

# RETHINKING CITIZEN PARTICIPATION IN SCIENTIFIC AND TECHNICAL ISSUES: A STUDY WITHIN THE SPANISH LOCAL GOVERNMENT

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## ABSTRACT

The growing complexity of technoscientific issues has posed a challenge to decision-making in our democracies. Over the last two decades, we have thus witnessed a rise in the participatory processes that promise to democratize these issues by including citizens in decision-making. This paper aims to study the discourses and practices of the organizers of participatory processes in Spain to analyze these proposals' limits. In order to accomplish this objective, we conducted eight case studies by interviewing the individuals responsible for these processes and examining publicly available materials related to them. The analysis of the collected data reveals that, although the participation of laypeople is considered a positive contribution, the very configuration of participation—based on a problematic division between experts and non-experts—ends up limiting the ambition of democratizing decision-making. Based on these findings and drawing on lessons from the field of activism, the paper proposes a 'participation in the wild', which would allow rethinking the disposition of the stages and rhythms of participatory processes, and thereby blur the asymmetries that constitute these devices. This work, therefore, aims to contribute to the assembly of elements of political theory and science and technology studies, as well as bridging the gap between two fields that can make important contributions to achieve more democratic ways of conceiving decision-making concerning science and technology in society.

**Keywords:** public participation, top-down participation, expertise, stakeholders, laypeople, science and technology, STS.

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*Repensando la participación ciudadana en asuntos científico-técnicos:  
un estudio en el ámbito de la administración local española*

## RESUMEN

La creciente complejidad de las cuestiones tecnocientíficas ha supuesto un reto para la toma de decisiones en nuestras democracias. Así, durante las dos últimas décadas hemos asistido a un auge de procesos participativos que guardan la promesa de democratizar estas cuestiones a través de la inclusión de los ciudadanos en la toma de decisiones. Este trabajo pretende estudiar los discursos y prácticas de los organizadores de procesos participativos en España para analizar los límites de estas propuestas. Para ello, se ha realizado un estudio de ocho casos mediante material públicamente disponible sobre los mismos y un conjunto de entrevistas a los responsables de estos procesos. El análisis de los datos recogidos revela que, aunque la participación de personas legas se considera una contribución positiva, la propia configuración de la participación –basada en una problemática división entre expertos y no expertos– acaba limitando la ambición de democratizar la toma de decisiones. A partir de estas constataciones, y aprovechando algunas enseñanzas del campo del activismo, el trabajo propone una ‘participación in the wild’, que permita repensar la disposición de etapas y ritmos de los procesos participativos, y así desdibujar las asimetrías que constituyen estos dispositivos. Un trabajo que pretende contribuir al ensamblaje de elementos de la teoría política y los estudios de ciencia y tecnología, tendiendo un puente entre dos campos que pueden hacer importantes aportaciones para lograr formas más democráticas de concebir la toma de decisiones sobre ciencia y tecnología en sociedad.

**Palabras clave:** participación pública, procesos participativos, experticia, concernidos, personas legas, ciencia y tecnología, CTS.

## Introduction

We are living in increasingly technological and complex societies (García & Valle, 2019), where risks and uncertainties are involved in most of our daily debates (Beck, 1992). This logic of a “knowledge society” characterized by extreme specialization demands well-informed technical judgments as a condition for legitimate decision-making on public affairs (Collins and Evans, 2017), as well as requiring society to be built upon trust in the ability of scientific expertise to make assessments to minimize risks (Gonçalves & Delicado, 2009). Thus, current public debates are based on a distinction between laypeople and experts, with the former being less apt to play a role in scientific and technical decision making. This first divide intersects with a second, widely discussed in our Western democracies, splitting society into citizens and political representatives (De Blasio & Sorice, 2018).

