
26. Technology assessment and democratic theories: a critical review

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INTRODUCTION

In a 2019 interview for the *Journal for Technology Assessment in Theory and Practice*, Armin Grunwald, head of the Office of Technology Assessment at the German Bundestag and a key figure in the technology assessment (TA) community, was invited to respond to questions about how to balance neutrality and engagement in TA. He stated that ‘TA is obliged to democracy due to its normative and philosophical roots’. Drawing on his extensive knowledge of TA history and practice, Grunwald added: ‘TA is obliged to democracy not only in general but also to a specific type, namely the “strong” democracy of Benjamin Barber, or the “deliberative” democracy of Jürgen Habermas’ (Delvenne et al. 2019, p. 71). What kind of democracy are TA practitioners committed to, and how has this shaped the approaches they have developed to support decision-making and public debate? What are the limits of these visions in terms of the insights and revitalization they can still bring to TA practices and democratic orders?

With these questions in mind, the purpose of this chapter is to explore the roots of TA in relation to democracy. We begin with a brief overview of four theories of democracy that we find relevant and useful for making sense of TA’s crucial role and activity in the tumultuous times that many democracies are currently experiencing. Guided by Grunwald’s impulse, we first look at the theories of discursive and deliberative democracy developed by Benjamin Barber and Jürgen Habermas, which are often considered by the TA community to be at the core of TA’s rationales and methodologies (van Est/Brom 2012). Then, we include the ideas of two authors who theorized agonistic models of democracy – Noortje Marres and Chantal Mouffe – whose approaches that value conflict and dissensus have somehow been neglected by the TA community and, to a large extent, by scholarly work on TA.

We argue that the contribution of discursive and deliberative theories, while decisive, is now leading to an impasse from which a way out must be found. The successes of the model of democracy sought by Habermas and Barber remain mixed. All around, the framework of representative democracy is cracking and in need of deep repair given the widening gap between those who govern and those who are governed. As an institutional embodiment of democratic ideals translated into practice, if it is to continue to play a pioneering role, adapted to the contemporary challenges posed by the rapid rise of far-right extremism and epistemic ambiguity about the status of science, TA must renew its sources of theoretical inspiration.

We are not claiming a swap between discursive-deliberative and agonistic approaches. Instead, we seek to blur the traditional distinctions between these models of democracy, leading to the conclusion that it is fruitful to consider the boundary between the two as not insurmountable, in theory as in practice. Identifying what we call ‘disturbance zones’ at the

intersection of these democratic theories, as we will ultimately do, will allow us to make daring proposals for considering the politics of technology assessment.

TECHNOLOGY ASSESSMENT AND DEMOCRATIC THEORIES

Deliberative Democracy (Habermas)

When it comes to determining the values to which TA communities adhere, it is usually uncontroversial to declare that ‘TA is committed to argumentative rationality in both science and democracy’ (Grunwald 2019, p. 100). The use of arguments and reasoning is indeed a core part of the European approach to TA. This emerged in the 1980s onwards based on what had been done previously in the United States, but considering European specificities, for example by broadening the addressees of the knowledge produced beyond parliament alone or by developing participatory mechanisms (Vig/Paschen 2000; Delvenne 2011). Although it takes different forms from one country and political culture to another, ‘participatory TA’ is usually associated with the traditional Habermasian view of deliberative democracy, characterized by rational discussion in which participants listen to one another, question their own presumptions, foster understanding between various parties and interests, and ideally create a genuine consensus through shared understanding and the exchange of rational arguments (Habermas 1984). This ‘ideal speech situation’, to name one of Habermas’s best-known concepts, refers to:

[the] expression of the symmetry between partners in dialogue. For Habermas, symmetry is itself an expression of peaceability, and is emblematic of a commitment to rational debate. When two parties enter into dialogue, they have a commitment to treat each other not as ‘things’ in the world, which they can manipulate, but as ‘subjects’ whose freedom to determine their own courses of action is equal. (Adams 2006, p. 27)

In this normative model, arguments and counter-arguments are weighed rationally during deliberation, and all sides have the interests of the community in mind. According to Habermas, if these norms, rules and attitudes are respected, then people are able to engage in political argumentation and to take part in the collective organization of democratic life. As a ‘discourse theory of democracy’, this deliberative approach to political practice requires pragmatic predispositions to argumentation which give a prominent place to the justification of preferences that will form the basis of robust political knowledge (Olson 2011).

