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Instructions for being unhappy with PTA

The impact on PTA of Austrian technology policy experts' conceptualisation of the public

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Abstract

Participatory Technology Assessment (PTA) is said to increase democratic legitimacy, take up lay knowledge and improve technological solutions. Today it is part of science/technology policy rhetoric and, sometimes, practice. We confront some elements of the scholarly discussion on PTA with policy-makers' understandings of the process in Austria. Here, participation often gets framed as a form of PR and a sensor for public sentiments rather than as a forum of multiple rationalities and co-development of policy projects. This understanding can be related to underlying conceptions of democracy and the public. As a conclusion, governance styles would have to change before PTA was to become more than a laboratory experiment.

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1 Introduction

Participatory methods of decision-making have had a prominent role in academic debate and governance discourses throughout the last decades. Beyond the input experts, interest representatives and other stakeholders would provide, views of members of the public, often laypersons, are invited with the hope that alternative, often unorthodox insights and rationalities may have the opportunity to shed a new light on important problems. Particularly in the area of science and technology (S&T) policy-making, the merits of Participatory Technology Assessment (PTA) have been widely discussed. Public participatory methods such as the Consensus or Citizens' Conference have been applied in a variety of countries to accompany and shape the development and introduction of new technologies.

Based on practical experiences, though, and despite the broad acclaim participation formats have found, a series of contextual and internal problems have been identified affecting the performance of participation. Practitioners and scholars aspire to cope with them through a variety of methodological adaptations; however, there is an additional layer of problems that might not be solved so easily by tightening some procedural screws. They pertain to deeply held beliefs and engrained practices of political decision-making, which in the long run may lead to disaffection with PTA. Following the case of Austrian science and technology governance, we want to call attention to such a problem, namely the policy-makers' preferred framing of participation and its relevance for participatory practice as well as for the inclusion in decision-making.

Austria makes a particular empirical case for a variety of reasons: Austrian governance traditionally assigns little practical importance to Parliament, while the administration plays a major role vis-à-vis politics. The so-called social partners, a closed interest negotiation circle of trade unions and employers, have a strong influence. S&T never have been prominent policy issues for government, and PTA was introduced later and with less repercussion in policy-making and the media than elsewhere. At the same time, some highly salient controversies, for instance on agricultural biotechnology, made certain technologies a politically hot issue. Over many years, quantitative surveys such as the Eurobarometer suggested that more Austrians tend to be technology and risk-averse than people in most other EU member states (Gaskell et al. 2010). Despite the lack of a particular participatory culture in Austria, policy-makers occasionally came up with demands for novel S&T governance methods including participatory instruments over recent years. It is thus relevant to ask how they are used and how S&T policy-making deals with views from the public.

Based on a series of 17 semi-structured qualitative interviews[1], we investigated how Austrian key actors conceptualise the role of technology, of the public and of participatory arrangements for technology policy in Austria. The number of interviewees was restricted, which is partly due to the limited number of relevant actors in the small Austrian S&T policy landscape. Nevertheless the choice of interview partners reflected the wider Austrian political context especially with regard to contested technologies. We chose two technology policy advisors and former civil servants, two members of ethics committees, two NGO and two industry representatives, two members of applied research funding agencies, two science journalists, two former members of the Presiding Committee of the Academy of Sciences, a professor of technology policy, a member of the Parliamentary committee on research, and a high-ranking civil servant in a technology relevant ministry.[2] Interviews were coded by hand (37 codes) and compared for statements on participation, on participatory events held and, more generally, on the role of S&T policy in Austria.

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[1] Conducted early 2009 in the course of the EU/FP7-funded project STEPE („Sensitive Technologies and European Public Ethics").

[2] To identify the source of quotes, each interviewee is assigned a letter in alphabetical order.

It turned out that a large majority of interviewees understood participation as a tool to inform the public and influence its opinions rather than to co-develop policy solutions or to take into account alternative rationalities and targets. Thus, normative aspirations of bringing policy-makers and citizens together in a process of co-decision-making and two-way exchange are not to the fore, as political positions on the topics discussed in participatory events seem invariably established. Even if communication happens to be two-way, policy-makers tend to see the role of participation as delivering information regarding possible negative public sentiments towards their projects.

Hence, participation as conceived by many social scientific scholars (and supported by several official EU policy documents) is practiced to some extent, but without altering the traditional style of governance. Rather, participatory events are assimilated into policy-making by partly filling in the lacuna left by past information campaigns decision-makers considered unsuccessful, and as a better means to investigate public sentiments.

Our suggestion is that this particular framing of participation leads to disappointment. We relate it to a peculiar comprehension of 'the public' and democratic governance among Austrian policy-makers, which can be traced back to the late 18th century, to a 'Josephinian' (benevolently enlightened but autocratic) understanding of the role of government and administration. Accordingly, policy-makers aim at informing a public supposedly unaware of its own best interests, while they fear obstructive mobilisation against their own, in their view, essential function, namely to drive forward objectively necessary, sensible and useful policy projects, balancing powerful interests.

After an introduction to some elements of the scholarly debate over participation and a short exposition of a choice of pertaining EU documents, we will briefly rehearse possible obstacles in practice and then show how Austrian policy-makers frame participation. In a next step, we relate this understanding to a specific comprehension of the public and of democratic governance and illustrate how this makes it impossible for decision-makers to conceive of participation differently. Finally, we sketch out some requirements with respect to alternative conceptualisations of participation.

2   Participation in the international context

2.1   Rationales and functions of participation

The history of the varying roles of the non-scientific public in scientific endeavours can be traced back as far as to the 19th century (Lengwiler 2008). Recent discussions on public participation in science and technology policy date from the 1960s' first wave of post-war participatory innovation (Joss 1999). This first wave resulted from social mobilisation in favour of social services, community development and gender equality. Later technology criticism came from feminist, antinuclear as well as ecological movements. Already the 1970s and 1980s saw new modes of science policy emerging. They were related to problems in public funding, failures of science's self-regulation and a lack of public confidence after technological crises. Nevertheless, it was only in the 1990s that science and technology policy-making performed a "participatory turn" (Jasanoff 2003a). They at least nominally embraced concepts and methods developed in the field of Science and Technology Studies (STS) that had become influential.