As a result, lay citizens suffer a double exclusion from decision making processes, which has become a significant challenge (Mejlgaard & Stares, 2010) and poses the question of how our representative democratic political systems can deal with the increasing need to integrate participatory practices into policy-making (Aceros & Domènech, 2021) to facilitate the challenging mission of bringing together scientific and technical development with the context in which it unfolds (Alvarado-Peña et al., 2022). The solution seems to demand the bringing together of two

apparently separate logics: that of democracy, understood as popular control, and that of knowledge development, seen as the practice of assessment by a specialized social group (Liberatore & Funtowicz, 2003). Indeed, public participation has frequently been identified as a convenient solution, which has given rise to an exponential increase of this type of process at the national, regional, and local levels of government, especially since the turn of the millennium (Kleinman et al., 2010).

Consequently, over the last two decades mechanisms such as focus groups, consensus conferences, citizen juries, community advisory boards, participatory integrated assessments, and deliberative mapping, among others, have been commonly implemented as a practical translation of this democratizing momentum. The certainty that citizens should be involved in public deliberations, despite the growing amount of technoscientific elements that these involve, has had an enormous impact on different governmental levels (Palà, Moyà-Köhler & Domènech, 2019).

In addition, political thinking has needed to incorporate and reflect upon the influence of science and technology on the management of the public due to experts' role in decision-making processes. Similar to a mirror image, in the field of science and technology studies (hereafter STS), there is also the perception that it is not possible to study science and technology without paying attention to the role of citizens in their governance. Currently, it is from within this tradition that we have undertaken this paper, joining the call made by Jasanoff and Martello (2004) to devote to politics the same attention that STS gives to science and its laboratories.

In this vein, we have focused our analysis on the potential role of citizen participation in the present political situation, turning our attention to the decision-making processes in which science and technology play a prominent role in the discussion. We believe that this type of process represents a privileged opportunity to analyze the complex relations between science, technology, and society.

In order to achieve our purpose, we analyzed in-depth interviews conducted with “experts in community” (Rose, 1999)—organizers of participatory processes in technoscientific affairs—to grasp how they view the participation of citizens in technoscientific processes. Thus, by understanding who is invited to participate, what is expected of them and what elements they view as most relevant concerning participation, we will reflect upon the participatory paradigm's contribution to democracy in complex societies.

Out of our empirical work, we highlight how experts see participation in those procedures as a potential tool to bring in new actors and knowledge, and to discuss some pre-established assumptions in the process. At the same time, we will explore how these contemporary forms of participation are still based on a hard dichotomy between who is considered an expert and who is considered a layperson. To rethink some of these elements, we will introduce the concept of participation “in the wild” to conceive new ways of making scientific or technological decisions.

### **An STS approach to participation**

Given our interest in challenging the suppression of politics based on arguments of complexity and expertise, it is highly relevant to examine how this issue has been addressed in the field of science and technology studies. It is in this field that we can find the strongest arguments to defend the importance of citizen participation.

Between the 1970s and the 1990s, the so-called “deficit model” (Lash, Szerszynski & Wynne, 1998) —based on the alleged incompetence of lay people to understand science and technology matters (Mejlgaard, 2009)—was the mainstream approach regarding public participation in science and technology issues, and it shaped the assumption that communication between technoscience and society should be done in a paternalistic and pedagogical one-way direction (Bucchi & Neresini, 2008; Irwin, 2006).

But this deficit model was soon overcome. First, it was difficult to claim that the public needed to become experts in order to be able to deal with S&T issues; this positivist view comes from a notion of the public as a pupil who can only participate in this kind of issues if it is enlightened by technical knowledge, and therefore it turns expertise into a tautological condition for participation (Fischer et al., 2014). A second criticism came from some anthropological contributions that showed the importance of knowledge other than the scientific or technical one to deal with complex questions, as it provides insights that would otherwise be left out.

In recent years, STS proposals shifted from the idea of “public deficit” to that of “public engagement” with science and technology (Irwin, 2014) to overcome the risks appearing with the tendency of experts to get rid of other kinds of knowledge (see Lash, Szerszynski & Wynne, 1998). This new paradigm meant a shift from the passive role of the public to an active one, with lay people regarded now as relevant participants in the broader societal negotiations about how to identify, assess, and work on S&T issues (Mejlgaard & Stares, 2009).

