Open Democracy and Digital Technologies

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Meet Angeliki Papadopoulos. She is a twenty-eight-year-old woman who lives on the outskirts of Athens in the year 2036. It's almost 8:30 on a beautiful April Sunday morning, and she is just about to pour herself a cup of coffee before reading the news on her laptop. Angeliki logs into her Citizenbook account, a platform initially called Facebook, which was renamed by the public in the year 2025, when its founder, Mark Zuckerberg, decided to withdraw from the company and donate all his shares to a nonprofit foundation run along democratic lines. The company was then repurposed as a deliberative platform for democracy. As Angeliki opens the news tab, her attention is drawn to a flashing sign alerting her that she is overdue for two votes, one on a somewhat complicated issue of environmental law and the other on the choice of a delegate to represent Europe at the next international trade summit in Rio de Janeiro. She decides to ignore the flashing sign and contemplates instead whether she shouldn't delegate the first vote to her uncle, who is a marine biologist and would know better, and just abstain on the second vote. She just does not have time this weekend to read up on the relevant literature.

It's now 8:35 a.m. and Angeliki goes to her inbox, which seems quite full. Her attention is drawn to an email with a bolded title from the Office of the House of the European People, which she opens with a mix of curiosity and excitement. Yes, this is what she thought, the golden ticket! An invitation to join the House of the European People for the next four years in Brussels. She has been randomly selected to join a group of 499 other citizens and set the agenda for the European Parliament over the coming three years. The invitation comes with a generous stipend and financial aid for her and her immediate family to relocate to Brussels. Angeliki is both excited and

overwhelmed. She knows how lucky she is to have received this honor. The likelihood of being selected during one's lifetime is only a tiny fraction of a percent. It is much more likely, however, to be selected for the thousands of popular juries gathered for punctual decision making and one-off issues at the European, national, regional, and municipal levels every year. Indeed, Angeliki has already participated in one of those, at the municipal level in Greece. She was a member of the municipal lottocratic body of forty-nine citizens setting the agenda for the city of Thessaloniki ten years earlier. She developed deep friendships with several of the members, many of whom she would have never met through her regular life, and is still in touch with many of them. She also fondly remembers being able to work with elected officials to develop a pilot project for a universal basic income. However, her frustration grew at the time because she realized that she wasn't able to influence the decisions that really mattered, most of which took place at the European level. Becoming an official, full-time lottocratic representative at the European level is another ball game altogether—and will come with a lot more power.

Angeliki herself grew up in an economically precarious family. Her parents' savings were wiped out in the 2008 crisis—the year she was born. After studying philosophy in Greece she became the manager of a bed-and-breakfast (unlike many of her friends at the time, she decided not to flee the country in search of elusive economic opportunities elsewhere). Her husband is a kindergarten teacher. This invitation from the European Union feels like an opportunity to learn about the world, develop new skills, travel, meet interesting people, network in the capital of Europe, and make a concrete difference, possibly, to the world's future as well as to her own. It feels a bit like the chance to go back to college. As to her job, she will have to take a civic leave of absence from her employer.[1] But better opportunities might arise for her after her three years in Brussels, for example, in the booming industry of "democratic jobs" that consist of helping organize and facilitate the minipublics now structuring much of public life and, more and more, the private sector as well. Her husband would also have to take a leave of absence from his teaching job. They could try leaving on her salary as a lottocratic representative (which seems incredibly generous compared to what she is now making), at least for a while, so he can finally work on his novel.

One of the first thing she does after learning the news is to post to her network the announcement that she has been chosen to be part of the European random sample. Maybe hearing other people's reactions will make this more real and help her process how she feels about it. The congratulations immediately start pouring in—everyone seemingly assuming she will accept the position (and indeed, although participation is nonmandatory, only one

of every two people chosen declines the position, usually for family-related reasons). She also notices a hint of envy in some of the comments.

Angeliki smiles. While she's still online, she posts on the marketplace corner of the platform a picture of her sofa and a bunch of clothes that she had been meaning to get rid of anyway. She might as well start preparing for the big move. Then she checks the global politics tab of her page and reads the news for twenty minutes. The e-voting call flashes at the top of her screen once again. She swiftly delegates her vote on environmental policy to her uncle but, reinspired by her new political future, decides to figure out which candidate to endorse as a European trade delegate. She thoroughly browses the profiles of the five candidates (out of 523) that an algorithm has selected for her as most closely matching her values. The summaries have been written by Citizens' Reviews—small, jurylike groups of citizens selected by stratified random sampling—and are fair, clear, and balanced assessments of each candidate's views. Because she has a lingering doubt about the meaning of a particular proposition, Angeliki logs in quickly to her assigned "chat room," a secure virtual space where a few hundred randomly selected citizens like her regularly check in to deliberate about issues. Using her usual avatar (a purple unicorn), she posts her question and, while waiting for an answer, browses through some of the previous exchanges. Within minutes, she has her answer and has herself settled a few misunderstandings by other people. She can now log off from the chat room and cast her vote with one click of her mouse.

After voting, she clicks on an icon that lets her show to the rest of her friends that she has voted, hopefully nudging them to do so as well. She then goes to the earnings tab and checks her earnings. She made fifty coin units since last week, from all the clicking and posting, and even the voting (which comes attached to "mining rights").

Time to walk the dog.

As she is about to cross the street with her mutt to go to the park, an elderly woman is nearly run over by a speeding car. Angeliki pulls out her phone and snaps a picture of the offender disappearing on the horizon before rushing to the shaken elderly lady. Even if she did not manage to get the plate number, there is something else Angeliki has been meaning to do for a long time. She logs in to her Citizenbook platform and goes to the tab SeeClickFix_My Neighborhood, where she files a request for a pedestrian crossing and a slow-down sign on this problematic section of the avenue. She also sends an invitation to the old lady to go and sign the online petition. Then she shares the post on Citizenbook with all her friends and neighbors. She also tags on the issue the lottocratic group representing her neighborhood so they can follow up on the issue for her.

16). These various ideals, though abstract and vague taken individually, to-
gether point to a relatively defined political system in which all members of
the demos are equally entitled to participate in decision making about laws
and policies. Concretely this political system has usually been translated into
a system of free and fair elections that is based on the idea of "one person, one
vote" and universal suffrage.

An enriched definition, however, has been defended in the past forty
years by so-called deliberative democrats, focusing on the step before voting,
namely, deliberation. Deliberative democracy is thus a theory of democratic
legitimacy that traces the authority of laws and policies to the public exchange
of arguments among free and equal citizens, rather than, strictly speaking,
the moment of voting. This theory was developed in the late 1980s and 1990s
as an alternative to the then-dominant theory of aggregative democracy, ac-
cording to which democratic legitimacy stems simply from the proper ag-
gregation of votes in free and fair elections pitting various elites against one
another.[2] Because I share deliberative democrats' belief in the centrality of
deliberation to democratic legitimacy, I propose as my working definition
of *democracy* the following: a political system in which all the members are
equally entitled to participate in the association's decisions about its laws and
policies, including in the prevoting deliberative stage.