The body of literature on participation has been growing ever since. It offers a diversity of sometimes incommensurable recommendations regarding why, how and when to organise participatory events, whom to invite, etc. For our research question, different motives considered in the literature to be behind the organisation of invited participation, and the acceptance of its outcomes, are of particular interest. We shortly outline some relevant arguments from democracy theory and address the question of different rationalities as well as aspects of uncertainty and non-knowledge in science. Finally, the problem how to include citizens for the sake of the best possible solutions will be raised.

An omnipresent topic in the participation literature is the so-called democratisation of expertise and the empowerment of citizens (Jasanoff 2003a). Arguments from democracy theory were taken as a basis for advocating the abolishment of the "tyranny of experts" (Lieberman 1972)[3]. One strain of argumentation is that in matters of political goals and social choices in S&T development, experts are themselves laypersons (cf. Fischer 1999). Another is that, accordingly, expert rationalities are bounded and have to be complemented with alternative rationalities and 'contributory expertise' (Collins/Evans 2002; cf. Wynne 2003[4]) "in order to test and contest the framing of the issues that experts are to resolve. Without such critical supervision, experts have often found themselves offering irrelevant advice on wrong or misguided questions" (Jasanoff 2003b).

In this understanding, technological advancement is not equal to social progress. Participatory science policy and technology assessments can help to broaden the basis of values, knowledge, perspectives and rationalities involved in decision-making. Furthermore, it can help to create accountability, to initiate learning processes, to produce new possibilities for conflict resolution and to evoke the motivation to engage in decision-making. Thus, they can realise common interest (critically: Bora/Hausendorf 2006). Beyond the aspect of democratisation, the involvement of the public can also avoid the future repetition of past disasters based on unrecognised limits of prediction and control (Jasanoff 2003a; Wynne 1996).

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[3]   In the area of international socio-economic development management, Cooke and Kothari (2002) provocatively point at participation as the current tyranny.

[4]   The contribution contested Collins' and Evans' (2002) idea that the number of possible agents of this „contributory expertise" is limited. Collins and Evans reject what they call the "problem of extension" (characteristic of the "third wave" of science studies) potentially dissolving all distinctions between experts and laypersons and extending decision-making rights indiscriminately.

Two further issues are frequently put forward: first, how to deal with uncertainty and non-knowledge identified to be constitutive for contemporary science. It goes along with acknowledging the blurring of the boundary between experts and laypersons. This implies that almost everybody can be an expert on something, and that no opinion should be dismissed as illegitimate on beforehand (Nowotny et al. 2001). Secondly, the question is addressed how to achieve the best technological solutions. This refers to the conviction that public engagement is not only important for the social embedding of S&T but crucial for the technological solutions themselves. Involving the users or consumers at an early stage ('upstream') of technological development helps taking the right design decisions, creating 'better' (socially robust) knowledge and artefacts and avoiding disasters or public refusal of technologies (ibid; Schot/Rip 1996).

Bogner (2010) identified two achievements said to be gained from participation: legitimacy and rationality. He locates the accounts indicating legitimacy gains close to democracy theory and the argument that representative democracy has to be 'democratised'. Following Grunwald (2003), he critically highlights that for participation to increase legitimacy, it would have to ensure representativeness of the participants and procedural qualities like fairness and transparency; neither is the case. Bogner's main argument that participation becomes like a "laboratory experiment" in current S&T policy practice is developed from references to rationality gains, focussing on a redistribution of lay and expert rationality attributions supposedly increasing the discourse quality.

Another typology of S&T-related participation theory and practice might accommodate both policy-makers' framings of public engagement and the related conceptualisations in STS and democracy theory literature (Bogner 2010). Stirling (2008) distinguishes three rationales of social appraisal of technologies: *normative*, *instrumental* and *substantive* (ibid., 268). All three appear in expert analytical and participatory assessments. The *normative* imperative focuses on the process of the expert analytical or participatory assessment. Evoking notions like legitimacy, public reason, communicative rationality or social learning, it largely corresponds with the approaches summarised by Bogner (2010) as claiming legitimacy gains. In addition, it encompasses cases where rationality is held to increase democratic legitimacy, for example if the procedural rationality of lay participation better legitimates policy-making. It also applies where including alternative rationalities of lay knowledge is deemed helpful in meeting democratic requirements. The second and third rationales focus on the outcomes of participation rather than on the process. The *instrumental* imperative pertains to scientific practice and technological development in the light of predefined ends. It comes into play, for instance, where the prime focus is the trust of the citizens in a specific technology rather than its trustworthiness. Restoring legitimacy could be another end. Such instrumental rationales are often criticised by STS scholars: Delgado et al. (2010, 6) advert that, if the same scholars organise participatory exercises in their role as participation practitioners, the predefined research goals equally imply an instrumental imperative. In the 'deficit model' (cf. e.g. Felt/Fochler 2008) of public understanding of science (PUS), citizens are conceived as lacking knowledge and information. Since its predefined objective addresses this lack, it also shares this rationale. Participation becomes a mode for achieving the instrumental objective of 'enlightening' the public, often connected with the goal to increase acceptance for a specific technology.

The *substantive* imperative also focuses on the outcome rather than the process. In contrast to the instrumental rationale, however, "the outcomes in question are not defined instrumentally, in terms of particular values or interests […]. Instead, the focus is on explicit, socially deliberated, publicly reasoned evaluative criteria for the outcomes themselves. In other words, rather then aiming instrumentally at yielding specific forms of acceptance, trust, or intelligence, the focus lies on general qualities such as 'environmental quality' […], 'public health' […], or broader human well-being" (Stirling 2008, 271). The call for citizen participation as improving technological solutions also follows this rationale.