In the realm of TA, deliberative democracy offered an insightful theoretical framework for conceptualizing democracy’s foundations and practices while simultaneously inspiring extremely concrete attempts in democratic regeneration, for instance through the development of participatory methods such as consensus conferences (Horst/Irwin 2010).

Strong Democracy (Barber)

Benjamin Barber’s starting point is the argument that most of the authoritarian and political excesses of the twentieth century can be traced back to the values that underpin the political theory of liberal democracy itself. Despite – or perhaps because of – its huge success in the Western world, ‘liberal democracy has not always been able to resist ... the illegitimate pol-

itics of fascism and Stalinism or of military dictatorship and totalitarianism. Nor has it been able to cope with its own internal weaknesses and contradictions' (Barber 1984, pp. 3–4).

According to Barber, the values of liberal democracy are 'means to exclusively individualistic and private ends', undermining the democratic practices on which individuals and their interests depend, and preventing the natural emergence of true citizenship, participation, public goods or civic virtues (*ibid.*, p. 3). To him, the motor force of democracy should be participation, 'the only viable form modern democratic politics can take'. At stake is nothing less than the survival of democracy: 'unless it takes a participatory form, democracy will pass from the political scene along with the liberal values it makes possible' (*ibid.*, p. xxxiv).

Instead of representative democracy, which he also calls 'thin' democracy, Barber argues powerfully for a government in which 'all of the people govern themselves in at least some public matters at least some of the time' (*ibid.*, p. xiv). He defines strong democracy as: 'politics in the participatory mode where conflict is resolved in the absence of an independent ground through a participatory process of ongoing, proximate self-legislation and the creation of a political community capable of transforming dependent, private individuals into free citizens and partial and private interests into public goods' (*ibid.*, p. 132). Activity, commitment, obligation and service are strong democracy's hallmarks (Parenti 1985, p. 328).

Barber insists that citizens become capable of common purpose through the process of common governance, rather than through the simple coincidence of pre-existing interests (Mansbridge 1987, p. 1341). This involves a conception of political knowledge that is provisional, evolutionary and mutable, 'produced by an ongoing process of democratic talk, deliberation, judgment, and action' (Barber 1984, p. 170). Talk is at the heart of strong democracy (*ibid.*, p. 173). Strong democratic talk 'entails listening no less than speaking ... is affective as well as cognitive; and ... its intentionalism draws it out of the domain of pure reflection into the world of action' (*ibid.*, p. 174). Barber maintains that representative democracy limits this type of talk and, as a result, substantially weakens the meaning and effect of citizenship. He has no doubt that citizens will soon discover the satisfactions of participation: 'The taste for participation is whetted by participation: democracy begets democracy' (*ibid.*, p. 265).

Barber is behind a number of proposals to make democracy 'stronger', for instance through the establishment of neighbourhood assemblies, experimental electronic balloting or interactive television town meetings. Significant elements of this emergent citizen-centred paradigm have influenced actors – and no doubt among them, TA practitioners – working on questions of civic renewal, public work, collaborative governance, public dialogue, conflict resolution and deliberative democracy (see chapters 7 and 36).

Issue Politics (Marres)

We now turn to agonistic theories of democracy, starting with Noortje Marres who has devoted several works (e.g. Marres 2005, 2007) to the study of what she, following Habermas, Beck and Latour, calls the 'displacement of politics', that is, the expansion of the sites of politics and democracy outside the traditional democratic institutions such as parliaments and executives. For Habermas, this displacement is a matter of theorizing the shifts that take place in the age of globalization, when public problems such as unemployment, genocide and climate change extend beyond the usual boundaries of nation-states into transnational fora, necessitating the implementation of new procedures for democracy (Habermas 2001 [1998]). By coining the term 'subpolitics' (Beck 1992), Beck develops a different perspective and draws attention to

the fact that we are looking for politics in the wrong place, as the ‘real’ political issues are now emerging in the ‘techno-economic’ sphere and being addressed by ‘new social actors or movements’, that is, beneath and beyond the democratic institutions of the nation-state. This diagnosis serves him as a basis for the argument that politics thus needs to be reinvented, and that classical political categories and ideologies are of little help to achieve this aim. Finally, Latour (1983) famously argued that science laboratories are critical locations in which the activities of the scientists trigger changes in society at large.