Since the beginning of the 21st century, the field of Science and Technology Studies (STS) has seen a vigorous debate on the role of expertise in contemporary societies and its relationship with politics (Palmer, Owens & Doubleday, 2019; Domènech, 2017). Numerous scholarly works have been produced to unravel various discussions surrounding the potential for a more complex conception of knowledge production. Scholars have paid attention to different issues such as the locality (Wynne, 1991) or situatedness (Irwin, 1995) of knowledge, the characteristics of participatory devices themselves (Lezaun & Soneryd, 2007), and the potential for democratizing science and technology through the participation of laypeople (Callon, Lascombes & Barthe, 2009). These discussions have addressed the very nature of participatory devices and the particularities of public participation (Marres, 2007) or non-participation (Besana, Bouzo, & Monserrat, 2020) in technoscientific issues.

In his analysis of the difficulties faced by sheep farmers in Cumbria after the Chernobyl disaster (Wynne, 1992), Brian Wynne demonstrated the disastrous consequences of decision-making processes that rely solely on expert knowledge and ignore more situated knowledge. Similarly, many works have emphasized the importance of other forms of knowledge when dealing with technoscientific issues and their impact on society, particularly with regards to environmental, urban, and landscape planning issues (see Rydin, 2007; Failing, Gregory & Harstone, 2007; Corburn, 2003). These contributions illustrate the relevance of new entities, which some authors refer to as “ethno-epistemic assemblages” (Irwin & Michael, 2003), that incorporate situated and valuable knowledge to better connect science and technology with society.

An additional layer of analysis was provided by relevant works that demonstrate how subjective or embodied involvement allows people to generate valuable knowledge. Some authors refer to this as “epistemic-communities” (Lafuente & Tíscar, 2013), highlighting the emotional and embodied struggle (Rodríguez-Giralt, 2010) that often accompanies laypeople’s

involvement with an issue. This opens up reflection on the complex composition of participatory processes and the new knowledge that emerges from these encounters. Contributions in the fields of epidemiology and medicine have been particularly fruitful (see Rabeharisoa, Moreira & Akrich, 2014; Callon & Rabeharisoa, 2008).

All these discussions led to major debates in the field about how to deal with such relationships between disparate and often logically incompatible forms of knowledge (Young & Matthews, 2007), a central concern for STS in this century, regarding the need for democratizing, not only science and technology but also democracy itself (Graña, 2005). Because, as Stengers (2005) points out, democracy and rationality should share the same requirement, that of inventing mechanisms capable of giving rise to, fostering, and fueling the possibility that citizens become interested in the knowledge of the conditions for their life.

## Methodology

For this work, eight case studies were chosen from a revision of the participatory processes around scientific or technical issues developed in Spain over the last 20 years (see Palà, Moyà-Köhler & Domènech, 2019). These eight specific participatory processes were compiled via 'purposive sampling' (Polit & Beck 2012), and were selected according to criteria of thematic diversity—concerning technical and scientific issues regarding the youth (3), the elderly (2) and urban development (3)—and diversity in the size of the promoting administration—one from a supramunicipal entity covering different municipalities and more than 3M inhabitants; two municipalities with more than 250m inhabitants, two with a population between 50 and 300m, two between 20 and 50m, and one with fewer than 20m inhabitants.

Data collection was carried out from two different sources: a) ten semi-structured interviews, four of which were held in pairs, with a municipal expert responsible for participation and a political official directly related to the development of the participatory process. In two cases, the interviews with the political representative and the municipal expert in charge were held separately; finally, in two more cases, the interview was held only with the political representative in charge of developing the participatory process, a total of five men and one woman between the ages of 45 and 65, and two men and two women between the ages of 30 and 45. These interviews were guided by three main sections, an introductory section to obtain contextual information, a second section to inquire into the discourses on the different participants as experts or as lay citizens and a final section to work on the notion of democracy and participation. The second data collection source was b) website analysis, involving compiling the written material on the participatory process studied and adding the representative excerpts to an Excel table with thematic codes.