By this demanding definition, our current democratic systems appear
deeply flawed. Deliberation on matters of public policy and laws in which all
have a genuinely equal opportunity to participate almost never happens, for
obvious reasons. It is not possible to gather millions of citizens in a common
space and give them equal opportunities to participate in deliberation. Even
the 2019 recent French Great National Debate, a large-scale exercise in public
deliberation that President Emmanuel Macron tried out as a response to the
Yellow Vests' revolt, only managed to involve a tiny percentage of the popula-
tion in roughly ten thousand town-hall meetings of anywhere between twelve
and three hundred people and twenty-one randomly selected regional as-
semblies gathering a grand total of about 1,400 participants.[3] In any case,
the imperfect, second-best solution to mass deliberation has always been to
delegate the actual deliberation preceding a formal decision to representa-
tives, who conduct it on our behalf with our consent (or rather, the consent
of a majority).

Deliberative democrats in the Habermasian vein have inventively ratio-
nalized this de facto division of labor between representative elites and the
public and tried to carve out a central role for the public by distinguishing, at
a normative level, two deliberative "tracks" (as per the analysis of chapters 7
and 8 in Habermas's [1996] *Between Facts and Norms*). The first track is the

space of formal decision making (e.g., parliament, the courts, the administrative agencies), and the other is the space of informal public deliberation, where public opinion is formed. The first deliberative track is meant to shape decision making per se, whereas the informal one, taking place in unstructured and even anarchic ways in the wilderness of the larger public sphere, feeds content to the formal deliberative track in substantive but not directly binding ways.

Another central Habermasian metaphor, the sluice, illustrates the connection between these two tracks (Habermas 1996, 556, as borrowed from Peters 1993; see also Peters 2008).[4] According to Habermas, "binding decisions [made in the first track], to be legitimate, must be steered by communication flows that start at the periphery [in the second track] and *pass through the sluices of democratic and constitutional procedures situated at the entrance of the parliamentarian complex or the courts*" (Habermas 1996, 356, my emphasis). Sluices are systems of water channels controlled at their heads by a gate. Their image is used to characterize the intermediary bodies and procedures (e.g., parties, elections) between official decision makers and the public, intermediary bodies that ensure transmission of information from the outer periphery of diffuse public opinion to the center.

This picture of representative democracy is enormously attractive, essentially because of the central place it gives to deliberation and the circular and reciprocal relation between the two tracks. In theory, thanks to the sluices, the relationship between the two tracks is meant to approximate the ideal of equal entitlement to participate in the deliberation of the polity about its laws and policies. Yet not only is the reality far from resembling the idealized Habermasian reconstruction of it.[5] The picture itself is problematic.

First, even on Habermas's model democracy suffers from the problem of the separation between a ruling group of elected officials, appointed courts, and administrative bodies on the one hand and the mass of ordinary citizens on the other, with the first group firmly positioned at the center of power and the other relegated to the margin (Habermas 1996, 354).

The metaphor of the sluices, though meant to capture the ways in which the two tracks are connected in constructive and even dialogical ways, thus emphasizes that the public and its representatives are meant to be kept separate from each other. Political elites and institutions thus form a necessary intermediary between ordinary citizens and actual decision making and also the bottleneck where popular ideas come to cluster and, for many of them (perhaps most), die. It appears as if ordinary citizens and their contributions are structurally marginalized in what is the idealized version of the system.

Furthermore, it is worth noting that the sluice connotes mechanical, hi-

erarchical, rigid, and slow processes. The two-track Habermasian metaphor thus appears out of sync with modern democratic expectations of more immediate participation and voice, particularly as enabled by the digital revolution in almost any other sphere of life. Think, by contrast, of the ease and speed with which individuals can access and generate information on services and products in the marketplace with applications like Rotten Tomatoes, Yelp, Zillow, and so on.

Last but not least, in the Habermasian model, political elites are supposed to be engaged in a circular, reflexive, and dialogical exchange with the public via intermediaries such as the media, political parties, and the pressure of an informal public opinion formed in civic associations of all kinds.[6] Yet it is not entirely clear what power deliberators in the wild really have over the formal deliberative track. The idea that the decentralized deliberations of citizens in the wild add up to a meaningful way of setting the agenda for the formal decision-making sphere is not entirely plausible, as Habermas himself occasionally seems to acknowledge.[7] There are many reasons to think that the larger public sphere is shaped by the formal deliberative track in a way that is not fully reciprocal. The collective action problems faced by the public are enormous compared to those faced by the smaller number of agents at the center of formal decision structures. Moreover, even in the best-case scenario of a functional public sphere, it is hard to imagine how a series of haphazard, unregulated, and decentralized deliberations among groups of different sizes and compositions, which are not intentionally oriented toward this outcome, could be the proper way of setting the agenda for the formal deliberative track. Does such deliberation "in the wild," one might ask, even amount to deliberation at all?[8]

Habermas's sociologically rooted model of a two-track public sphere is to date the most attractive and powerful rationalization of our existing systems at their best. But it is too wedded to the dichotomies of representative democracy (represented ordinary citizens versus representing elected elites) and too constrained by the technologies of yesteryear. It also leaves deliberation in the wild to the vagaries of self-organizing communities in ways that may or may not facilitate the crosscutting exposure required for deliberation.

The Problem with Elections

The main design flaw of representative democracy, at its inception in the eighteenth century and now, is that it is centered on the principle of periodic elections (Manin 1996). As per Manin's diagnostic, this principle is ambiguously democratic at best. While it is generally combined with the egalitarian

Openness is, first, the opposite of closure, in both a spatial and temporal sense. In a spatial sense, openness can mean various things, depending on the context, from degrees of porosity to accessibility, participation, and inclusion. Openness is to both voice and gaze. This openness is inclusive and receptive—of people and ideas. This openness characterizes a system that lets ordinary citizens in, whether the spatial openness is facilitated by architectural design or by technological tools. In a temporal sense, openness means open-endedness, and thus adaptability and revisability. It means, concretely, that democratic institutions must change as the people they are meant to serve change. An open-ended system is more likely to adjust to rapid changes in complex, large-scale, connected societies. Openness, finally, is a property of the type of minds a democracy should cultivate in its citizens, as opposed to narrow-mindedness (or its close cousin, partisanship).[14]