The debate over participation elicited several practically inspired definitions. For example, Joss (1999, 290) considered participation as "the engagement in the processes of policy- and decision-making not just of the usual professional experts, policy analysts and decision-makers, but also a wider spectrum of social actors [like] representatives of non-governmental organisations, local communities, interest groups and grassroots movements, as well as individual lay people in their capacity as citizens and/or consumers". According to Massimo Bucchi, participation even "account[s] also for 'spontaneous' participatory forms, i.e., those not deliberately elicited by a sponsor" (Bucchi/ Neresini 2007, 461). Embracing these definitions, we suggest keeping apart 'invited' from 'uninvited' participation. Invited participation is organised or commissioned by the stakeholder in charge of a decision-making process when he sees a role for the public within this process. Uninvited participation is not requested by the respective stakeholder; rather, the public claims a role in the decision-making process.

In our argumentation, we are interested in the forms invited participation takes when it is introduced in science and technology policy-making processes. The notion of an *instrumental* rationale is significant in this context as it shows that not only democratic ideals or transparently applied evaluative criteria inform participatory practice. Rather, participation might also be a means for the implicit ends of different stakeholders. This is the case, for instance, when policy-makers conceive of participation as an alternative way to transmit information or form opinion.

Furthermore, potential discrepancies between the concept of participation as defined in the STS literature and the form it actually takes on in the implementation by policy-makers and practitioners may be substantial: the meaning of participation and the mode of inclusion in the policy-making process might depend more on the context than on formal definitions. This discrepancy is not adequately captured by simply referring to an *instrumental* rationale with potentially different goals.

2.2 EU documents

The way the concept is present in EU-level policy discourse further widens the gap between formal definitions and practical applications of participation. Naturally, EU-level agendas are part of the relevant context of application in Austria. After all, Austrian policy-makers might obtain orientations on new modes of governance from the EU context much more than from international academic literature as the Austrian science and technology policy is embedded in the wider policy landscape of the EU framework [5].

With the publication of the White Paper on Governance in 2001, the European Commission (2001) proclaimed participation of the public in policy-making as a goal and procedural necessity of 'good governance'. The rationale evoked was predominantly normative:

> "Democracy depends on people being able to take part in public debate. To do this, they must have access to reliable information on European issues and be able to scrutinise the policy process in its various stages" (ibid., 11).

[5] While the EU-level discourse is itself related to STS literature via the involvement of scholars in policy advice, it still seems sensible to compare our empirical case with both, the literature on participation and the policy-making guidance formalised at EU-level.

The White Paper did not go into much detail about the meaning of the term 'participation'.

> "Participation is not about institutionalising protest. It is about more effective policy shaping based on early consultation and past experience" (ibid., 15).

It explicitly related the need for new modes of governance to science and technology issues, though (ibid., 19). In the year following the publication of the White Paper, the European Commission drew up a 'Science and Society Action Plan' (2002) revisiting the issue of participation with regard to S&T:

> "The aim of the European Commission's Science and Society Action Plan is therefore to pool efforts at European level to develop stronger and more harmonious relations between science and society. […] It will cover education, scientific and technological culture, the participation of citizens and civil society in the formulation and implementation of science policies in Europe, and the use of scientific knowledge complying with common ethical rules in the formulation of responsible policies" (ibid., 3).

It was already denoted in the Action Plan that the inclusion of citizens and civil society would be crucial in view of establishing the European Research Area[6]. The Plan advocates participation as a two-way communication.

> "If citizens and civil society are to become partners in the debate on science, technology and innovation in general and on the creation of the European Research Area in particular, it is not enough to simply keep them informed. They must also be given the opportunity to express their views in the appropriate bodies" (ibid., 17).

The entry into force of the Lisbon Treaty in December 2009 did not only indirectly refer to participation in S&T policy by formalising the Union's role in developing the European Research Area. Doing justice to its general nature, the Treaty also contains a specific article on civil society participation across the whole range of policy areas:

> "The institutions shall, by appropriate means, give citizens and representative associations the opportunity to make known and publicly exchange their views in all areas of Union action. […They] shall maintain an open, transparent and regular dialogue with representative associations and civil society." (Article 1 amending article 8B of the Treaty on the European Union)

In the same article, the Lisbon Treaty also defines a so-called 'Citizens' Initiative' where one million European citizens together can invite the Commission to get active in a subject of concern.

Throughout these policy documents, the public is depicted as available, interested and able to actively participate in S&T policy, the development of research strategies and even the actual research process. As long as policy-making is willing to support and listen, and provided that the information necessary for participation is offered in an appropriate way, public participation is supposed to function. It has to be noted, though, that such participation, particularly at Commission level, is considered to take place via the inclusion of members of civil society organisations (sometimes understood as including interest representatives) and not through the direct involvement of

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[6] Concrete steps how the political documents' rhetoric on participation in the area of S&T policy is to be translated into action are outlined, for instance, in work programmes of the 7th Framework Programme on Research and Technological Development. The Science in Society Programme in FP7 gives financial incentives for activities like 'cooperative research processes' where scientists and non-scientists jointly develop and implement research projects, or 'integrated laboratories' where civil society actors are supposed to change their roles from consumers to concerned citizens having a say in research strategies (European Commission 2008).

citizens (Saurugger 2010)[7]. As such, it has developed into a constitutional norm and discursive reference point. The codified norm is in itself subject to changes in wording[8]. In addition to the contested labelling, interpretations and, consequently, behavioural impact at Member State level differ.

Irrespective of these tides, the main idea behind the 'participatory speech' in EU documents (Abels 2002) is to strengthen output legitimacy by concentrating on input legitimacy. In view of the various forms of implementation of these policy guidelines, STS literature has argued that success is not self-evident. We will see how in practice, a different view on the public is partly responsible for an alternative framing of participation. It seems to differ from various conceptualisations in the scholarly debate on participation in matters technological as well as from EU level norms. It also impinges on the role the public is supposed to play in participation formats, the understanding of the goal of participation exercises as well as the meaning of policy-makers willingness to support them.