The interviews were manually transcribed and anonymized following the recommendations of the ethics committee of the Universitat Autònoma de Barcelona. The material, interview transcripts and representative website excerpts gathered were organized in analytical categories and codified as per several issues: who is/is not considered an expert; who should participate in each moment of the participation process; and what can each actor add to the process. Finally, a thematic analysis (Quivy & Van Campenhoudt, 2007) was carried out to give shape and analyze the information.

## Results

From this point onwards, we will present the results of the fieldwork, which, once analyzed, will allow us to reveal a set of elements that are important for understanding the terms under which participation is currently taking place.

Which are the actors involved in a participatory process?

In all the participatory processes selected for our investigation, we observed the presence of three different groups: politicians, experts, and citizens. In the following excerpt, we can see how this triad is defined by one of the politicians.

“Well, there are always an official from the governing team and different representatives from other political parties (politicians) who follow up the process. Then, there are the experts working for the City Council, and specific experts if there is any need to deal with a more specific issue, and then the citizenship.” (Pol\_E2.07)

Throughout the study, the first two groups of actors were always quite clearly defined, and they had specific assignments: a) politicians, who are usually people connected with the government overseeing the process. Depending on the case, some of them may also belong to other political parties represented in the institution but not in the government. The role assigned to them, according to the interviewed actors, was to “ensure that the process takes place according to what we agreed upon beforehand” (Pol\_E1.02); and b) experts, who deal with complex issues for discussion. Their main function is to provide technical information so that a frontier between what is possible and what is not can be drawn; “They are here so they can contribute with technical issues... they can give us advice on whether the results of the process can be implemented or not, for example” (Tec\_E1.01). Experts are perceived as an indispensable part of decision making, as they are “a person whom we would look for anyway in order to work together even if no [participatory] process is taking place” (Pol\_E2.04).

Finally, the third actor in a participatory process is what the literature usually defines as “lay people/participants,” who were defined in the interviews as “the other” besides the expert. Their involvement is linked to the materialization of the participatory process, as “they are the ones who come because they want to participate [...] they have knowledge about the issue. Not expert knowledge, but they know about it” (Tec\_E1.02).

If we pay attention to the local authorities' websites, we can notice that lay participants are mostly referred to with two different terms. Sometimes they are called “lay citizens” (5), while other times they are described as “neighbors” (3). Therefore, these two concepts appear on all analyzed websites devoted to participation.

But how can this group be defined? It is not easy to determine who the “lay citizens” are, and this is one of the most challenging aspects of the process for those in charge. They are perceived as a heterogeneous group without a clear understanding of who comprises it and why they are invited to participate:

“[...] but we have here lots of stakeholders that can... that bring different points of view, it's not so important if one or another comes, but that some of them come to have some different visions [...] my experience is that it is impossible to take everything into account... it's always a new world depending on who participate.” (Tec\_E2.04)

As we can see, it is clear that lay participants are necessary for a "participatory process", but their role is not always well-defined. They are often presented as "the other" in relation to the experts. While they are valued participants who may possess technical skills, knowledge about specific issues, or represent significant groups, their role must be clearly defined at the outset of the process, as we will see below.

When does each actor play a role?

Another determining factor that emerged during the interviews was the timing and location at which entry was granted to those who were not considered experts or politicians. This included the various stages of the process that allowed for the participation of individuals deemed as 'lay citizens'.

Certainly, the number of cases analyzed in this research does not allow us to make any general assumptions. However, it is interesting to notice that, in all the cases we studied, lay citizens were admitted at deliberative stages (6), or diagnosis stages (2), but in none of them were they involved in decision-making or implementation stages.

