securely but inclusively protect the rights and resources of real people from being abused, undermined, and diluted by online fakery. Finally, in the last two sections I briefly recap this architecture and summarize how appropriate technologies for each layer

could eventually fit together into a fundamentally more solid foundation for digital democracy than exists today.

## Notes

1. On polarization, see Prior, “Media and Political Polarization”; Iyengar and Westwood, “Fear and Loathing across Party Lines.” On tribalism, see Hawkins et al., “Hidden Tribes”; Packer, “A New Report Offers Insights into Tribalism in the Age of Trump.” On authoritarianism, see Browning, “The Suffocation of Democracy.”
2. Woolley, “Automating Power”; Ferrara et al., “The Rise of Social Bots”; Woolley and Guilbeault, “Computational Propaganda in the United States of America”; Broniatowski et al., “Weaponized Health Communication”; Shao et al., “The Spread of Low- Credibility Content by Social Bots.”
3. Smith, “Political Donations Corrupt Democracy in Ways You Might Not Realise”; Gilens and Page, “Testing Theories of American Politics”; Cost, A Republic No More; Flavin, “Campaign Finance Laws, Policy Outcomes, and Political Equality in the American States”; Kalla and Broockman, “Campaign Contributions Facilitate Access to Congressional Officials”; Samuel, “Rigging the Vote”; Tisdall, “American Democracy Is in Crisis, and Not Just Because of Trump.”
4. Shlapentokh and Woods, Feudal America.
5. Keller and Kelly, “Partisan Politics, Financial Deregulation, and the New Gilded Age”; Piketty, Capital in the Twenty- First Century.
6. Weitzer, “Human Trafficking and Contemporary Slavery”; Kara, Modern Slavery.
7. Dahl, Who Governs?
8. Zinn, A People’s History of the United States.
9. Berger, “Bot vs. Bot”; Read, “How Much of the Internet Is Fake?”
10. Day and Zimmermann, “The OSI Reference Model.”

## References

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