2.3 Obstacles

Official European-level discourses embrace the idea of participation as a valuable policy practice together with perceptions of an active and participating public. This sketches a seemingly enthusiastic context of public engagement. Nevertheless, possible shortcomings and obstacles of participatory exercises have been highlighted repeatedly.

First of all, problems unfold when looking at participation formats from the 'outside', focusing on their functionality in the governance process. The socio-cultural context might hinder the introduction of public engagement (Hagendijk/Irwin 2006; cf. also Joss/Torgersen 2002), for instance if dominant governance styles were not receptive for public opinion, if consumer consultation and citizen education formats (following the deficit model/PUS; Felt/Wynne 2007) dominated over participation, or if the outcomes of participation were not followed-up. In defiance of invitations or courting, the public might lack interest or be cast out of the participation process by errors in the organisation. Among such errors are the wrong timing of the participation event (too early, too late or ad hoc in the technological development; the event itself too long; cf. Joss/Bellucci 2002), a wrong focus of the event (too broad or too narrow), an insufficient preparation of the material for the citizens and similar mistakes by the organisers (cf. Jasanoff 2003a; Fischer 1999; Irwin 2001).

Bogner (2010) advises against focusing exclusively on the external context of participatory practice. This would obstruct the view on the inner dynamics of participation events. At the same time, it would suggest that participation would increase legitimacy and rationality as long as the event organisation is sound. On the contrary, for the case of citizen conferences he demonstrates how social selectivity in participant invitation and the dominance of the experts' framing constitute power hierarchies of inclusion and exclusion. Similarly, Bora and Hausendorf (2006) find exclusion dynamics at work in participatory events. As the procedure is legally framed, the administrator implicitly signals to the citizens that not all their arguments are legitimate and can be dealt with in the available time.

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[7] The European Parliament's two 'Agoras' engaged in the involvement of a non-organised citizen public – with little impact. It would thus be wrong to see the Parliament, where the ideal of representative democracy is still hegemonic, as a spearhead of participatory policy-making (Saurugger 2010, 487),

[8] For instance, while the White Paper on Governance prominently referred to citizen participation, the Lisbon Treaty has removed the title 'Participatory Democracy' that was foreseen for article 8B in the Constitutional Treaty (cf. Saurugger 2010, 488).

Bogner and Bora/Hausendorf critically emphasise exclusion phenomena resulting from a dominance of the legal frame or the perceived need to present a presentable outcome. This points to challenges from the outside of the participatory procedure. In contrast, Jasanoff points at internal aspects, arguing that "[participating] parties [might] deconstruct each other's positions instead of deliberating effectively" (2003a, 382). In Jasanoff's diagnosis, the panel participants quarrel infinitely with their respective positions, deconstructing instead of deliberating. In the picture drawn by Bogner and Bora/Hausendorf, the deliberation is closed at the cost of representativeness and plurality of rationalities.

Focussing on the understandings of the process, Felt and Fochler (2008) showed how experts' and lay participants' views of the nature and goal of participation events differ, with consequences for the acceptance of and support to the process on the side of both the citizens and experts.

Participatory practice, therefore, can encounter obstacles from inside its diverse formats as well as from external factors. With our study, we want to complement both, the internal and external appraisal of participatory practice, by looking at policy-makers' understanding of participation and their framing[9] (Goffman 1975; van Gorp 2005) of processes of public engagement. We investigate the role of policy-makers' views of the participation exercises they initiate and fund in the course of specific science and technology decision-making processes. According to its definitions in STS literature, participation pretends to include unmediated (i.e. not communicated via the media, NGOs or other interest groups) public opinion in the decision-making process. The policy-makers in charge of the respective thematic area, thus, play a crucial role as gatekeepers. Their understandings determine what types of participation exercises are funded and their framing of the process influences what happens with the outcomes.

We argue that their attitudes become relevant not so much in the form of funding decisions or the intentional integration or disregard of public advice, but in offering participation a 'room without a function'. Participatory practice can take place as a social activity mediated by social scientific professionals, but confined to the container that fills the blank position left by public understanding of science campaigns that have proven unsuccessful to policy-makers.

Thus, the S&T-policy elite's framing of participation influences the formats of participatory practice precisely in that it does not exert influence on the question how to organise participation. This non-influence gives participation professionals room for experiments. The actual interaction of participants might indeed be affected by this setting. If participants of participation events get the feeling that their opinions are or will be ignored or that policy-makers seem to have a different understanding of the process, they might verbalise these doubts and change the course of the discussions.

The argument will be developed starting with a portrait of the interviewees' perception of participation and participatory practice. Subsequently, their framing of participation will be related to their conceptualisations of the public and democratic governance that can be reconstructed from interview material. Finally, the peculiar place participation can and does occupy in this picture is unfolded.

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[9] We refer to 'framing' as the reflectively available, but initially subconscious process of relating a specific concept (like 'participation') or artefact to a series of others. Frames are the patterns provided by culture and social contexts (cf. van Gorp 2005) according to which individuals and social communities (like decision-makers in administration) integrate new elements into broader systems of understanding. In this, we follow Goffman's (1975) original conceptualisation of 'frames' rather than subsequent elaborations in social movement theory and communication science defining 'framing' as a deliberate, strategic process of presenting an issue. Neither do we follow a policy analysis approach to 'frames' as underlying explicit, conflicting policy positions. For an overview of the 'framing'-literature see Degelsegger (2008).

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3 Participation in Austria

3.1 *Official viewpoints*

Participatory events have been introduced in Austria comparatively late, although a first consensus (like) conference took place as early as in 1997, organised by the Vienna Ombuds Office for Environmental Protection, though with little notice taken (Joss/Torgersen 2002). Another 'citizens' conference' on genetic data was organised in 2003 by a PR consultant on behalf of the Austrian Council for Science and Technology, an official body advising government on how to promote technology development. It was this event, in particular, that threw up the question of what the role of participation in such a context might be. Over the following years, several participatory events were held, though not of similar prominence. Frequently, the need for public participation in general got stressed, in particular with respect to its possible function to both enhance the interest of the public in issues of technology and promote democracy.