The organizers explained this circumstance by arguing that, due to the technical nature of the implementation of decisions, this was a separate phase without participation:

"Now we are writing the ordinance [municipal regulation], so we are in the conclusion stage. There is no participation, only technical issues. These are two spaces apart from each other" (Tec\_E1.08)

In some cases, the deliberative process appears to be atomized, as the intention of the participatory process is not to find a place to weave a common world but to provide a space where stakeholders can make some considerations and then leave the final decision and its implementation to experts and the government:

"Given that the person who has to make the compromise is the one who is in charge of drafting the bylaw, we thought that it was good to receive the citizens' proposals separately from the proposals by the industrial sectors, understanding that they are antagonistic from the beginning... and therefore that they would lead a debate in which there would be no consensus." (Pol\_E1.08)

What does participation contribute to?

Finally, we will comment on some of the contributions and particular challenges of lay people's involvement in the studied participatory process.

#### *-Affection on knowledge production*

According to our informants, the involvement of lay citizens favors the introduction of new knowledge into decision-making processes related to institutional policies. For example, we encountered a case where a city council contacted agents working directly in the field to address new demands that were emerging:

"I remember when the housing problem began, especially that involving people who could not pay the rent... and that came to us through the basic social services, so what we did was to develop a protocol with them (...) the basic social services now have a very strong

understanding of risk, and so on. And organizations that are on board, too; also the professionals in the Council, but not so much.” (Pol\_E1.05).

This is how new elements to be considered are revealed, and new answers are brought into play, “an opinion that makes the difference... because often we do not only need abstract expertise but also the experience” (Tec\_E2.02).

*-It allows abstract knowledge to connect with the local reality*

In connection with the previous point, it is not only a question of achieving broader knowledge, but also that the presence of lay citizens introduces greater complexity and proximity due to their attachment to the territory. This allows political and technical representatives to include the necessary subjectivity to move from theory to practice. A good example of this can be found in an interview with a city councilor working in one of the largest municipalities:

“[T]hat mother kept telling us her child had always attended school, and she wanted him to stay like that. The person from the City Council was upset because she could understand the situation [...] but this forces us to constantly think on how to do it better at the City Council; to think of new ways. This improved our capacity to make proposals and the ability to provide services to the city in that area” (Pol\_E1.07)

*-It facilitates the emergence of new issues and actors*

The inclusion of non-experts promotes the emergence of new issues that had not previously been considered by the administration. For example, in a small town's permanent committee of participation, a proposal from an attendee who was not initially considered could lead to a significant step forward:

“A teacher from the assembly told us that what we should do was to step up the educational project in our village. That came at first as a footnote. But we found it very interesting. We had no plan for the youth, nothing. Now, thanks to that lady, we are developing one.” (Tec\_E2.01)

In the same vein, opening participation facilitates the engagement of new actors that otherwise would not have been taken into account:

“[...] and it was them (a group of boys and girls in town) who told us we needed to contact another group of guys and so we contacted them. Well, that enriched the process a lot. They were guys who actually were very involved in the process. [...] it's like the snowball effect, right? You have people who bring in more people” (Tec\_E1.01)

*-It imposes a rethink of the notion of representation*

The idea of representation is called into question when new legitimacies appear with new actors. Representativeness is determined not only by statistical criteria, but also by how much an individual is affected by the issue. The emergence of new entities and identities challenges the idea of individual participation, introducing greater complexity to the concept of being a 'lay participant':

“Often, there is a group of five people, or two communities of neighbors opposed to the governing party, and they start some sort of action, but you do not really know what social



support they have or how many people are behind that, etc. You only think in the neighborhood. Because the neighborhood is not five people, there are 20,000 people living there.” (Tec\_E1.08)

*-It slows down the decision-making process*

Finally, the presence of laypeople in the political arena requires a slowdown of decision-making and the establishment of a new political rhythm, which is often perceived as a problem. However, the inclusion of these new actors forces local administrations to develop dialogic mechanisms based on consensus, which requires finding the time and space to achieve such consensus. This is illustrated by an interview with a civil servant involved in many participatory processes:

