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Abstract

An ongoing trend in technology policy has been to advocate participation. However, the author claims that lay citizens' participation typically materializes in the form of a laboratory experiment at present. That is, lay participation as currently organized by professional participation experts under controlled conditions rarely is linked to public controversies, to the pursuit of political participation or to individual concerns. Derived from qualitative research on two citizen conferences, the author shows empirically that in practice, this laboratory participation leads to paradoxical effects: successfully carrying out the experiment results in a systematic disappointment of the hope for gains in rationality typically attached to lay participation. Finally, the author relates this result to sociological debates about new modes of knowledge production. Under such a perspective, the author sees a paradoxical development: while society at large is becoming a laboratory in which knowledge is produced, participation practice is retreating from society into the lab.

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Due to the attention “invited participation” has raised in among Science and Technology Studies (STS), the term seems to be well established by the time being (e.g., Wynne 2007). Basically, invited participation means a form of public engagement initiated and organized from the outside rather than by concerned citizens themselves. From a critical standpoint, invited participation appears as a (neoliberal) governance tool to avoid conflicts by upstream conflict management (Levidow 2007, 27). However, irrespective of attempts at explaining the phenomenon, the term “invited participation” has not been conceptualized in a convincing way so far.

The present article aims at contributing to a better understanding of this phenomenon. It argues that the characteristic form in which participation is realized in currently relevant technological contexts is that of the *lab experiment*. This means that *this form of lay participation, which is organized by professional participation specialists and carried out under controlled conditions, rarely is linked to public controversies, to the pursuit of political participation, or to the experiences of people directly affected*. This form of participation is not realized as a protest expressing real demands made “from below” but rather as an experiment which is frequently set up as a research project and observed from start to finish by the team of researchers who are present throughout.

The article examines consensus or citizens’ conferences and shows that in practice such lab experiments in participation have paradoxical effects.¹ An experimental community consisting of laypeople and those conducting the experiment is brought into existence in the participatory process, and this community sees itself as charged with the task of demonstrating that the method can work. However, if the experiment is successful, it results in systematic disappointment; the hoped-for gains in rationality, which are typically associated with lay participation do not materialize.

The first two sections of the article introduce the distinction between public participation as protest and public participation as a lab experiment. The field of STS has, up until now, not been able to answer the question of whether lab participation leads to gains in rationality (third section). After a brief outline of the citizens’ conference model (fourth section), this question is taken up in the empirical part of the article (fifth section). In conclusion (sixth section), the empirical findings are connected with recent sociological debates about a new and risky mode of knowledge production.

Public Participation as Protest

Protest participation is essentially a matter of the self-constitution of distinct public spheres. It refers to specific issues as a way of articulating and pursuing more general political aims. This form of participation develops out of a previous politicization of issues in science and technology, or it may result in such a politicization. It is woven into ongoing conflicts, expressing individual concerns as well as general political demands (e.g., to be involved in decision-making process). The controversies around nuclear power and agribiotechnology, for example, illustrate how protest participation can take on different forms (Saretzki 2003): either prone to be militant (e.g., the occupation of construction sites or the blocking of railway lines) or predominantly peaceful (e.g., petitions calling for a referendum to be held, hearings).²

The concrete forms of expression may vary however, the decisive point in the present context is that these two participation variants share an important characteristic: even though the intensity of the conflict has varied and continues to vary, they are based on self-organization by citizens who are affected by or concerned about an issue. This means that both forms of participation relate to real conflicts and clear aspirations to participate in a political process.

It would, of course, be misleading to suggest that the distinction between participation as militant protest and participation as peaceful protest can be seen as an absolute historical divide. Protest against nuclear energy has become institutionalized over the course of time (e.g., in the form of the Green Parties throughout Europe), and it remains present today as a form of latent conflict potential. And protests against biotechnology were quite militant at times. In France, field trials of genetically modified crops were repeatedly destroyed by protesters, from the mid-1990s onward (Bonneuil, Joly, and Marris 2008). In Germany, the Revolutionary Cells, a left-wing militant group, carried out a number of attacks on genetic engineering labs and research centers in the late 1980s. Nevertheless, there can be no doubt that peaceful forms of protest have been much more significant in shaping controversies around agribiotechnology than they were in the nuclear power debate. Agribiotechnology is characterized by institutionalized forms of participation: by citizens' participation in administrative procedures (public hearing); by referendums, as in Switzerland (Bonfadelli et al. 2001); and by petitions such as the one organized in Austria in 1997, which was supported by 20 percent of those entitled to vote and succeeded in setting the course for an anti-genetic engineering policy for a number of years (Torgersen et al. 2001).