Shortly after the citizens' conference on genetic data, the chairman of the Austrian Council for Research and Technology Development was quite enthusiastically about consensus conferences. He even wanted to "*make consensus conferences a permanent instrument for treating 'explosive' questions*", as he stated in an interview we held in 2004. Five years later, the Austrian Council issued a 'Strategy 2020' (Austrian Council 2009), in which they sketched out possible measures to enhance the Austrian performance in science and technology development. While focussing on issues such as funding, prioritisation and organisation of research and education, one part also dealt with 'society'. Here, a more cautious interpretation of the role of participatory methods could be read, referring to ideas derived from the STS literature:

> "A productive dialogue needs forms of communication and negotiation that not only comply with growing democratic requirements but can also perform a translating function in value conflicts. Thus, possibilities and rooms for a critical evaluation and an informed discussion on important questions of public interest become possible, where civil society, interest groups, scientists and researchers participate to create 'socially robust knowledge'."
> (Austrian Council 2009, p. 30, own translation)

Although carefully worded, the statement emphasises the importance of inputs into decision-making in addition to the role of participation in promoting 'dialogue'; in other words, it highlights, as a necessary condition for success, that the outcome of a participatory event be politically relevant:

> "The success of such participatory procedures for society at large depends, however, on whether the societal inputs really get fed back to the political decision-making process, and the societal engagement is subject to certain sustainability on the political level."
> (Austrian Council 2009, p. 30, own translation)

3.2 Views on participation

More than in evaluations of the impact of concrete events or policy processes, we were interested in experts' understanding and framing of participation. Data from the interviews suggested that the rather enthusiastic picture of participation drawn in the EU policy documents cited (with citizens 'raring to go') is not shared, particularly regarding controversially discussed technologies like embryonic stem cell research. The interviews rendered possible reasons for this: in particular, a tension appeared between the fear of a mobilised public jeopardising the introduction of a new technology, which implied keeping 'the public' at bay in decisions over technologies; and, at the same time, the need to seek public support early to prohibit obstruction, which implied reaching out.

The hazard of unauthorised publicity

In general, science and technology were never prominent policy subjects in Austria (Gottweis 1997). So far, issues of technology received political attention mainly when the public turned out to be against, such as with nuclear energy or GM food. No wonder that members of Parliament are reluctant to take up these issues involving the public in some way. One of them (respondent A) reported about the preparations of one of the rare occasions of S&T policy issues being discussed in a public event in the Austrian Parliament:

> "And there, the [political party x] said: 'Yes, let's organise something in view of stem cells in Parliament, in a positive direction'. [In the course of the event,] I asked the moderator to ask [political party x representative] whether this is true. [She said:] 'Yes. But I cannot guarantee that this turns out all right'. They are all so petrified."

The interviewee adverts to the possibility that policy-makers, when following expert advice, are afraid of the outcomes of participation exercises, which might enhance mobilisation with obvious consequences for actual governance. A different interpretation would be that policy-makers are afraid of expert advice when it goes counter to what they consider to be public opinion. In any case, they might be worried about possible cleavages between expert advice and supposed public attitudes, which would confront policy-makers with unsatisfactory alternatives and restrict the room to manoeuvre.

In view of this possible cleavage, Austrian decision-takers opt for confronting the public directly with what is considered the relevant expertise. They usually understand 'participation' as involving expert stakeholders. The following short statement by a former Head of Department in a Ministry in charge of S&T matters indicates such a preference.

> ITA: *"How would this be possible in your opinion, such a participation of the public?"*
>
> C: "Well, after all one has to do that in a subsidiary way somehow, by organising expert hearings."

Seeking public support

In a final evaluation, Bogner (2004) came to the conclusion that the 2003 citizens' conference was merely an exercise for its own sake. Policy largely ignored the recommendations the panel arrived at; however in interviews, protagonists emphasised the role of conveying information to the lay panel as an important goal. According to a co-organiser, for example, the advantage of a 'two-way communication' was that decision-takers better learned where "*the shoe pinches*" in order to be able to fine-tune their communication to the public. Thus, the function of participation got defined early as a means to better target information campaigns in order to seek public support in contested decisions.

Respondent D, an industry leader with a prominent advising position in Austrian S&T policy, at first sight seemed to apply a definition of participation more closely related to ideas proposed in STS literature as he emphasised support by the public as a decisive factor. Accordingly, obtaining acceptance is crucial in a democratic society even if the public does not fully understand the issues at stake, but "*politics is not bold enough*", as he stated, to convey the right issues and facts. The virtue of a citizens' conference, in his opinion, is that it is better suited to transmit information in an open discussion.

> *ITA: "How could such an open discussion look like?"*

> D: "Citizen conferences. Denmark is famous for theirs. We have done one ourselves on the issue of databases [… which] had met with a great response. One should not proclaim this and that from the podium, but invert the roles. The panel has to defend itself […] and the citizens attack."

Participation was thus conceived as a tool to make the public realise, via a possibly adversarial debate, what experts and policy-makers had known already beforehand (in terms of facts and necessities). Again, it is the deficit model of public understanding of science that shines through this argumentation. However, he assumed that the public would not be against what technology experts consider important for the country's competitiveness as long as balanced information was provided.

> *ITA: "Could it be anyhow the case that the public opines:*
> *'No, we don't want that!' What shall we do, then?"*

> D: "I don't think that this will happen. Why did the public say 'no' to atomic energy? On the one hand, it's an issue that they have not understood correctly, that is why there is scepticism and anxiety. On the other hand, they were not offered enough information in a fair manner with plus and minus."

In the same vein, the already cited MP emphasised informing the public, invoking rational decisions, but saw limitations with regard to the capacity of the public to understand the issues at stake.

> *ITA: "Do you think that more factual knowledge among the public about the functioning of technologies would increase acceptance?"*

> A: "I think so. […] I mean, responsible citizens should feature decisions as rational as possible. And I have to give the people a chance. Naturally, one cannot ask everybody in every village. That is, I think nothing of referenda in this regard. […] I think to wait until everybody has understood everything would be fatuous idealism."