In many ways the concept of openness is already pervasive in the vocabulary of activists, grassroots associations, and even the jargon of government officials.[15] The concept of openness also owes a lot to the world of coders and advocates for self-organization and freedom on the internet. The open-source movement promotes so-called open-source software, which is software with source code that anyone can inspect, modify, and enhance.[16] The image of open-source software is applicable and relevant to democracy because if, as some have argued, "code is law" (Lessig 2000), then one can argue, conversely, that democratic law should be more like code, or at least code of the kind made available in Linux or other open-source communities. In other words, instead of being something created and guarded by small groups of insiders or experts, in a democracy the law should be something to which all have access and on which all can make an impact. Everyone should be able to write and claim authorship over the law. This is what Icelanders tried to do with their 2010 revolutionary constitutional process, whereby they let a national forum of 950 randomly selected citizens set constitutional values and priorities and a twenty-five-person council of nonprofessional politicians write the new constitution in collaboration with online crowds (see, e.g., Landemore 2015). This is also the idea behind experiments in participatory budgeting, crowdsourced law reform, or the most recently forged all-encompassing concept of crowdlaw.[17]

The concept of openness in open democracy, finally, is also indebted, and a nod, to the liberal Popperian tradition of the "open society" (Popper [1945] 2013). Building on a contrast between closed and static traditional societies and modern open ones, Popper defined the open society as a dynamic society in which government is expected to be responsive, tolerant, and relatively transparent, and citizens are free to use their critical skills to criticize laws

and traditions. Open democracy can be interpreted as a subset category of an open society, in which the government is not just liberal but genuinely democratic and, furthermore, democratic in an "open" manner that facilitates participation of ordinary citizens. Open democracy is the democratic answer, and in many ways a complement, to the essentially liberal concept of the open society. Unlike in the liberal tradition, the object of openness is the space of political power itself, the place from where power is exercised, not just the society ruled or structured by it.

Let me now turn to two principles of open democracy that could be uniquely facilitated or enhanced by digital technologies: deliberation and democratic representation.[18] Deliberation is explicitly borrowed from the recommendations, over the past forty years, of deliberative democracy theorists, for whom, as already mentioned, political decisions and policies can be legitimate if and only if they could be (Cohen, Rawls) or de facto are (Habermas, assuming ideal conditions) the product of a deliberative exchange of reasons and arguments among free and equal citizens. Open democracy thus consciously embraces deliberation as a key institutional principle.[19] The problem with deliberation, as we saw earlier, is that we do not know how to render it genuinely possible at scale, for millions of people. Digital technologies, however, have rendered the promise of deliberation at scale considerably more plausible, by offering the possibility of replacing face-to-face, necessarily small meetings taking place in the here and now, and always fraught with the danger of power dynamics tracking visible physical differences, with much larger meetings of disembodied or reembodied (using pseudonyms or avatars) individuals, in which quality deliberative exchanges are facilitated by augmented reality tools, the argument-centric organization of the contributions by the participants themselves (Klein 2006; Spada et al. 2016), and even artificial intelligence tools (Hilbert 2017). Ultimately one can imagine these online deliberative platforms being facilitated and aided by natural-language analysis performed by artificial intelligence algorithms.

Democratic representation is another central principle of open democracy and its subtlest point of departure from representative democracy, which is centrally characterized, in contrast, by electoral representation. Representation is defined, here, minimally and descriptively, as the act of standing for someone in a way that a relevant audience recognizes, as per Rehfeld's (2006) definition. By contrast, normative representation can be thought of as representation authorized by the relevant constituency and meeting some other normative, possibly substantial criteria of justice (e.g., good representation, representation in the interests of the represented, as in Pitkin [1967]).

Democratic representation I define more specifically as an act of stand-

ing for others that is the result of an inclusive and equal selection process. By contrast, oligarchic representation is an act of standing for others that is the result of an exclusionary and unequal selection process. Note that electoral representation arguably awkwardly sits between the two categories, if we believe that it is indeed a hybrid form of representation, with a face turned toward democracy and another toward oligarchy (as per Manin's account of elections as Janus-faced).

Democratic representation includes both what I call "lottocratic" and "self-selected" representation. Lottocratic representation is representation performed by citizens selected at random or, as a close second best in theory and often an improvement in practice, stratified random sampling (which allows the targeting of minorities at risk of being underrepresented in a true random sample). Lottocratic representation is on display in the many variations of so-called minipublics that gather a (more or less) random sample of the entire demos. These assemblies are not equally accessible to all in the here and now, because one needs to be selected to enter them, but they can be characterized as "temporally open" assemblies since over time (provided enough rotation and a sufficient number of those assemblies) all citizens should have equal access to them. Randomly selected assemblies thus produce a type of democratic representation whereby each citizen has the same equal chance of playing the part of a democratic representative.[20]

Self-selected representation, by contrast with lottocratic representation, translates into what I characterize as "spatially open" assemblies, namely assemblies that are accessible to all those willing to participate (though sometimes only up to capacity when the meetings are physical rather than online). Examples of self-selected representative assemblies are the People's Assembly of classical Athens, Swiss *Landsgemeinden*, participatory budgeting meetings, town-hall meetings, Occupy assemblies, the meetings of Yellow Vests on traffic circles, or even online crowdsourcing platforms allowing deliberative exchanges. These open assemblies allow for the willing fraction of the population that typically shows up for such events to stand for the whole and make decisions on their behalf in ways that are recognized as representative by the larger system. I thus distinguish open assemblies from direct democracy moments, like referenda, in that the latter expect everyone or at least a majority of persons to participate. In open assemblies, by contrast, only a small fraction is expected to turn out.

Contrary to elected assemblies, which are at best accessible to the willing and ambitious, and contrary to lottocratic bodies that are only accessible to all over time (in the best-case scenario and with sufficiently frequent rotation)—in theory, everyone is able to participate in self-selected assem-

the polity to create as seamless a continuum as possible between the open minipublics at the heart of political decision making and the multiplicity of deliberative minipublics taking place around them in a networked fashion. As one can easily imagine from this description, such a metaphor is not an idealized reconstruction of anything already in existence. In fact, what it describes is conceivable only with the help of modern digital technologies and, at best, in some nearby future.

As a side note, the French Great National Debate was, in my view, an effort to structure the informal public sphere in a way that might indeed render it more effective at setting the agenda for the public sphere. One might think of what could be done on that model, if institutionalized and made truly permanent, as the introduction of a third track of the public sphere, which would be more structured than deliberation in the wild per se but still limited to opinion formation as opposed to will formation. In the French case, at least the goal was to generate propositions that the formal sphere (essentially the executive power) would still be the only one to decide on, but with a lot more pressure than usual to follow the agenda of the larger public. Although this model of a three-track public sphere is certainly an improvement in many ways, it is not the radical break I have in mind. In open democracy we would no longer need this clear-cut separation between tracks and between ordinary citizens on the one hand and professional politicians on the other.

How Digital Technologies Can Help

How can digital technologies help us bring about open democracy, or at least some of its core principles of deliberation and democratic representation? What would that look like? Let us first turn to the possibility of deliberation, that is, deliberation involving all on an equal basis, and how to use digital technologies to organize it in a rational way throughout, as opposed to leaving it either to the structured but adversarial exchanges of party leaderships and career politicians in the first deliberative track or the unstructured echo chambers of the larger public sphere (including in our current use of the digital sphere).