Even though the details of the cases vary, it is clear that in all these *controversies about risk*, public participation has taken the form of protest. This means that when large-scale demonstrations and sometimes militant actions occur in relation to questions of technology and research projects, there is either no need to invite anyone to participate or, when participation is a response to an invitation, it is realized against the background of a broader mobilization and real disputes. So, due to its analytical potential, the distinction between invited and uninvited participation should be replaced by the distinction between protest and lab participation.

Participation as a Lab Experiment

Unlike protest participation, current technology controversies are not really initiated by a concerned public sphere; they do not develop out of criticism voiced by groups in civil society which have a public effect. Instead, the impetus behind these controversies is provided by professional assessors of technology or directly by researchers. Consider, for example, the ongoing activities of European Union (EU) to regulate nanotechnology, which are being driven by the setting up of high-level groups of experts and research programs (Nordmann 2004; on the research activities, see www.skep-era.net); or the US stem cell policy in the 1990s, which was initiated mainly by expert panels such as the National Institutes of Health Human Embryo Research Panel or the National Bioethics Advisory Commission (Leinhos 2005).

There is no fighting in the streets over questions of nanotechnology or neuroscience, no factory gates are blocked, and no protest camps are set up. Only occasionally are leaflets distributed. What happens instead is that research programs are instigated, ethics councils founded, and discussion fora set up so that experts and laypeople can meet and exchange views.³ It is not concerned citizens or nongovernmental organizations (NGOs) who articulate participation demands; these demands come from experts, for example, from specialists in technology assessment. Especially in the fields of biomedicine and nanotechnology, we observe almost desperate efforts to stimulate public debate (for an overview of participatory exercises in nanotechnology, see Delgado, Kjølberg, and Wickson 2011).

The record of success in this regard is extremely modest. In the framework of “Nanocare,” a research project financed by the German Federal Ministry of Education and Research and partner organizations from industry dealing with the health risks arising from nanoparticles, three citizens’ dialogue meetings took place—without citizens. “We couldn’t even get

people to come along by offering free food and drink,” the project leader explained to the German weekly newspaper *Die Zeit* (Maier 2009). Similar problems arose when citizens’ conferences on questions of nanotechnology were organized in the United States in 2008 (Kleinman, Delborne, and Anderson 2011). The organizer of one of the six participation projects spread across the United States (and financed by the National Science Foundation), which took place in the context of the National Citizens’ Forum on Technology coordinated by scientists at North Carolina State University, reports that he “had literally to drag people in.” Paradoxically, it is in the very places where citizens are strangely inactive that there is an increasing demand for their lay expertise, and this expertise is also—to some extent at least—publicly recognized. This increase in the value attached to participation, in an age when civic engagement appears to be declining (Putnam 1995), I shall refer to as lab participation in the rest of this article.⁴

Participation as a lab experiment can be characterized as follows: a form of participation organized by professional participation specialists, taking place under controlled conditions and largely without reference to public controversies, political participation demands, or individual concerns. In



Figure 1. Citizens conference on stem cell research at the Max Delbrueck Center for Molecular Medicine in Berlin (2004). Source: www.bioethik-diskurs.de (Picture by Thomas Oberlaender).

other words, this lab participation is characterized mainly by its decontextualization, that is, these deliberation experiments are carried out in a contained environment and bear practically no relation to the world outside. NGOs, which were centrally involved at the height of the risk controversies, no longer play a significant role in mobilizing the citizens. Private participation entrepreneurs, who not infrequently have a background in the social sciences, are the people who initiate, organize, and run the citizens' participation processes. In many cases, this lab participation takes the form of a university research project funded by a third party, and in some of these projects, it is no longer possible to tell whether the main focus is on the mobilization of laypeople or the social-scientific observation of the experiment. As a result, these procedures are very well documented. The citizens' deliberations are videotaped, the plenary discussions are recorded and transcribed, and the exchanges in the working groups are observed. Microphones are installed, meeting rooms are wired, and teams of observers are placed in position.