The Austrian MP seemed to strive for facilitating an informed debate with interested parts of the public only. The MP acted on the assumption that pre-processing and spreading information would allow for all interested discussion participants to share the same kind of rationality, to recognise 'rational' arguments as such and accept them even when they counter own attitudes. The question what to do if the rationalities themselves proof incompatible, however, remains unanswered in this deficit model thinking.

The function of conveying information might also convince otherwise sceptical officials to embrace participation despite high costs and efforts. For example, a high-level civil servant (respondent B) in one of the Austrian Ministries concerned with S&T policy issues pointed to the problem of necessary financial resources (not mentioned, by the way, in the EU policy papers). However, he doubted that participation could align the public with the rationality of the official policy. In addition, he emphasised the *active formation* of opinions among the public rather than just conveying (impartial) information.

> "Consensus conferences (on GM food) have been held in Denmark and I think once in England as well. However, the experience has shown that the opinion of the public could not be changed. I must admit that I have no… no knowledge about how to make it better. I am a bit helpless in

this regard. If I wanted to help establish genetic engineering in Austria, I would be kind of help-less how to do that […] I mean, for sure, one could say 'Ok, let's take a lot of money', which would already be the first problem, and realise an information campaign, clarify the goals and try to involve stakeholders, to achieve consensus. This is a huge effort and will […] not accom-plish much more at the end of the day."

While the interviewee spoke about the usual stakeholder involvement and consensus, from the first part of the paragraph it becomes clear that he conceived participation as a means to inform and, ul-timately, to form and modify opinions rather than to learn from alternative rationalities and objec-tives. The public was presented as sticking to an erroneous view of the issue at stake. In addition, he was pessimistic regarding the possibility to rectify this misapprehension. His pessimism was grounded in past experience of failed events that in his view should have served to modify public opinion.

If participation is seen as an exercise in conveying information or influencing the public to adopt a particular opinion, this information and opinion must be set beforehand. Thus, policy-makers have to know exactly what to communicate. Likewise, they have to prepare to adequately meet contrast-ing opinions. Thus, they do not enter the participatory process before believing to know what pub-lic opinion is, and before having developed their own position vis-à-vis this assumed public opin-ion. Following the experiences in past technology controversies, our interviewees referred to the press, a small number of major NGOs and the 'social partners' as relevant stakeholders and voices in technology policy making. They seemed to use these channels to get a picture of public opinion. Apparently, it was not even considered that citizens' participation might add to it. Both, the sup-posed truth based on expert advice as well as the supposed public opinion (indicating whether the public had understood a technology 'correctly' or not) were obtained from sources other than par-ticipatory events.

We have seen that for some members of the Austrian technology policy elite, the label 'participa-tion' invokes ideas of information and opinion formation rather than concepts of inclusion of al-ternative rationalities or increased democratic legitimacy. Participation is perceived as a possibility to avoid technology controversies (such as over agricultural biotechnology), not by influencing technology development and political choices about technologies but by keeping the public in-formed and leading citizens to understand the own 'enlightened' position. Policy-makers do not enter participation exercises without having used alternative channels to learn more about public opinion beforehand.

Still, policy-makers often fear that, in the worst case, information conveyance (or a futile attempt at influencing opinions too crudely) during a participation exercise might lead to unintended out-comes like obstructive mobilisation. They therefore strive to reconcile the expert advice they col-lect, as well as what they consider to be public opinion, with their own political position formed in advance. Thus, the task is maintaining the balance between keeping the public at bay in contested decisions and reaching out to the public to inform and convince them of their position.

The empirical data so far support the diagnosis of a persistent dominance of the deficit model of public understanding of science. However, in our opinion this is not a sufficient explanation. Rather, we need to take the context into the view, in particular the policy-makers' self-conception, involv-ing the need to communicate a seeming truth, and to form public opinion accordingly, on the basis of a presumed privileged understanding of society's needs and the balancing of powerful interests. We argue that this framing of participation is closely related to a peculiar way of conceiving the public in democratic governance. Interestingly, there seems to be some room, though not the func-tion supporters aspire, for participatory formats in this policy context.

3.3   Democracy and a neutralised public

Looking at their perceptions of the wider public, NGOs, the scientific community, the media and, eventually, democracy, we can reconstruct the ways Austrian science and technology experts perceive the environment within which they are supposed to act. We will confront this perception with their framing of participation.

The public entered the picture experts drew of their environment as being persistently technology-averse. In the voices of MP respondent A:

> "The curiosity to also try something new, to look at something different is not very pronounced [in Austria]. There, in order to change that ... one cannot change the soul of a nation with laws. One has to offer a different kind of education in school."

Interviewee F, a science and technology policy advisor and lobbyist, drew a sharp distinction between supposed facts and the publics' unpredictable opinions, jeopardising attempts at introducing novel technologies:

> "[Referring to the example of the introduction of starch-potatoes] As soon as the issue had been made public, the Health Minister at that time was totally against; […] even if that would have been a great project, an industrial one. There, one can see the difference: as long as something stays in the factual realm, it is ok; as soon as it becomes public, everybody said 'That's impossible!'."

Sometimes, the public even seem to annoy its benevolent representatives, who are convinced that they can determine whether a technology is beneficial or not, at least when they can dispose of sufficient expert advice. Respondent E:

> "And I am somehow reluctant to imagine a scientific procedure – which has its risks, but which is closely examined […] by accompanying research, also risk assessments or the like – being judged totally differently by the public due to the short or long-term nature of its benefits."