To my mind the deliberative ideal should be, ultimately, "many connected brains" seamlessly and almost simultaneously exchanging information and arguments in ways that are costless and frictionless, resulting in enlightened individuals and enhanced collective intelligence. Given the physical limitations of human beings and long-standing technological constraints, we have so far used delegated deliberation to a group of elected men and women physically gathered in a parliament over long periods of time (in theory,

years, although the actual physical time spent in parliamentary chambers is surprisingly short). These men and women are very loosely and imperfectly connected to their constituencies via the feedback mechanism of periodic elections and direct contact with them during regular "office hours" in their constituencies, most intensely during campaigning periods. Digital technologies have rendered access to elected representatives much easier, more immediate, and efficient, allowing constituents to tweet at their representatives, for example, or engage them on their Facebook pages. Michael Neblo, Kevin Esterling, and David Lazer (2018) see the future as "direct representation"— classic electoral representation enhanced with direct participation by citizens. By that they envision a better version of our current system, in which technologies (phones in their case) are mobilized to enhance the flow of communication between constituents and elected representatives. For all its merits, in particular its feasibility, this defense of "direct representation" optimistically assumes that just because the elected representatives will be more directly exposed to a greater variety of constituents' views, they will be able to process the input correctly and reflect it in the deliberations they are then part of in the US Congress and in the resulting decision-making process. Every elected representative's mind in this approach still plays the role of a bottleneck and a funnel, which risks leaving out too many aspects of the original content. It would be better to open up the formal deliberation itself to a variety of minds and contributions.

What technologies could allow, however, is a dematerialization of face-to-face deliberations and a vast expansion of the number of people involved in them, allowing us to bypass the bottleneck of the single mind of elected representatives having to synthesize and transfer this massive input from the constituents. Could technologies even get us to "direct democracy on a mass scale" or "mass online deliberation" (Velikanov 2012)? This is the hope cautiously entertained by cyberdemocrats or e-democrats some political and communication theorists, and visionary engineers (see, e.g., Bohman 2004; Dahlgren 2005; Hindman 2008; Velikanov 2012). Online deliberation permits the recording and archiving of all people's thoughts, comments, and ideas while economizing on the necessity of being present all at once. As long as everyone can have access to the same virtual "room" (the platform they sign into), individuals are able to read the same content when it is convenient for them and at their own pace. Assuming a sufficiently long window of time before the decision is to be taken, deliberation among all can thus be distributed over time in a way that fosters great inclusivity. Digital, text-based deliberation thus potentially takes care of some of the constraining time and space aspects of analog, face-to-face deliberation.

The reality, however, is that the closest we can get to mass deliberation in the physical world is via a multiplicity of minipublics, themselves operating on the basis of small groups (e.g., tables of twelve to fifteen people in the typical setup of Jim Fishkin's [2018] deliberative polls; or six to seven only in the methodology used in the 2019 French regional assemblies during the Great National Debate and more recently during the Citizen Convention on Climate Change). These micro–deliberative groups merge into temporary plenary assemblies to dissolve again into differently constituted groups again (during the so-called pollination phase), until many people have touched on and contributed to many subjects.

Moving such deliberations online holds the promise of expanding the number of people who can meaningfully deliberate all at once. According to some, social media and other applications of the Web 2.0 in particular have the potential "to fulfil the promise of breaking with the longstanding democratic trade-off between group size (direct mass voting on predefined issues) and depth of argument (deliberation and discourse in a small group)" (Hilbert 2017, 2). At the moment, however, even the most promising existing platforms succeed in expanding the number of people who deliberate directly with one another in this way to a few hundred people (Spada et al. 2016). Enabling a few hundred people to deliberate with one another directly is a clear improvement over the limits of face-to-face deliberation. This is nonetheless a far cry from the millions that would need to be included for direct democracy to be possible in existing polities. Current promises of true "mass online deliberation" are at best conceptual prototypes at this point.

Direct democracy, to the extent that it involves a deliberative phase, is probably feasible only for small groups, even in the digital age. If this is true, then the possibility of direct democracy breaks down as soon as the group expands beyond a few hundred people.

Another argument against the meaningfulness and possibility of direct e-democracy has to do with the nature of politics rather than technological or human limitations per se. The claim is that representation is necessary and desirable, in and of itself, as a way to constitute interests and preferences. It is sometimes expressed as the view that "representation is always constitutive of democracy and democratic practices" (see, e.g., Plotke 1997, 10; Urbinati and Warren 2008). Or, as Plotke (1997, 19) puts it even more explicitly: "Representation is not an unfortunate compromise between an ideal of direct democracy and messy modern realities. Representation is crucial in constituting democratic practices. 'Direct' democracy is not precluded by the scale of modern politics. It is unfeasible because of core features of politics and democracy as such." What Plotke and other proponents of the so-called

and other popular vote processes, including those allowing "liquid democracy" schemes where people can delegate their votes to whomever they want (as per the initial vignette as well).

The voting part seems conceptually easy, although the devil is in the details and security issues will need to be worked out. The deliberative part, however, deserves some thought. The deliberative chat rooms could be virtually augmented to render them attractive and fun to participate in, along the now-well-established principle of gamification. The chat rooms could be made public or private, depending on the choice of the participants. If made public, they would be instantly connected to a crowdsourcing platform allowing individuals outside of it to directly submit input or comments on the deliberations. All the information in the world, properly processed and synthesized, would be at the fingertips of such minipublics, available in user-friendly format after proper vetting by, for example, randomly selected online juries of other citizens collaborating with professional journalists and experts the world over. A good model here is Oregon Citizens' Initiative Reviews (CIRs), citizen panels of about two dozen people selected to form a cross section of the larger population. These CIRs are tasked with deliberating for several days about upcoming ballot initiatives or referendums. At the end of their deliberations they produce a citizens' statement, which offers a balanced assessment of the ballot initiative or referendum that is distributed to all registered voters in the hope of promoting more informed voting.[27] In addition to such measures, facilitators and even "political translators"— people able to help disempowered individuals and groups find their by voice in multilingual and multicultural settings (Doerr 2018)—would be available to structure deliberations and ensure protection for vulnerable minorities against the usual power dynamics induced by differences in languages, linguistic skills more generally, social and economic status, and so on. All these actors would be the practitioners of these new "democratic jobs" mentioned in the opening vignette (only some aspects of which, like basic facilitation, can be reasonably expected to be automated). Finally, to maximize participation, one could imagine financially compensating or incentivizing participants by crediting them real money instantly on their digital account. One could imagine Citizenbook also financially compensating citizens for the data they generated in virtue of their online activities, including their political activities, as these activities would serve as essential training material for the artificial intelligence tools and functionalities on which Citizenbook, as well as the constellations of properly regulated (perhaps at the global level) private corporations thriving in that ecosystem, would depend (for similar ideas, see, e.g., Lanier 2013; Posner and Weyl 2018). One could also imagine each citizen

being automatically credited, at birth, and perhaps at regular intervals after this, with a basic universal income, above and beyond online earnings.