“Yes, of course, everything is slow when there are new people... It's like when the people involved want to speak and to show their influence; time does not matter to them... This slows down the process. But we [people in charge] are there to finish in time, that's also our work.” (Pol\_E2.03)

## Discussion

According to our respondents, the public can make positive contributions to wider decision-making processes even if the issues at stake seem too specialized or out of the reach of common sense. Indeed, respondents were of the opinion that the public can bring up new demands, issues or actors that were out of the scope of the administrations and that can provide a concerned insight to enrich the discussion thereof. Besides this, experts in participation also consider that the public has a positive role in grounding experts' abstract positions, an aspect that can be problematic without the direct involvement of the stakeholders involved (see Padilla, 2022). In sum, we can see how they identify a sort of hybridization—using the term in the way that Callon, Lascoumes, and Barthe propose (2009)—within participative processes, in terms of enabling an interaction space between different areas of knowledge and different engagements with the elements under discussion that facilitate a better agreement.

These are certainly positive contributions. Nevertheless, this positive view is not free from assertions that limit the potential of laypeople's contributions given the highly restrictive nature of many participatory approaches (Martínez-Palacios, 2018). We have identified some cautious enthusiasm among experts because they believe that slowing down decision-making processes is a negative element associated with participation. Besides this, we have also noticed some inconsistencies, such as a lack of clarity when it comes to identifying on whose behalf lay citizens are invited to participate, or regarding the limitation of their participation to some specific decision-making spaces, those being the cause of limited participation (Joly & Kaufmann, 2008).

One of the main points highlighted by our analysis is that it is tough for community experts to refer to those invited as participants, a tension that permeates the entire participatory process and that is a common problem in such a field. It is never clear on whose behalf the participants are invited to attend the process (e.g., Barnes, Newman, Knops & Sullivan, 2003). As we have seen, people are sometimes called in as “unbiased representatives” of laypeople; other times they are referred to as engaged representatives of a particular position. Thus, it is not easy to situate this heterogeneous group under a name (Lezaun & Soneryd, 2007), and this type of

participation therefore constitutes an ambiguous space, in which the expectations of them are not clearly identifiable.

What we can see in our study is how this indeterminacy sustains a division between experts and laypeople from the beginning. The definition of "participants" is constructed in relation, or rather by opposition, to the experts. If we inquire into what the presented data and the literature in this area indicate, we can go one step further and define not only a division, but above all an asymmetry projected between laypeople and experts. This asymmetry is constructed in terms of both their respective identities and roles, and it is sustained by the participatory process itself, which internalizes this division by creating the conditions concerning the credibility of expert performance (Limoges, 1993), in opposition to lay participants' views. This divide exists throughout the entire process, where the fuzziness that characterizes the definition of lay participants contrasts with the clarity with which experts are identified. As discussed, the interviewees are in no doubt as to why the experts are invited or the role attributed to them in the process; they are invited because of their expertise in the area, and their opinions are definitive. So, the "lay" are defined as the other from the expert, assuming pre-eminence of the latter (Parthasarathy, 2010) in such a way that the device prompts lay participants to internalize the impenetrable semantics and social status of the experts, lending them authority in the discussions (Allgaier, 2012).

This asymmetry is reified by the process. Stilgoe, Lock and Wilsdon (2014) have already demonstrated that it is not the same to be part of a group or the other on a practical level, because the idea of the deficit is always present in the features of those who participate as laypeople, in such a way that their ability to influence the results is seriously questioned in a process that reinforces the expert postulates (Young & Matthews, 2007). This suspicion about the participants is to a large extent, as Brown and Dillard (2015) underline, what causes the influence of "non experts" to be limited; their contribution is placed at the "end of the pipe", and therefore, as we see in our work, the decisive phases are not accessible to them, constraining communication (Blok, 2007). This closes the door to the possibility of dissent (Mouffe, 2019) by rewarding consensus without leaving any space to make the plurality of reasons explicit (Jasanoff, 2003; 2014).