Drawing on these three authors, Marres considers that the displacement of politics reveals the structural inability of the institutions of political democracy to ‘articulate’ public issues (that is, to make them count as shared public concerns) in ways that are meaningful to the communities affected by them. Because traditional political institutions ‘[fail] to mediate problems as they make themselves felt in daily life’ (Marres 2005, p. 85), controversies necessarily arise and make public involvement necessary. Drawing on the American pragmatist tradition, she argues that there is no such thing as ‘the general public’, since it is a question of bringing a public into being around an issue that becomes manifest:

an issue may occasion the organisation of a political community dedicated to its articulation and to the identification of an addressee for the affair, and as part of this process, a public may or may not be called into being. We then introduce the rule: no issue, no politics, no public. The public may then be understood as an effect of particular political processes of issue formation. (ibid., p. 62)

For Marres, it is a democratic requirement that issues first be displaced away from political institutions to ‘sites hospitable to their articulation as objects of democratic politics’ (ibid., p. 140), and a practical democratic achievement that ‘actors who do not belong to the same community are jointly and antagonistically implicated in them’ (ibid., p. 149). Only in a second step can issues be handed over to a ‘capable addressee’ who is responsible for their settlement. Although Marres does not refer to TA, the work of mediation and translation carried out by TA practitioners at the intersection of different worlds (politics, society, industry, media) before transferring the results to policy-makers comes to mind, even though it has been pointed out that participatory experiments are increasingly detached from protests, controversies or public issues, and are instead organized as ‘lab participation’ under controlled conditions (Bogner 2012).

Marres clearly leans towards ‘protest participation’, while recognizing that her approach can be seen as a collapse of the complex constellation of ideals, principles, procedures and rules often associated with political democracy, such as popular sovereignty, inclusive community or the public use of reason (Marres 2005, p. 140). According to her, a change is needed so that we no longer think of democracy in terms of a static architecture that guarantees the maintenance of established democratic ideals and procedures, as Habermas or Barber would have us do. In practice, she tells us, this conception prevents the emergence of a more experimental order in which it becomes possible to adapt ideals, subject definitions, procedures and arrangements to enable the democratic handling of issues.

Agonistic Pluralism (Mouffe)

Probably the most cited author on agonistic approaches to democracy, Chantal Mouffe (2000, 2005, 2016) vigorously attacks deliberative democracy theorists, arguing that their views risk undermining democratic politics by turning a blind eye to power politics. She contends that the

related normative assumptions at the core of their theories depict a post-political world where conflict, dissensus and the very possibility of an adversarial democratic debate are made invisible or taken as the reminiscence of the ancient or backward world (Mouffe 2005). Against the background of these models, Mouffe's political theory of democracy is based on agonistic pluralism, which acknowledges the unavoidability of antagonism and the unattainability of conflict resolution.

She emphasizes the potentially positive aspects of certain forms of political conflict. Her theory accepts a permanent place for such conflict in democratic politics, but seeks to show how people can manage and channel it positively. Because a universal rational consensus is impossible, Mouffe pleads for the erection of agonistic democratic spaces where various hegemonic and counter-hegemonic practices can be confronted with each other, and where politics is treated as constitutive of any social relation in a democratic order. The concepts of hegemony and counter-hegemony rest on the idea that every democratic order results from a series of practices of articulation, through which the meaning of social institutions is temporarily and precariously fixed and an order is created in a context of contingency:

Things could always be otherwise and every order is predicated on the exclusion of other possibilities. Any order is always the expression of a particular configuration of power relations. What is at a given moment accepted as the 'natural' order, jointly with the common sense that accompanies it, is the result of sedimented hegemonic practices. Every order is therefore susceptible to being challenged by counter-hegemonic practices that attempt to disarticulate it in an effort to install another form of hegemony. (Mouffe 2013, pp. 19–20)