Another solution would be not to give final say to these online minipublics but to feed their aggregated input (synthesized with the help of natural language analysis software) to a central, open minipublic.

Regardless of what turns out to be the better format, what these solutions have in common is that they structure and curate public deliberation from beginning to end, instead of leaving the larger public sphere completely to its own anarchic ways. This is not to say that something like Habermas's deliberation in the wild would not subsist—we would still have political conversations at the kitchen table or with taxi drivers—but these would no longer be the only or even primary sources of information and the loci of deliberation for citizens.

In other words, this model preserves the differentiation of deliberation for opinion formation and deliberation for decision making but without necessarily creating two (or even three) separate deliberative tracks with two different logics (one structured, one unstructured). Indeed, in both cases the deliberations are structured. This presents several advantages. First, the structuration of the informal public sphere through online deliberations in open minipublics (whether advisory or binding) would break the silos, filter-bubbles, and echo-chambers in which individuals currently prefer and are in fact encouraged to segregate themselves by platform designs created to maximize ad revenue rather than quality deliberation. Open minipublics would facilitate, in other words, crosscutting exposures in ways that minimize unpleasantness and may in fact prove rewarding, empowering, and educational. Third, there would be much less of a loss of information between the deliberations of citizens and the decision-making moment, whether because citizens ultimately vote themselves after being part of a minipublic or because the deliberations of the sovereign minipublic would be so tightly connected and porous to the conclusions of satellite minipublics. Fourth, the spillover effects of such online deliberations, whether they end up in voting or not, would presumably affect the world of offline and online conversations with families, friends, and peers (Habermas's second track), thereby introducing a greater diversity of perspectives to these often too same-minded environments and spreading a spirit of moderation and open-mindedness to counterbalance the polarizing effects of groupthink.

Now, there are, of course, a number of questions that the idea of a Citizenbook as deliberative platform may raise.[28] Should Citizenbook be a not-for-profit company? If so, how would it be funded, by whom? Would this really suffice to remove all the problems currently faced by for-profit social net-

works? What about newspapers and journalists in this new environment? Do we still have the problem of noise, fake news, and filter bubbles? What about the potential for mass surveillance? What about people who refuse to register, or can't? What about inequality of resources or, assuming this economic dimension can be taken care of (via a universal basic income, for example), the problem of scarcity of attention? Considering that the feasibility of open democracy heavily depends on the use of algorithms, who would be in charge of curating those algorithms? I do not have the space here to develop any of these thoughts, nor am I yet able to picture how, exactly, all these interlocking parts should work together. I trust that some of the other contributions to this volume can help shed some light and provide guidance on some of these questions and that the volume as a whole will trigger further fruitful conversations allowing us to refine the ideal of a technologically empowered open democracy.

Conclusion

It is tempting, in today's climate and given recent events, to imagine the worst dystopian version of an online deliberative platform, especially if it were to grow global and was enabled by a tentacular, privacy-shattering, and totalitarian corporation (in the vein of, say, the novel-turned-movie *The Circle*). In this chapter I have chosen to pursue a more utopian and optimistic approach, one in which digital technologies are deployed to support and deploy a new and better kind of democracy. I have argued, specifically, that scientific developments and new technologies now allow us to think and invent institutions beyond the dichotomy of the voter and the elected representative, including at scale. They might even one day allow us to reimagine the possibility of true mass deliberation. If so, then there is no reason to stick to electoral democracy or even to the Habermasian two-track model that rationalizes it as the most desirable normative framework (at least as currently formulated). The model of open democracy sketched here, centered on the model of the open minipublic, offers what I hope is a new and more democratic framework meant to guide future institutional reforms and technological innovations.

Notes

1. A right that appeared with the first institutionalized House of the People in Europe, created in France in 2019 during what is affectionately referred to as the "second French Revolution." The model quickly spread to other countries and a few years later to the European Union itself.

June 16, 2004, https://web.archive.org/web/20040616144517/http://www.twistedmatrix.com/wiki/python/LiquidDemocracy.

25. A worry with this form of representation is that it is still premised on a "distinction" principle that may leave many people—the shy, inarticulate, or socially invisible—out of the pool of democratic representatives. To the extent that "star voting" can be resisted via social norms or technological solutions, however, delegative or liquid representation offers a much more "open" form of votation-based representation.

26. I owe this neat reformulation of my position to a participant in a two-day seminar in London at the New College for the Humanities: "How to Improve Public Debate?," March 29, 2019.

27. Citizen Initiative Reviews have been a legislatively authorized part of Oregon general elections since 2010. The review gathers a representative cross section of two dozen voters for five days of deliberation on a single ballot measure. The process culminates in the citizen panelists writing a citizens' statement that the secretary of state inserts into the official *Voters' Pamphlet* sent to each registered voter (see, e.g., Gastil et al. 2017).

28. For larger questions about the open-democracy paradigm, including the question of accountability of nonelectoral bodies, see Landemore (2020), esp. chap. 7.

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The melody of the ice-cream truck makes her look up. Perfect timing. She selects pistachio and vanilla and then flashes her phone to the seller, who deducts the couple of coin units she just earned from her last hour of online activity on Citizenbook. She then ambles back to the park, finds a convenient spot under an oak tree, and sits down. Time to put down the phone, let the dog run free, and enjoy nature.

<div align="center">✶</div>

This chapter looks at the connection between democratic theory and technological constraints, and argues for renovating our paradigm of democracy to make the most of the technological opportunities offered by the digital revolution. The most attractive normative theory of democracy currently available—Habermas's model of a two-track deliberative sphere—is, for all its merits, a self-avowed rationalization of representative democracy, a system born in the eighteenth century under different epistemological, conceptual, and technological constraints. In this chapter I show the limits of this model and defend instead an alternative paradigm of democracy that I call "open democracy," in which digital technologies are assumed to make possible the transcending of a number of dichotomies, including that between ordinary citizens and democratic representatives.

Rather than just imagining a digitized version or extension of existing institutions and practices—representative democracy as we know it—I thus take the opportunities offered by the digital revolution (its technological "affordances," in the jargon) to envision new democratic institutions and means of democratic empowerment, some of which are illustrated in the vignette with which this chapter opens. In other words, rather that start from what is—our electoral democracies—I start from what democracy could mean if we reinvented it more or less from scratch today with the help of digital technologies.

To do so, however, I first need to lay out, in the first section, the problems with and limits of our current practice and theory of democracy and trace these problems, in the second section, to conceptual design flaws partially induced by eighteenth-century conceptual, epistemological, and technological constraints. The third section then lays out an alternative theory of democracy I call "open democracy," which avoids some of these design flaws, and introduces the institutional features of this new paradigm that are specifically enabled by digital technologies: deliberation and democratic representation. Once this radical normative and institutional framework is in place, I turn to speculation about the ways in which digital technologies could be mobilized further to render open democracy possible, first at the nation-state and ultimately perhaps at the global scale.