This picture typically illustrates the situation of a lab participation (Figure 1). The group of the fifteen citizens or so is arranged as a circle in the middle of the conference hall, among them is the moderator. The transparency and sterility of the room recall a specimen slide allowing for a quasi-microscopic observation of the isolated objects. The microphones loom—like the tentacles of an octopus—over the heads of the participants. Four staff members are sitting at one of the desks of the scientific research group arranged beneath the windows. Two of the professional observers operate in the foreground. One member raises the video camera, his colleague is taking notes.

These participation projects have to be set in motion by the researchers themselves. Indeed, in many cases, there is not even any preexisting public interest in the issue and the whole process is designed to draw the attention of a nonspecialist public to the subject. We can observe this, for example, in the advertising material used to get people interested in such procedures. "Volunteers wanted!" was the headline of the announcement used by the Science Museum to appeal to potential participants in the first citizens' conference in the United Kingdom (Joss and Durant 1995). The text went on to say, "Would you like to discover more about a rapidly developing area of science that will affect us all?"

The purpose of lab participation, therefore, is not to channel a desire to participate or to pacify protest but rather to mobilize people who are potentially interested in an issue but have no interests of their own in connection with it. The citizens do not primarily want to make policy, exert influence or get any particular opinion more widely accepted; rather, they want to inform themselves. This has been confirmed by assessment reports on

citizens' conferences (Guston 1999; Einsiedel and Eastlick 2000) and by the author's own surveys of participants in citizens' conferences in Germany and Austria. "To find out a bit more" about an issue that one has "not really taken much notice of" —this, in the words of one participant, is the main motivation prompting people to take part. This kind of interest reveals a passive willingness to contribute to the success of an experiment rather than any active desire to shape the proceedings.

This, then, means that participation as a lab experiment is not just a matter of a lack of clarity about the institutional location of this participation or a focus on testing the quality of lay deliberation. Participation as a lab experiment does not just mean participation without political consequences. Mass demonstrations can also fail to have any political effects. The criterion of lab participation is its abstractness, its isolation from political and life-world contexts, and its methodologically controlled design. Lab participation is therefore not a matter of ontological status. Whether or not one can characterize a citizens' conference as lab participation depends on the social context. The concept of lab participation being used here is therefore intended to establish a systematic connection between the form of the procedure and its social context, in a comparative historical perspective. In this way, lab participation serves as an indication of a changing relationship between science, politics, and the public.

Lay Deliberation as a Research Desideratum

The interest of STS scholars in lay participation on questions of technology has largely been associated with *the hope that gains in rationality will result*. Forms of knowledge and rationality that have been marginalized during the course of scientification will, it is hoped, acquire a voice and weight by means of participation procedures.⁵ These hopes stem from the experience of the 1970s and 1980s, and relate historically to those conflicts over the environment and technology in which sustained criticism was expressed by self-organized groups within the public sphere directing their critiques at a restricted kind of expert reason that was blind to the complexity of the real world (see Fischer 2000). Against this background, the demand that laypeople should also participate was combined with the systematically grounded expectation that alternative rationalities would be articulated. Brian Wynne has set this out well in his analysis of the post-Chernobyl crisis in northern England (Wynne 1996). In Wynne's narrative, a local lay knowledge based on extensive experience confronts scientific, universal expert reason with its concealed particularisms, and by so doing draws attention to the

significance of lay expertise in controversial scientific–technical debates. The essentials of this perspective are shared by all approaches that seek to mobilize lay expertise in technicization processes (see Irwin 1995, Funtowicz and Ravetz 1993). Sheila Jasanoff, formulating this point in a way many other scholars would endorse, says, “(. . .) public engagement is needed 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 2003a, 397-98) According to this view, rationality gains achieved via participation consist of the challenge and critique offered as a corrective to an excessively narrow experts’ perspective brought about by professionalization.