Inspired by the works of Carl Schmitt and Jacques Derrida, Mouffe considers that political identities consist of a certain type of we–they relation that is inherently constitutive of the political. In other words, collective political identities exist because they can define and organize themselves inside with regard to a 'constitutive outside'. The challenge, for Mouffe, is to transform democratic institutions in order to provide a space where it becomes possible to turn antagonistic relations into agonistic relations. Whereas antagonism conceptualizes political association as a struggle among enemies who aim at destroying each other, agonism posits that opponents are not enemies but adversaries: by this, they acknowledge the others as legitimate and necessary actors with whom they can confront their political projects and worldviews. Under this approach, conflict is not only legitimate, but it is also a guarantee that democracy is alive and inhabited by pluralism (van Bouwel/van Oudheusden 2017, p. 503).

Drawing on pluralistic agonism, Delvenne and Parotte (2019) proposed a theoretical reflection on the future role of technology assessment in relation to actual changes in political landscapes (for example, the increasing electoral successes of populist and extreme-right parties), which also includes pragmatic recommendations for TA institutions, for example by encouraging them to acknowledge their political identity and to convince potential political supporters by making their values, visions and (counter-)hegemonic practices explicit.

DISTURBANCE ZONES ACROSS DEMOCRATIC THEORIES

While it is common to think of the consensual-deliberative and agonistic models of democracy as diametrically opposed, there is certainly much to think about and build on from their intersections. Hannah Arendt (cited in Markell 1997, p. 378) suggests that political theory should

resist such hardened oppositions by ‘thinking together and combining meaningfully what our present vocabulary presents to us in terms of opposition and contradiction’ (Arendt 1973). Taking this suggestion to heart, we propose to put these two strands of democratic theory to the test by introducing what we call ‘disturbance zones’, that is, issues, themes or questions that forge (mis)alignments between the authors that are not immediately obvious at first glance, thus disrupting well-ordered theorizing. Our intention here is not to confine ourselves to a theoretical exercise, but is directly related to practical considerations about the future democratic politics of TA that we develop in the final section. We identify at least three disturbance zones through the democratic theories that we have described.

First, the legacy of Dewey’s pragmatism – from which the practice of TA is often said to derive – is part of the background of these four authors’ theories, but in different ways. Habermas, Barber and Marres explicitly acknowledge Dewey’s influence on their thinking. For Habermas, the public sphere is conceived as a place of exchange within a community, with norms, attitudes and postulates that underpin communicative rationality. For Barber, drawing on the American pragmatist tradition means reclaiming the idea that democracy is a way of life consciously chosen by free individuals, animated by the development of their community and themselves. Finally, for Marres, Dewey’s notion of ‘problematic situations’ is crucial to understanding how a concern becomes a public problem, and how progress is made toward its resolution. Mouffe, on the other hand, denies any proximity with Dewey and makes a clear attempt to distance herself from pragmatism:

Democratic politics is only a matter of letting an increasing number of people count as members of our moral and conversational ‘we’. Like his hero John Dewey, Rorty’s understanding of social conflict is limited because he is unable to come to terms with the implications of value pluralism and accept that the conflict between fundamental values can never be resolved. (Mouffe 1996, pp. 6–7)

Upon closer examination, however, Mouffe may well be closer to Dewey’s conception of conflict than she admits. Conflict arguably plays a very important role in Dewey’s theory, who writes that ‘the elimination of conflict is a hopeless and contradictory ideal’ (Dewey 1967 [1894], p. 210). This is particularly visible when he characterizes problematic situations that arise continually through practice and are positive corollaries of living a socially engaged, participatory life. ‘Constructive conflict, in [Dewey’s writings], exists within action, rather than rational debate, and leads to individual actors using active, reflective processes of judgment to rectify and overcome the discord’ (Whipple 2005, p. 169).

Second, the four political theorists have different conceptions of the political ontology of democracy and its connection to democratic practices. Mouffe joins Habermas and Barber, with whom she shares a reliance on pre-established definitions of ‘good’ democracy; the latter two also spend considerable time detailing beforehand what constitutes ‘successful’ participation, and the criteria that count most for aggregated individuals to qualify as public. Marres, on the opposite, embraces a relational approach as she envisions participation as a situated and experimental performance that co-produces democratic publics, problems and procedures.