This chapter most closely relates to two other chapters in this volume. Like Joshua Cohen and Archon Fung, I am interested in the ways digital technologies can empower a form of deliberative democracy. Deliberation is indeed as central to open democracy as it is to the Habermasian two-track model to which Cohen and Fung subscribe. However, Habermas's model is an avowed idealization of the conditions of possibility of our existing practices. In other words, Habermas's normative ideal is derived from the sociological reality and, crucially, the technologies, of the eighteenth-century public sphere and the iterations of that reality to our day. In contrast, I start from institutional principles derived from the abstract concept of democracy itself, defined as popular rule in which all are equally empowered. Like Cohen and Fung, I seek to set an ideal benchmark to evaluate the flaws and potential of the current status quo (including our current twenty-first-century digital public sphere), albeit one that is unconstrained by the past and thus theoretically maximally ambitious.

Second, whereas Cohen and Fung are mostly concerned with the first track of Habermas's deliberative democracy—the informal public sphere in which deliberation is supposed to take place "in the wild"—I resist this dichotomy of the formal and informal deliberative tracks and strive to imagine a democratic system in which there is a much more fluid and integrated relationship between the deliberations of ordinary citizens and those of political decision makers. This integration is, incidentally, not meant to blur the distinction between public and private—very much preserved here—but to allow for meaningful deliberation among private citizens in a way that is currently not available either in our analog informal public sphere or our digital marketplace of ideas.

This chapter also shares a lot of similarities with Bryan Ford's, "Technologizing Democracy or Democratizing Technology?" As Ford does, I start from a set of abstract principles (though a somewhat different list from his) and build toward a technologically empowered version of such principles. However, whereas Ford focuses on voting systems (liquid democracy) and a democratic currency (an inflationary version of Bitcoin), my focus is on deliberation, representation, and a reinvented articulation between ordinary citizens and democratic decision making.

The Limits of Representative Democracy, as Practice and as Reconstructed Ideal

Democracy has historically been associated with various ideals, such as popular sovereignty, self-rule (or autonomy), and equality (Kloppenberg 2016,

principle of "one person, one vote" it does not treat candidates to elections equally, giving more chances to those who can stand out in the eyes of others, on the basis of properties unevenly distributed in the population (typically social and economic advantages). Not only are elections an ambiguously democratic selection mechanism; their use is also arguably premised on the wrong picture of what it takes to create a representative assembly with good deliberative and thus problem-solving capabilities. As I have argued in previous work (Landemore 2013, building on Page 2007), the problem-solving capabilities of deliberative assemblies are likely not a mere linear function of the individual competence of their members. Instead, they are likely to be more a function of a group property, cognitive diversity, that characterizes the diversity of views and ways of thinking present among the members.[9] If the goal is to compose an all-purpose assembly of democratic representatives, for which there is ex ante uncertainty as to what the relevant diversity should be, and assuming that on average citizens are at least competent enough to address most political questions, a good strategy is to take a random sample of the larger population and form a statistically representative minipublic (Landemore 2012). In contrast, recruiting members of a deliberative assembly by elections will naturally entail a loss of cognitive diversity that will come at an epistemic cost (and is likely responsible for the many blind spots of democratic decision making diagnosed today).

Finally, another negative implication of elections as a selection mechanism for democratic representatives is that they give rise to a partisan logic that ultimately runs against the open-mindedness required to conduct proper deliberation. Electoral democracies are today systems in which the public debate is structured as a competition between policy platforms backed by partisan justifications. Parties are essential intermediary bodies between individual citizens and the institutions of the state, in that they aggregate views, perspectives, solutions, and information into a cognitively manageable amount of bullet points, value statements, and other ideological shortcuts. To the extent that parties are necessary, so is the virtue of partisanship that sustains them in existence.

Yet parties and partisanship come at a deliberative cost. Diana Mutz's empirical work on the relation between participation and deliberation strongly suggests that we cannot have it both ways: either people will be willing to engage with dissenting others and enjoy the benefits of exposure to diverse, or even conflicting, views, or they will be willing to vote, campaign for candidates, and generally be engaged as partisans in the political arena.[10] But they cannot be open-minded and politically engaged at the same time. This is so, she argues, because most people, when faced with even minimal disagree-

ment in the political realm—what she calls "cross-cutting perspectives"—recoil from engaging and prefer to retreat to the sphere of their like-minded peers and political friends.[11] In other words, Mutz finds that partisan political participation and the kind of deliberative mindset assumed by deliberative democrats do not go together. To the extent that exposure to diversity and disagreement through political discourse threatens interpersonal harmony, people will tend to avoid entering into political territory at all. They will apply the etiquette of the polite guest—let's not talk about politics—or they will seek the company of like-minded people.[12]

Representative government, from its early elitist beginnings to today's partisan version, is thus the contingent product of eighteenth-century ideological, technological, and epistemological constraints. Today, however, we have better social-scientific tools, a better understanding of what makes groups smart, and digital technologies to help us achieve what eighteenth-century institutional designers could only dream of. One way forward in reimagining our institutions could thus be, instead of rationalizing away, with Habermas, the electoral democracy we have inherited from the eighteenth century, to start imagining different institutions. In what follows I go back to the drawing board to sketch a vision of "open democracy," which in a way returns us to earlier versions of democracy (specifically, classical Athens) but that digital technologies arguably render feasible at scale and allow us to tweak in innovative ways.

Open Democracy

In this section I lay out a normative paradigm of democracy that I call "open democracy" (for a sketch, see Landemore 2017; for fuller development of this paradigm, see Landemore 2020). Open democracy is meant to be not just an improved, more participatory, or differently representative version of representative democracy but a different paradigm altogether. Its core ideal is to put ordinary citizens at the center of the political system rather than at the periphery, emphasizing accessibility and equality of access to power over mere consent to power and delegation of power to elected elites.

In Landemore (2020) I defend open democracy as constituted by a series of five institutional principles: participatory rights, deliberation, the majoritarian principle, democratic representation, and transparency.[13] This is not the space to go over all of these principles. Instead, I want to zoom in on two of the principles uniquely enabled by digital technologies: deliberation and democratic representation. Before I do, though, let me add a word about the concept of openness.

blies. There is no qualification needed to be included, whether social salience and ambition or luck. All it takes, in theory, is the will to participate. Similarly, in the Athenian People's Assembly, in theory, every citizen had the same right to participate and, once there, to say something and to be heard. These generalizations are of course true only at a high level of idealization, which brackets the substantive conditions for participation in general, such as time and social, educational, and economic resources.[21] Whether this idealization is tolerable depends in large part on the empirical question of whether the substantive conditions for equality of opportunity to participate can be plausibly achieved. If they cannot, then self-selection may turn out to reinforce existing inequalities. Additionally, in nonideal contexts, silence and exclusion (including digital exclusion) could also be read as active refusal and a form of civil disobedience (see chapters by Ananny and by Gangadharan in this volume).