Referring to this STS debate, Andy Stirling (2008) has recently called for an “opening-up” approach in appraisal. With respect to participatory technology assessment, this approach denotes a kind of a pluralistic policy advice which “poses alternative questions, focuses on neglected issues, includes marginalized perspectives, triangulates contending knowledges, tests sensitivities to different methods, considers ignored uncertainties, examines different possibilities, and highlights new options” (Stirling 2008, 280). However, those comprehensible pleas for openness and pluralism have often remained programmatic declarations so far.

Up until now, there has been hardly any empirical investigation of whether lay participation procedures are capable of providing the desired rationality gains. In order to answer this question, one would have to analyze the concrete processes of interaction between laypeople. But there is an acute shortage of such empirical sociological analyses. A few studies have been published that discuss the question of “issue framing” in relation to lay participation procedures on technological questions (e.g., Jasanoff 2003b; Wynne 2005), but they rarely do this with concrete reference to specific participation procedures.⁶

A mentionable exception is the large-scale empirical study of Alfons Bora and Heiko Hausendorf (2006). With regard to the participatory biotechnology governance in seven EU countries, the authors show that statutory participation does not result in politicizing technology. On the contrary, their empirical analysis of interaction processes within the hearings reveals that alternative rationalities are marginalized because lay people have to argue along the lines of “sound science.” Due to their interpretation, the specifically framed interaction processes lead to a scarce politicization of science and technology. In a similar way for the case of nanotechnology, Monika Kurath and Priska Gisler (2009) have shown that upstream engagement—although aiming at opening up innovation

processes for broader public involvement at an early stage—has failed to be genuinely open and inclusive so far. In addition, it remains unclear how this kind of public participation can exert political influence.

Existing studies become problematic when the coming into existence of a certain “issue formation” is depicted as the consequence of the composition of the event (e.g., the way the issues are identified, or the selection of laypeople; see Irwin 2001). When the issue is addressed in this way, the problem of inadequate inclusiveness in participatory procedures can only appear as something imposed from the outside and not as something arising “internally,” at the level of citizens’ negotiations. This gives the impression that the interaction processes within the procedure are a “clean” social space, which only needs to be protected against “pollution” from external constraints for inclusion to operate successfully. As a result, the effects of power that are produced/reproduced within the interactions between laypeople tend to be neglected.

Hence, analyses of inclusiveness at the level of the interaction processes are now considered a research desideratum, especially in relation to the citizens’ conferences to which researchers have been paying a good deal of attention. Brian Wynne writes, “For example, there are analytical questions of what relevant public concerns may have existed, but (. . .) were not articulated within the formal process of the consensus conference and thus were excluded. (. . .) These appear to me to be more interesting and worthwhile analytical questions about consensus conferences and the usual repertoire of participatory methods, than attempting to discover whether participation in such events has changed attitudes or some technical understandings” (Wynne 2007, 105).

The Citizens’ Conference Model

The following considerations take up this important question, the exclusiveness of lay deliberation. They are based on empirical investigations of two citizens’ conferences in Germany and Austria, which were conducted in the framework of different research projects.⁷ Citizens’ conferences are among the events that have been most prominent in the media during recent years. Their main purpose is the drawing up of a final document (lay citizens’ vote) in the framework of a clearly structured and moderated group process, which takes place over a number of weekends (see Grundahl 1995).

The citizens’ conference model was developed into a technology assessment procedure in Denmark during the 1980s. The citizens’ conference model has been repeatedly copied, modified, and exported throughout the world. The first citizens’ conference organized at the European level took

place in 2005 (Boussaguet and Dehousse 2009). Fourteen citizens from each of nine EU countries came together in a series of national and European meetings to discuss the social and ethical implications of modern neuroscience (www.meetingmindseurope.org). And, in Autumn 2009, a global participation experiment was conducted. In the run-up to the UN summit on climate change that took place in Copenhagen in December 2009, a total of 4,400 laypeople from thirty-eight countries took part in forty-four citizens' conferences across the world and discussed climate change and related policy questions. The results were then fed into the debate via special events that took place in the framework of the UN Climate Conference (www.wvviews.org). The (relatively conventional) policy recommendations of this world citizenship did not meet a remarkable resonance, neither on an international nor on a national level (see the contributions in Rask et al. 2011).