Thus, participation is built upon the fear of this "other", and its mechanisms are arranged—in contrast to open participation—to control the uncertainty that lay participants represent (Rayner, 2003). This is why most participatory processes appear as mechanisms offering individuals the opportunity to select from among a very limited array of options or services but not allowing them to play a significant role in setting policy agendas (Cornwall & Gaventa, 2000). Without a visible or tangible outcome for laypeople, participation represents a time-consuming public engagement exercise that is not, ultimately, going to make a difference (Abelson et al., 2003).

In the same vein, Stengers (2005, p.98), in his cosmopolitical proposal, reminds us that not all problems are likely to be solved by evidence, and, therefore, it is not "a matter of prioritizing knowledge, but to complicate one to another". As a standpoint, this connects with Rivera's (2006), inspired by Rancière, proposition of democracy; not as an inversion of the relationship between governors and governed, but as a suspension of this same relationship and the difference that sustains it:

*"Democracy in its most radical sense [...] does not imply a reversal of the relationship between those who govern and those who are governed, but the suspension of this same relationship, of the difference, of the hierarchy that exists between them, and the impossibility of deciding between one and the other. The logic of democracy is the most opposed to that of political theology, which is always interested in the foundation, in the critical, exceptional, and violent original scene of power, where the sovereign, the father or the son, appears"* (Own translation, Rivera 2006, p. 79)

But how can we suspend this asymmetry in a process that, as we have seen, starts from it? This is neither about changing the participants, nor just about renaming them, but rather about trying to overcome the rampant logic to think about experimental ways of participation in which experts can meet with their co-experts. This means deepening the same demand from which participatory processes have already started; identifying spaces of hybridization in which both expert knowledge and representative democracy can be enriched in the encounter with other knowledge or approaches to reality through participation, thus bypassing the aforementioned double exclusion.

The challenge, then, is to reconsider how activism and "bottom up" participation have tried to subvert these orders, how they have proposed new relations and orders and the effects these proposals have had. To do so, we suggest thinking in terms of "in-the-wild participation."

Callon and Raberahisoa (2008), in their work on the activism of the relatives of people affected by a neuromuscular disorder, use the idea of "research in the wild" to refer to that research conducted by stakeholders in in-situ, non-isolated environments, leaving space for contextual values and opening the door to new approaches to the issue under discussion, away from the pre-eminence of the experts, whilst also working with them. In the field of STS, we can find several examples of new knowledge forms and practices valued by aspects that are not purely technical, demonstrating that the social and the technical are not separate spheres and that the relations between technoscience and politics should be rethought (see Callon & Raberahisoa, 2008; Lezaun & Soneryd, 2007). Highlighting the need to symmetrically consider "the techno-scientific" and "the social" makes it evident that the division between expert and lay knowledge cannot be reduced to a quantitatively valuable question, but rather to a qualitatively different one (Jasanoff, 2004). In the same vein, Gros and Tironi (2018), starting from the value of the experimental dimension of those processes, show the possibilities of articulating a new relationship between science and society through the virtues of extending a process strongly shaped by the context, escaping from the corsets that often limit participatory processes. They take the idea of "in the wild" to think through the experimental situations opened by concerned activists, situating the central locus of their participation in the definition of what is part of the experiment, what is inside or outside the space in which the experiment takes place, to be able to consider those signs and connections that tend to go unnoticed or that are scorned by experts (Callon & Raberahisoa, 2008).