Both lottocratic and self-selected representation are "open" by contrast with electoral representation, which is only accessible to those who stand out in the eyes of their fellow citizens, as per the "distinction principle" noted by Manin (1996). In electoral representation, access to the status of representative is neither fully spatially open (the slate of candidates is usually restricted by the hierarchies of parties and other organizations and then the "aristocratic" principle of election only selects the most salient people among those). Nor is it fully open over time (electoral elites tend to reproduce in ways that are exclusionary for the rest of us).

There are, arguably, ways to reimagine electoral representation via schemes of so-called delegative or liquid democracy (Ford 2012; Blum and Zuber 2016), based on vote delegation (or vote recommendation) to allow for what one might consider a greater democratization of the status of elected representative.[22] Delegative or liquid democracy is a system in which people can give their votes to anyone they like, either for a given term, or just on certain issues, with the option of recall at any time and the possibility to retain one's right to direct input throughout.[23] This type of democracy crucially differs from electoral democracy "in the principle that each voter should have free, *individual* choice of their delegate—not just a choice among a restricted set of career politicians" (Ford 2014, 1). Conversely, delegative democracy aims to lower the barrier to participation for would-be delegates. While delegative or liquid democracy schemes typically claim to want to get rid of representation altogether or strike a middle-ground between direct and representative democracy,[24] they can also be described as aiming to strike down the barriers to entry to the status of elected representative, thus rendering electoral representation more inclusive. This arguably constitutes such a rad-

ical break from electoral representation that I propose conceptualizing the representation at stake in liquid democracy schemes as the distinct notion of delegative or liquid representation.[25]

The point of rethinking democratic representation in these nonelectoral ways is that we could thus imagine a democracy that need not translate into elections alone or even elections at all. Thus, no mention is made at the level of the fundamental institutional principles of the principle of elections because elections, far from being *a*, let alone *the*, ultimate democratic principle, are merely one selection mechanism among others capable of translating the representative principle in a democratic fashion. Thus, whereas periodic elections are a defining institutional feature of representative democracy, open democracy is not committed to elections per se. Instead, it embraces a rich ecology of various forms of democratic representation.

How do these two central principles—deliberation and democratic representation—ultimately create a different type of democracy from representative democracy? Considering that there is no such thing, yet, as an open democracy, I am forced to render the difference at the model level, where the contrast is with the Habermasian ideal.

In contrast to the Habermasian metaphor of a two-track deliberative sphere, the central metaphor for open democracy is, I propose, that of the "open minipublic," that is, an all-purpose, periodically renewed, randomly selected body of citizens made entirely porous to the direct input of the larger public and permanently connected to subordinated single-issue minipublics, all of which are also open and porous to the larger public's input. Instead of the dichotomy between ordinary citizens hand deliberating in the informal sphere of opinion formation and elected elites making constrained decision in the formal sphere of will formation, open democracy pictures a constant rotating of ordinary citizens in and out of the variously nested and networked decision-making loci, all the while maintaining constant communication flows between the temporarily represented and the temporary representatives in ways that bypass the classic bottlenecks or "sluices" of elections and other party structures. This prevents the ossification of permanent difference between ruling elites and ruled. With the rotation principle built into lottocratic representation, we come closer to the Greek ideal of "ruling and being ruled in turn." You might call it the modern principle of "representing and being represented in turn."[26]

Additionally, whereas in Habermas's model the larger public sphere is left to self-organize, open democracy aims to structure larger public deliberations as much as it structures the deliberations of decision makers by bringing randomly selected citizens into contact with one another at all levels of

constructive turn in representation theory argue is that interest and preferences, unlike say, a taste for vanilla or chocolate ice cream, are not given. Only on a very crude (or economistic) understanding of politics can one expect individuals to be able to speak their interests and preferences (let alone judgments) off the top of their heads and without prior elaboration. This elaboration will usually require the creation of interest groups, associations, or parties, which can then enter the deliberation, negotiations, and bargaining taking place at the collective level in a meaningful and informed manner. Figuring out, clarifying, and articulating interests is, in other words, a prerequisite to deliberation. If this is so, representation is fundamentally unavoidable and would remain so even if deliberation could be scaled to millions of people. In other words, except, perhaps, for very small groups whose interests can be identified in the course of a direct deliberation, direct (deliberative) democracy is never really an option.

If this is true, then representation is unavoidable and deliberation must take place in relatively small units compared to the size of any modern polity. Yet nothing says that deliberation among democratic representatives must be confined to the familiar groups of elected politicians. Instead of replicating an elected chamber in digital format, and trying to connect it to a larger, unstructured public sphere left to its own devices (which we would want to do if we were to simply digitally enable the Habermasian model), digital technologies could be used to implement something different, better integrating the deliberations of the decision makers and the citizenry.

Lottocratic representation is perhaps easiest to imagine implemented in a digital format, because we have only to picture an online version of classical Athens's large juries (between five hundred and one thousand citizens) and the kind of online version of the minipublics now practiced in various guises (e.g., deliberative polls, citizens' assemblies) around the world.

Self-selected representation is also uniquely enabled by digital technologies, which allow at little cost the gathering of input from online "crowds" on any issue of relevance. A great pilot for what this could look like was the 2011 Icelandic crowdsourcing consultation of the public on twelve successive constitutional drafts (Landemore 2015).

"Liquid representation," finally, is premised on a core concept—vote delegation—perhaps even more uniquely dependent on digital technologies. It would indeed be difficult to envision something like liquid democracy on a mass scale using regular mail (although corporations have long used somewhat similar systems, proxy voting). Examples of liquid representatives can be found in the Demoex party in Sweden, which first used a liquid

democracy system between 2002 and 2016 (Norbäck 2012). Around 2006, software platforms were created to facilitate not just comment functions and vote delegation but delegation-based online discussion and deliberation as well, under the names "LiquidFeedback" and "Adhocracy." LiquidFeedback was adopted and used for the past several years by the German Pirate Party (Swierczek 2014).

Now assuming that the legitimacy of such new forms of democratic representation is accepted, what form should deliberation take? Given what we saw earlier about the impossibility (for now) and perhaps even the undesirability of "mass online deliberation," a second-best alternative is this: having myriad randomly appointed small groups deliberating independently, with their inputs aggregated up to a final level of decision making, or simply fed to a central decision-making body with ultimate sovereign power. The number of these minipublics would have to be large enough to ensure that any member of the demos could join one if she so chose. The deliberations of these minipublics could be made public and their exchanges open to the input of external crowds via crowdsourcing platforms. I call such a structure an open minipublic, a deliberative unit that is uniquely possible in a digital world.