The science and technology policy-makers in Parliament and the Ministries consider themselves to be commissioned to know what the public 'really' want, which, in principle, renders an additional consultation of the public in participation processes unnecessary. In addition, it seems as if the public often does not and cannot know what it needs for its best. Therefore, policy-makers have to somehow sense public opinion. According to interviewee B, the Ministry civil servant, policy-makers have *"... to have a certain sensorium to know what people really want and think."* Respondent C, the former Head of Department described a case where he supposed that this 'sensorium' had functioned quite well, namely the setup of research programmes on sustainable economic activity and on medical technology:

> "There was Josephinian [referring to the era of Josef II of Austria [10]] enlightened comprehension of the necessity of, so to speak, modern research funding, advocated by a couple of Ministers and civil servants. […] It was anticipated that this [the setup of the programmes], in principle would have to be demanded by the public or the fact that a real demand was met was confirmed

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[10] Joseph II (1765-1790), a proponent of enlightened absolutism, believed in the power of the state when directed by reason. Under benevolent and paternal Josephinism, the aim of governance was to make people happy, but strictly according to the Sovereign's criteria. This attitude has survived to these days: comparing Joseph II and Gorbachev, McHugh (1995, 75) characterised the nature of enlightened absolutism: "[...M]embers of society who have not had great experience with the control and direction of the political life of society need guidance if their capacity for autonomous choice is not to be misled towards the support of yet another form of stifling tyranny. [...] The development of individual freedom, autonomy, and enlightened activity can be achieved only if society is guided by someone who can overcome the limitations and prejudices through which the potential of the mass of society [...] is necessarily restricted."

by studies commissioned to the Austrian Academy of Sciences […]. Hence, it somehow was anticipated by the Josephinian enlightened civil service and the research funding institutions that it is easy to explain that [the programmes] correspond with public interest, although they were not claimed by any grass-root movement in a concrete and vehement form"

Again, in the view of several interviewees the unpredictability of the public complicates governance processes: accordingly, the public mostly does not support technological advances the policy elite has recognised as fruitful, rather, they tend to mobilise against S&T policy decisions they seem to have misunderstood. In order to avoid this, it is necessary to know what the public want, to "*tune one's ear with the public*" (respondent B). Once one "*know[s] what people really want and think*" (respondent B) or "*where the shoe pinches*" (respondent E), informing the public is necessary.

3.4 Scientists' and the medias' failure

The interviewees seemed to be sure about their goal to inform, but they were open for recommendations how to do that as they had no clue how to avoid public rejection and effectively influence public opinion. Respondent B admitted that they were "*helpless*" in this regard, not the least because they could not count on support from neither the scientific community nor the media.

Accordingly, scientists involved in research and development might contribute to the debate but were of limited help. Several respondents would want them to be more active, i.e. they argued that the scientists did not fulfil their role regarding communicating benefits and risks:

"[The] scientists do not seem to have a particular interest in pursuing this discourse [on possibilities and risks]" (respondent E).

Similarly, interviewee F opined that the scientific community should engage more in communicating both benefits and risks.

ITA: "Is it the duty of the scientific community to communicate the benefits [of genetic engineering]?"

F: "I would have another demand. I would say that the scientific community has to communicate both the benefits, but also the risk."

Accordingly, policy-makers aimed at informing the public in a balanced way about the pros and cons of scientific and technological advances, but the Austrian media landscape was considered inaccessible and unreliable. The respondents referred to the singular monopoly-like situation in the Austrian newspaper market, dominated by the "Kronenzeitung", a tabloid with a market penetration of 60%, and to the role this newspaper had played in past technology controversies mobilising the masses. The Ministry civil servant (B) reported on the political agenda setting in past controversies:

"In the phase where… the media, most notably the Kronenzeitung, but also NGOs, have articulated the problem in a highly visible way, we tried to deal with the issue."

Respondent D criticised the newspaper's coverage

"Apparently, the education of the public is not sought after. The Kronenzeitung is not an objective and responsible informational medium. In addition, they apparently have no sense for research and innovation. We have tried again and again to get in touch with them, also via intermediate agencies, without success."

Most interviewees claimed a general unwillingness of all kinds of media to cover science and technology issues, with some exceptions and signs of hope for the future. In general, however, they tended to be sceptical about the media when pursuing the goal of introducing new technologies. Interviewee A related the passiveness of the media to the passiveness of the public as its consumers:

"For the science journalists the […] problem is: The newspapers want to be read, the ORF (public radio and TV broadcast) wants to be viewed. The viewing figures in science broadcasts decline to be a minority programme as soon as the issue gets a little more complex. In the newspapers, the attitude is to say 'Well, our readers won't understand that' or 'I cannot translate that into the language of the people', and this is why [such initiatives] shipwreck in the chief editorship."

3.5   The media and democracy

Nevertheless, the media would be needed as an important actor in the different models of democracy sketched by the respondents, ideally bringing science, policy-making and society together in a two-way communication. Austrian MP respondent A:

"And then we would have to develop a strategy involving Parliament how to bring these things into the media, how to conduct discussions, how to make people aware also of the positive characteristics [of a technology] besides all the critical assessments. […]

And I regard as important to keep discussing these things [genetic engineering, etc.], namely already in the forefront and not only when a member of Parliament brings forward a bill".

Respondent E highlighted that it was equally important to listen to media as a communication channel for public concern:

"If I realise – also in relation to the Kronenzeitung – that there is a problem with technology, that problems are approaching us from below or from wherever, then I would mean, in my ideal conception as a democrat, that the problem is picked up, confronted, discussed […] I do not speak about PR announcements in newspapers. No, [I talk about the question] 'What is really behind all this? […] There are experts that can get us this information. […] Then we maybe have identified the problem. Then we can analyse it politically and say 'We are of the opinion that this should be solved this way or that'."

In case politics failed to pick up and deal with the problems, it was again the media that would repay this failure by "*jumping into the vacuum*" (respondent E) and reinforcing mobilisation. Thus, while media neglected to cover science and technology related issues in advance, they might still criticise the absence of a preliminary debate, later. At the end of the day, any political decision regarding S&T needed support from the public at large.

ITA: "Talking about inclusion of the public: You have mentioned citizen conferences. With regard to the example of 'GM Nation?', critics held that discussing this issue in participatory procedures is inappropriate as the subject matter is too complicated."

D: "But then it will not be possible to introduce and practise the technology. We are democratic countries. If the majority does not agree: no introduction of the technology. No matter how good it is."