Third, we find a different treatment of the institutions of representative democracy and their role in democratic life. For Mouffe, traditional political institutions are a terrain to be (re) invested in and protected in order to guarantee a political-democratic order that is plural and vibrant. Conversely, for Habermas, Barber and Marres, although to different degrees and in different terms, the institutions of representative democracy are considered outdated, obsolete, dangerous, limiting, even incapable, to the point of being negligible in their analyses. Barber’s

strong democracy reads like an indictment of representative democracy: ‘the representative principle steals from individuals the ultimate responsibility for their values, beliefs, and actions’ (Barber 1984, p. 145), is ‘incompatible with freedom, ... precludes the evolution of a participating public in which the idea of justice might take root’ (ibid., p. 146), and produces ‘distrustful, passive’ citizens (ibid., p. 219). Marres takes a less adversarial view: ‘in accounting for public involvement in terms of issue formation, the point is thus not to downplay the importance of [institutionalized] ideals and procedures, but, instead, to challenge the unfair treatment of issues as excuses for the enactment of these ideals and procedures’ (Marres 2005, p. 148).

Nevertheless, and this includes Habermas, the democratic theories most often associated with TA have often been constructed against the institutions and procedures of representative democracy. It is as if the advent of the form of (participatory) democracy these authors wish to witness had to be achieved, if not in spite of, then at least without the primary involvement of, traditional institutions such as parliament and government. This is surprising, to say the least, given that elected representatives, their political needs and the democratic talk they articulate, are the primary targets of the knowledge produced by parliamentary TA.

CHALLENGES AHEAD FOR TA IN DECAYING DEMOCRATIC ORDERS

Having recognized the important contributions that these four authors have made to democratic theory, and their relevance to TA, it is also worth pointing out some shortcomings and challenges ahead.

First, the relative detachment from, or even disinterest in, democratic theories prevalent in the TA community for the institutions of representative democracy poses a problem of available theoretical resources for articulating new democratic practices that (re)connect with traditional political institutions. This is a critical shortage, as we are in an existential crisis of democracy that is only getting worse. Indeed, the representative democracy to which parliamentary TA contributes has appeared particularly fragile and even broken recently (for example, the Covid-19 pandemic has given rise to various measures to restrict rights and freedoms that were considered illegal, without parliaments exercising their constitutional role of oversight of governments), but also corrupt (for example, Quatargate and the indictment of several members of the European Parliament, including one Vice-President of the European Parliament), and plagued by the disturbing rise of the far right.¹ At the heart of this crisis, the primary addressees of the anticipatory knowledge produced by TA communities, the parliamentarians, could see their role considerably altered or questioned by increasingly authoritarian leaders, or by populations constantly downgraded by the accumulation of crises (climatic, economic, financial, energetic, social). In addition, as we have already argued (Delvenne/Parotte 2019), some moral issues for TA practitioners are likely to arise from contemporary politics; for example: Should we help any politician? Can or should we be of service to any political project? In countries where the far right has already made significant inroads, elected members of these parties have joined the boards of several TA offices. This renewal of the political majority is not too worrying at the moment, because these elected representatives are in a minority, and because this minority is mostly silent on technological issues that do not seem to be a priority for them. What if tomorrow they realize that technologies could be used

for freedom-destroying and xenophobic projects, and that the language of facts and science spoken by TA could be a powerful lever for advancing reactionary opinions?

Second, the breakthrough of participatory democracy enabled by TA institutes, among others, appears to be real in some countries, but remains timid and no longer very convincing as to the probability that such institutes can remedy the flaws of representative democracy. Indeed, participatory TA is still unable to overcome the recurrent problems that have existed since its origins (difficulties in measuring impact, recruitment issues, elitism among participating citizens, lack of imperative mandate, high organizational costs, detachment from the political debates). The persistent reluctance of the vast majority of citizens to take part in participatory processes is rooted in the way that individuals conceive their own roles, abilities and capacities in the public sphere, as well as in the perceived output of such democratic innovations (Jacquet 2017). If so few citizens accept the invitation to engage in participatory exercises, and if elected officials are quick to ignore the results without bothering to explain their choices, we can legitimately ask why these democratic mechanisms are organized, and for whom. Moreover, the participatory practices advocated until the 2000s are nowadays abandoned by most parliamentary TA offices in favour of faster and standardized interactive approaches; less expensive and also less connected to any democratic ideal (Delvenne/Macq 2020).