To capture this idea, imagine first a version of Facebook devoted to the task (perhaps among other democratic ends) of growing and curating a deliberative platform for any given democracy. (I set aside here the possibility of a global deliberation, which assumes the existence of a global demos, or virtual, cloud-based demoi). Let us call this fictional, utopian version of Facebook—something so different indeed that it is worth changing the name—"the Citizens' Book," or Citizenbook for short (as per the earlier vignette). Assume that every citizen would be automatically electronically registered on it at birth (and let us set aside for now the dystopian possibilities that something like this naturally suggests).

Imagine if this platform could be used as a safe and secure space for online deliberation among all citizens to talk about collective issues, such as fiscal justice, economic inequalities, or immigration, or gun control (in the United States) except that instead of letting us talk only to our chosen circles of friends and acquaintances (as in the current version of most existing social networks), the system would match us to randomly selected others and invite us to join deliberative chat rooms with them for a certain amount of time (as per the opening vignette).

Imagine—and this is probably the least demanding leap of imagination—if all members registered on Citizenbook could then securely vote on this platform, easily accessible from their smartphones, in online referenda

2. Deliberation is valued by deliberative democrats for a number of reasons, among which are that it allows laws and policies resulting from it to be supported by public reasons and justifications (rather than mere numbers); gives all citizens a chance to exercise their voice (including via their legitimate democratic representatives); has beneficial consequences, such as educating citizens, building a sense of community, and promoting civic engagement; generalizes interests (Habermas); and increases the chance of the group successfully solving various collective problems (a dimension more specifically emphasized by so-called epistemic democrats). I embrace all of these reasons to want to put deliberation front and center in a theory of democracy.

3. For greater detail, see my analysis of the exercise in the *Washington Post*, at https://www .washingtonpost.com /politics /2019 /04 /24 /can-macron-quiet-yellow-vests-protests-with-his -great-debate-tune-tomorrow/. Up to two million people may have additionally contributed to the online governmental platform, but, ironically, the platform did not include any deliberative feature and so their participation does not obviously count as "deliberation."

4. See Peters 2008 for an exploitation of the sluice metaphor into a full-blown model pointing out the double meaning of a sluice and corresponding dual functionality (gate and filter).

5. In practice parliaments mostly operate as bargaining chambers and the public sphere as a cacophony of polarized enclaves. Additionally, the circulation of ideas and preferences from the wider public sphere to the formal one and back is far from smooth, as the gap between what majorities want and what they get would seem to indicate. In the United States, empirical studies (e.g., Gilens and Page 2014) point to a worrying lack of causal efficacy of majorities on public policies, in contrast to business and economic interests. The low approval rates of most representative institutions in advanced Western democracies (since such polls were first conducted in the 1970s) speak to the same problem. The system can thus be diagnosed as rather dysfunctional when it comes to agenda setting from the informal to the public sphere.

6. This circularity between the sphere of opinion formation and will-formation is also theorized in the model of Nadia Urbinati (2008).

7. E.g., Habermas (1996, 358), where he recognizes that the "problematic assumption" in the model of power circulation he borrows from Peters (1993) is the assumption that "the periphery has . . . a specific set of capabilities," allowing it "to ferret out, identify, and effectively thematize latent problems of social integration (which require political solutions)." Habermas unfortunately does not explain what happens to the model if this assumption proves indeed too "problematic," nor does he provide an account of the exact mechanisms by which the second track could generate or be endowed with those capabilities.

8. Habermas (1996, 307) himself acknowledges the limitations of such an "anarchic structure," which renders "the general public sphere . . . more vulnerable to the repressive and exclusionary effects of unequally distributed social power, structural violence, and systematically distorted communication than are the institutionalized public spheres of parliamentary bodies." Habermas goes on to note that "on the other hand, it has the advantage of a medium of unrestricted communication" (307). Somehow, however, the unrestrictedness of communication does not seem to be nearly worth the trade-off of immense power asymmetries inherent to an anarchical system.

9. For a discussion of the Hong and Page's diversity-trumps-ability theorem behind this argument, see critics such as Quirk (2014, 129); Thompson (2014); Brennan (2016). For a critic of the critics, see Landemore (2014); Page (2015); Singer (2018); Kuehn (2017).

10. See Mutz (2006).

11. Mutz (2006).

12. See Landemore (2015, 25), providing detailed analysis of Mutz's argument.

13. I consider additional principles in the concluding chapters to take into account the need to expand the definition of the demos in an interconnected, globalized world where affected interests transcend national boundaries, as well as the need to expand democracy to the economic sphere. The two additional principles considered are dynamic inclusiveness and substantive equality.

14. One of the probably controversial claims I make is that to the extent that classic electoral democracy thrives or even just depends on partisanship, this is one more reason to want to move past it.

15. On activists, see, for example, the influential Open Democracy media platform, at https://www.opendemocracy.net/en/. President Obama's administration famously launched an Open Government Initiative whose motivation, according to a 2009 White House memorandum, was "transparency, public participation, and collaboration." See https://www.whitehouse .gov/the_press_office/TransparencyandOpenGovernment. See also O'Reilly (2011).

16. In other words, it is software that is accessible to all at all times, not just in term of being visible but in terms of being usable, shareable, manipulable, and modifiable by all. By contrast, so-called closed source or proprietary software is software that only one person, team, or organization has control over and can modify. Open-source software is best known for some of the cocreated public goods it has generated, for example, the operating system Linux and the generalist online encyclopedia Wikipedia.

17. See "Crowdlaw," https://crowd.law/.

18. Transparency can of course also be helped by the use of digital technologies, but because the debate about the benefits of open data and open government is already well established, I prefer to focus on the more central and in some ways original principles of open democracy.

19. By contrast, it is worth emphasizing that representative democracy is not essentially committed to deliberation, in that it can be and has been implemented in purely aggregative and Schumpeterian versions that emphasize elite competition and voting procedures over deliberation.

20. Of course, one needs to assume here the equivalent of universal franchise in terms of the pool from which lottocratic representatives are chosen (an assumption that was not verified in classical Athens, as the Greeks both required volunteering for participation to certain lottocratic functions and put age restrictions on who was allowed to volunteer in the first place).

21. See Rose (2016) and Cohen (2018) on the political value of citizens' time.

22. I won't draw a hard distinction here between vote delegation and vote recommendation, although some see in it a reason to distinguish delegative from liquid democracy as two distinct projects (see, e.g., Davies-Coates 2013). The current consensus seems to be that they are roughly the same.

23. In the words of Bryan Ford (2002, 1), one of its first theorists, who called it "delegative" democracy, although the name didn't stick as much, liquid democracy is thus "a new paradigm for democratic organization which emphasizes individually chosen vote transfers ('delegation') over mass election" and replaces "artificially imposed representation structures with an adaptive structure founded on real personal and group trust relationship."

24. In the earliest documented use of the term, a wiki by "Sayke" (a pseudonym whose real owner is unknown), liquid democracy is described as "probably best thought of as a voting system that migrates along the line between direct and representative democracy" and "combines the advantages of both, while avoiding their flaws." See Sayke, "Liquid Democracy,"