This statement sheds a light on the implicit understanding of governance of respondent D and others, informed by what would have to be called a 'liberal' model of democracy (Habermas 1992). In this model, interests are negotiated on a kind of free market, while government needs the support of a majority but is more or less free in its decisions as long as it does not loose the majority. In other words, it works for the public and not by the public. Such a model is slightly at odds with

the informal conceptualisation of the role of civil service among many of our interviewees, many of them belonging to this group. Here, administration is seen as a "*rock in the tidal waves of time*" (as another former head of department in a ministry once put it in a truly Josephinian understanding of administration), surviving governments and political fashions as they come and go and, ideally, sustaining a traditional benevolent rule to the better of the State and the public at large. However, it also differs from a, in the sense of Habermas (1992), republican governance model 'by the people and through the people' as well as from a deliberative model, which is at the basis of demands for participation and public engagement. It conceives itself as being detached from policy, receiving its indirect formal legitimisation from the actual government, respectively, being the outcome of a strictly representative election process. More important, direct practical legitimisation stems from its mere existence over time, as a manifestation of the idea of the State, so to say.

Consequently, the self-image of some Austrian experts can be inferred as having to *inform* about novel technologies they fear might cause controversy among the public so that the public gets convinced of their view. However, this information might cause controversy itself, and this tension remains to be resolved. Policy-makers seem to feel that they are left alone in this task: the media are seen as unpredictable and not reliable and there is also a tendency to assume that the scientific community is unwilling and disinterested. Hence, it remains with them to decide, in the public's best, on novel technologies while seeking to avoid any rejection due to public opinion. The problem of whether or not, and how, to introduce a new technology can thus be conceptualised as a balancing act between objective expert advice, interest representation by established powerful institutions and the need to avoid mobilisation of a misguided and emotional public rallying against the resulting rational and necessary endeavours.

Against this background, participation as conceived in the EU papers does not seem to have a place; rather, participatory methods are assigned two other functions. On the one hand, they can help conveying factual information, and the 'right' understanding of complex facts on technology, to an 'ignorant' public in a more effective way. As such, they are a replacement of previous public relation campaigns towards a better public understanding of science that have been considered failed so far. Participatory methods are considered more efficient in this regard, as they build on two-way communication: those who should get informed actively and deliberately scrutinise the statements of those who deliver information. In addition, in participatory events policy-makers learn what exactly the misinformed public opinion consists of, or rather, what the reasons behind are that bring forward, and sustain, obviously (in their understanding) false apprehensions jeopardising the introduction of a novel technology. Substantially, however, it appears impossible that the combined wisdom of the policy elite, together with pertaining technical and financial expert advice and the balance of powerful interests can be trumped by lay insights; hence, regarding the issue itself, in such a view a participatory procedure cannot be considered to deliver many valuable insights.

Still, 'helpless' policy-makers, within their constraints of informing and, at the same time, keeping the public at bay, happily respond to a participation community's proposals despite aims and rationales being entirely different. Participation events are set up to the advantage of both communities although "*not claimed by any grass-roots movement in a concrete and vehement form*", to paraphrase one of our interviewees (see above). However, such events usually have no impact in the sense of bringing alternative viewpoints, interests and knowledge into the decision-making. Thus, also from the decision makers' perspective participation acquires the characteristics of a laboratory experiment (Bogner 2010) without much of an impact to be expected, with members of the public in the role of the rabbit.

4 Conclusion

Scholars have proposed different roles for participation to play in democratic decision-making. The most prominent argument is that citizen participation democratises expertise characterised by boundedness, uncertainty, non-knowledge and, thus, blurring boundaries between experts and laypersons. Accordingly, including citizens' opinions is necessary to take more appropriate decisions on the future path of science and technology.

In the Austrian setting policy-makers recognise that, from practical reasons of power, public opinion has to be taken into account when judging the desirability of policy projects. In their view, no democratically elected government can sustain a rule against the majority or mainstream public opinion. The model of democracy evoked here is a liberal one. Policies are made for, but not by or with the public, and the policy-makers' goal is to secure majorities. Legitimacy is assumed by default, except when there is open protest.

Following a more scholarly understanding of participation, however, policy-makers would have to work *with* the public on policy projects instead of merely presenting to them a pre-defined solution due for approval. Legitimacy, in this view, should be ensured by procedural standards set in accordance with models of deliberative democracy. Forms of participation are considered to be part of such standards. If they took participation seriously, decision-makers had to accustom to the idea that it is not exclusively their task to choose the objectives of S&T policy and formulate the ensuing problems.

The second argument in favour of participation is that it accommodates for the plurality of rationalities. On the one hand, it does justice to the different values held by the public and, on the other, to the conviction that the best political and technological solution cannot be achieved following one or a few dominant rationalities. However, if participation is understood as a means to convey pre-defined information or to check for possibly obstructive public sentiments only, there is no choice of different perspectives. In contrast to the idea of a free contest of ideas, the administration is supposed to find the objectively best possible solution in terms of content and ethics. The task, then, is solely to implement it, which implies seeking least possible opposition. In Austria, such a way of governance has failed several times, for example with nuclear power (resulting in a negative plebiscite) or genetically modified food (resulting in public rejection).

Participation may not be able to bring a change while leaving traditional practices of governance untouched. Rather, to render plural rationalities relevant, the attitude of believing to be in the possession of the best solution would have to change in favour of an open contest of alternative rationalities. This implied that solutions other than those the administration and major interest representatives had previously negotiated may be adopted. In the words of the Austrian Council (2009): "*... the societal engagement (should be) subject to certain sustainability on the political level.*" Today, attendants and organisers of participatory events may reflect upon such shortcomings, so these events are not futile. However, they fall short of fulfilling the expectations both the theoretical literature and the official discourse raise.

Our material suggests that it is unclear whether participation will be able to influence the actual style of governance in technology policy. Rather, this style might sustainably prevent participation from becoming relevant. Thus, a change appears to be a prerequisite for participation to deliver to its promises. The question remains what will be more perseverant in the long run: the development of a democratising practice of participation or the routine of a path-dependent governance style with a specific framing of the public and decision-making.

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