To make sense of the current moment we are experiencing, democracy should be seen as a ‘critical infrastructure’: a system located on the national territory which is essential for the maintenance of vital societal functions, and the disruption or destruction of which would have a significant impact at national level as a result of the failure to maintain those functions.² In this respect, TA communities can play a crucial role in repairing and protecting the democratic infrastructure, as well as preparing (themselves and their publics) for the emergencies and disruptions of socio-political order in the event of democratic breakdown. It is about ensuring that the democratic framework is maintained and nurtured, as this is the only context in which a politics of TA can be implemented and developed. In the interview with Armin Grunwald that opened the introduction to this chapter, he again declared: ‘TA cannot stay neutral in case democracy comes under pressure. In this respect, TA must be, in the terminology of Roger F. Pielke, an issue advocate in favour of democracy’ (Delvenne et al. 2019, pp. 72–73). In the interest of moral clarity, and without compromising the performance of neutrality that many TA institutes hold dear, it is time to ask: What strategies of avoidance or resistance might be employed? With what probability of success?

Pragmatism continues to be a source of inspiration, and the agonistic theories of Marres and Mouffe may well prove to be better adapted to today’s world, and a step ahead of their deliberative-consensual counterparts. Innovative combinations of these theoretical tools could be imagined, for example, through a renewed interest in ‘uninvited participation’ (Wynne 2007), without sacrificing service to representative institutions and with a view to restoring an appeal to civic ideals. Ways forward for TA may involve confronting unusual potential allies beyond traditional political arenas, to connect with many publics often excluded from the TA radar, such as those involved in situated struggles (for example, the protests against the Hambach open-cast mine in Germany, the Sainte-Soline ‘megabasin’ in France or the Drigg nuclear waste dump in the United Kingdom) aimed at preserving acquired rights or the environment that are threatened by technological and industrial advances. If there can be a commonality of thought between these forms of activism and some of the preferences and commitments of the TA community (for example, striving for more sustainable modes of con-

sumption, putting long-term human or environmental health ahead of short-term profit), there are also significant differences. Local communities in struggle are highly politically engaged and they are also often disillusioned with institutional democracy, which they abandon in favour of other modes of action, including illegal ones. Despite these differences, finding the right milieu to experiment with new democratic practices, in order to reweave the scattered fragments of today's technological societies, will require the assistance of institutions accustomed to working at the edge of several worlds in friction. In this respect, TA has no magic formula, but it has the capacity to build bridges between institutional and non-institutional actors with sometimes radically opposed visions, and the legitimacy and experience to operate within democratic institutions. Considering what is at stake, it is certainly worth a try.

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NOTES

1. To take just a few European examples, Italy recently became the first European country of the twenty-first century to be led by a far-right leader; after Austria some years ago, Finland and Sweden recently brought extreme-right parties into government; in Spain, the *Partido Popular* has concluded a series of agreements at regional and municipal level with the populists, anti-feminists and climate deniers of Vox; in Germany, a far-right, Europhobic political party, *Alternative für Deutschland*, obtained 15.9% of the vote in the European elections in June 2024, becoming the second largest political force in Germany; ultra-conservatives and sovereigntists have been in power for several years in Hungary and Poland, and are constantly attacking civil liberties and the rule of law; this trend is rapidly growing everywhere.
2. We adapt the definition of critical infrastructure from the EU Council Directive 2008/114 ([https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/662604/EPRS_BRI\(2021\)662604_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/662604/EPRS_BRI(2021)662604_EN.pdf), last accessed on 26 August 2024). There is much more to be done with regard to the concept of infrastructure and its application to democracy, but this is beyond the scope of this chapter.

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