These works show the need to consider indeterminacy, and for greater participant involvement on an equal footing, using the idea of "in the wild" to rethink the asymmetries we have seen traversing the work of citizen participation on technoscientific issues. Here is where our proposal of "participation in the wild" takes shape, in order to combat two major challenges identified in our work:

a) The first challenge relates to leaving the “in the wild stage” for participation. This means that citizen participation promoted from the administration should “start” and “close” the process from that very participative principle. This would imply the cessation of restricting phases of the process to merely technical spheres or politically delegated representatives. Thus, it would be assumed that there are no opinions that are intrinsically better than others (Fuentes, Goñi, & Miranda, 2022), nor good knowledge and bad knowledge, but a set of truths on an equal footing that may expose the plurality of reasons from the beginning. This would allow laypeople to also be part of the critical decisions concerning the definition of the issue and the final decision.

b) The second challenge concerns leaving the rhythms of participation “in the wild.” This is closely related to the first proposal, and builds upon the basis that, as we have seen in our work, the rhythm of participatory processes is a critical element for the administrations, one that must be kept under control. In this case, our proposal is to avoid the dominant assumption that seeks to establish a rational decision-making process based on clear-cut roles and leads to a type of “measured action” (Callon, Lascoumes & Barthe, 2009), aiming to give time out of a prefixed schedule into which the process should fit; this would give rise to iterative processes and collective knowledge production beyond the search for a consensus. This can, in turn, lead to situations in which it is unfeasible to reach indisputable decisions, facilitating the further consideration of decision-making for as long as needed and, if necessary, being able to accept “not making a decision” as a possibility.

If we start from the agreed idea that democracy is not a state but a constant “becoming”, we can take this “in the wild” approach as a way to develop a more experimental space to move to more reflexive and responsible practices in matters of participation in science and democracy (Chilvers & Kearnes, 2020). In order to do so, our challenge here to the current forms of public participation is not to find ways of introducing greater order, as participation experts are used to, but to be open to indeterminacy and shake things away from many of the aprioristic modern dichotomies under which we live (Latour, 1993)—such as society/nature or expert/lay.

## Conclusion

It seems clear that, if democracy is only seen as majority voting and expertise as a self-referential system in which only peers can recognize and judge each other, then democratizing expertise clearly becomes a contradiction of these terms. We have shown how, when trying to overcome this paradox, the promise for the democratization of expertise that was raised over the last 20 years has paved the way for a more democratic way of making decisions involving STS. But this has happened slightly timidly, under the modern predominant view that experts should still have the last word because of their privileged knowledge.

The results of interviews with experts in participation show us that, in this area, despite the very positive assessment of some aspects of participation, there are still some controversial elements related to the different approaches to the question of what participation should respond to. This is, to a large extent, the result of a division that is asymmetric from the outset, between participants considered experts and those invited as lay participants in the process. This institutional division ends up being articulated from a stance of control of the lay participants.

To overcome this tension, this paper addresses participation from what we can call a Rancierian point of view, conceiving democracy not as an inversion of the relationship between governors and governed, but as the suspension of this same relationship, and of the difference

that sustains the relationship. With this idea in mind, we have proposed to experiment with the idea of participation “in the wild” in order to overcome the constraints that participation mostly builds around lay participants. This “wildness” should affect both the stage of participation and the rhythm of participation, assuming that the aim is not to achieve a consensus as much as to open the possibility of unresolved democratic disagreements.

Thus, this work is an attempt to contribute to democratize participatory processes, assuming their limitations, by activating new conditions of possibility and imagining new ways to deal with situations involving technoscientific issues. This study contributes by simultaneously assembling parts of the political theory and the studies of science and technology, and bridging the gap between two sciences that can make important contributions to one another to think of our futures with the ambition to reach more democratic ways of conceiving decision-making concerning science and technology issues in society.

### Declaration of interest

The authors report there are no competing interests to declare.

### Data Availability Statement

The data that support the findings are available from the corresponding author upon reasonable request.

### Authorship contribution

Autor	Concept	Data curation	Analysis/ Software	Methodology	Project/ Resources	Supervision/ Validation	First written	Final review and edition
1	X	X	X	X			X	
2	X			X	X	X		X

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