

## **Legitimation problems of participatory processes in technology assessment and technology policy**

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Since political scientist James Carroll (1971) made a strong case for “participatory technology” in the leading scientific journal “Science” forty years ago, scientists, engineers, policy makers and the public at large have seen quite a number of different approaches to design and implement participatory processes in technology assessment and technology policy. As these participatory experiments and practises spread over the last two decades and some forms became almost standard operating procedures in some western democracies, one could easily get the impression that participation turned from a theoretical normative claim to a working practise that goes without saying. Looking beyond the well-known forerunners and considering the ambivalent experiences that have been made under different conditions in various places, however, the “if” and “how” of participation is still a contested issue when questions of technology are on the agenda.

The task of this introductory key-note as assigned by the organizers is to re-consider and structure the debate about the legitimacy of participation from the perspective of a political scientist. The normative and empirical points of reference of my perspective and its more or less elaborated analytical framework are derived from democratic theory and public policy analysis.

While the conference as a whole defines its subject area broadly as “questions of technology”, the perspective taken here will not address issues of participation that might arise in all societal fields which are or could be subject to processes of technization or technologization. I shall rather focus on *technology assessment* and *technology policy* (and politics) as two different, but strongly interrelated domains. The claim is, on the one hand, that issues of participation should be considered differently in each of these domains with regard to problems of legitimation. On the other hand, as these domains are strongly interrelated in many policy processes, I argue that specific problems of legitimation in particular cases cannot be understood adequately without analysing and evaluating the specific ways of their interrelation in concrete contexts. From an overall perspective, we can see that participatory designs have been coupled (or de-coupled) with one or both of these domains – a difference that make a difference with regard to its possible impacts.

As far as its *legitimacy* is concerned, one can distinguish two basically different approaches to justify participation in technology assessment and technology policy. One is *normative* in a straightforward sense insofar as it refers to basic principles of normative theories of democracy: If and to the extent that processes of technization are major forces in a democratic society, then its citizens or their representatives should have a chance to

participate in the assessment and the policy-making processes related to the technologies in question as a consequence of the democratic principle of self-government of free and equal citizens. The other approach to justify participation in technology assessment and technology policy is *functional*: In this view, participation is justified as being instrumental in achieving certain goals and fulfilling certain functions that provide the basis of its legitimation. New technologies should be introduced (and old technologies should be evaluated) with broad public participation, so these arguments run, because participation fulfils certain functions more effectively and efficiently than other (non-participatory) ways of assessing technologies and policy-making in technology-related fields. Functional justifications can focus on informational, social, spatial or time-related dimensions of technization processes, of technology assessment or of technology policy and politics. In this line of reasoning, participation is conceptualized as an instrument of information distribution or information collection, i.e. it can help gaining access to the “local knowledge” of potential users or affected groups. As far as the social dimension is concerned, participation can be seen as an instrument of overcoming sceptic and hostile attitudes among certain groups in specific places or the citizenry at large, helping to create public understanding and acceptance. As for the time dimension, there are many calls for early participation of potentially interested, affected or engaged groups, often suggesting that such early inclusion, although costly in time (and money) upon first sight, might actually save time at the end of the day, if it helps avoiding conflicts usually leading to delays of the original schedule.

If we understand “problems” as being defined by a difference between an actual state and a state that ought to be achieved, then *legitimation problems* indicate that attempts to justify participation in a given case have not been entirely successful in the eyes of relevant groups among the sponsors, participants, organizers or observers of a participatory process. A rational reconstruction of the problems these (at least partly critical) groups have identified with regard to the legitimacy of participation will have to make explicit reference to the approaches and criteria that have been introduced to justify it in the first place. In light of such reconstructions one can see that legitimation problems of participatory processes in technology assessment and technology policy vary considerably and they do so not only with the two domains and the ways of their interrelation, with specific features of the participatory processes such as their concrete topic, mode of representation, timing, method of inquiry or procedure of deliberation and decision-making. If we ask whether or not participation is seen as problematic in technology assessment and technology policy-making and in what sense it is being evaluated as problematic, then we find that the answer depends also on the approaches and criteria that have (implicitly or explicitly) been used to legitimize or de-legitimize the call for and specific design of participation.