In Germany, there have been two national citizens' conferences so far, both of them on questions of bioethics. In 2001, the German Hygiene Museum organized the first national citizens' conference in the framework of its exhibition on *The Imperfect Human Being*, focusing on genetic diagnostics. The second citizens' conference, on stem cell research, took place in Berlin in 2004. This second conference was held under the auspices of the Working Group on Bioethics and Scientific Communication at the Max Delbrueck Center for Molecular Medicine in Berlin. This conference was financed by the Federal Ministry of Education and Research, as part of a research project on the organization of bioethical discourse. This project, like the first conference, was initiated by a small group of scholars interested in participatory procedures.

In Austria, the first conference at the national level took place in Vienna in 2003. Its title was *Genetic Data: Wherefrom, Whereto, What for?* This conference was part of a public awareness campaign on innovation launched by the Austrian Council for Research and Technology Development and was organized on the Council's behalf by a public relation's agency (Seifert 2006).

The empirical analysis presented below relates to the citizens' conferences in Berlin and Vienna. The methodological basis consists of participant observation of the public conferences and (in the case of the Berlin conference) consultation of the transcripts of all plenary discussions between the citizens (references to these transcripts are indicated by the abbreviation Doc.). The transcript of each day's proceedings is a document of approximately 100 pages. Altogether, the transcripts of all the plenary sessions and the two-day public conference amount to 800 pages of documentation. Additionally, qualitative semistructured interviews

with ten (Berlin) and eleven (Vienna), respectively, of the twelve lay panel members were carried out, as well as with the organizers. All these interviews lasted 1.5 to 2 hours; they were completely transcribed and due to the strategy of Meuser and Nagel (2009) and with the assistance of the software “Atlas-ti” analyzed.

The Paradoxical Effects of Lab Participation

The following empirical account seeks to demonstrate that (1) lab participation does not produce the hoped-for gains in rationality and (2) the reasons for this are to be found in the structure of the procedure rather than in any shortcomings on the part of the actors (e.g., poor moderation or incompetent laypeople). This thesis is developed in three stages. I begin by showing that because deliberation norms become established during the process, the effects of lay deliberation are selective (section on *The Selective Nature of Deliberation Norms*); this means that alternative positions are increasingly marginalized in the course of the process (section on *The Dominance of Framing by Experts*); this problem, however, is not addressed because organizational aspects rather than ethical discussions dominate the procedure (section on *The Primacy of Organization*).

The Selective Nature of Deliberation Norms

Selective effects arise in the framework of a citizens’ conference both at the level of the selection of laypeople and in the ensuing group processes. In order to identify potential participants in the Berlin citizens’ conference, initial letters of invitation were sent to 14,000 citizens on the basis of information provided by residents’ registration offices; approximately 470 positive replies were received, a response rate of around 3 percent. Twenty citizens were then invited to participate. Secondary school students were not included in the sample. The only foreign citizen among the twenty, a Turkish disc jockey, dropped out shortly after the start. People continued to drop out from one weekend to the next, so that in the end twelve citizens wrote the final document (lay citizens’ vote) together. There may have been compelling personal considerations which forced some people to drop out, but in the final analysis one can say that those who dropped out were the individuals who found it most difficult to “deal with” a participatory procedure, either because they could not accept the existing range of opinions within the group or because they did not want to defend their views. Among those who dropped out were some who held extreme or exotic views and so

did not feel adequately represented within the group. For example, one devout Catholic was afraid she would be accused of being dogmatic, and another participant who described himself as very kindly disposed toward scientific research was afraid of being marginalized within the group. In the Austrian citizens' conference, one farmer from Styria dropped out after the first weekend because she felt her views made her a complete outsider within the group. The remaining participants did not welcome this step-by-step reduction of the circle of participants as something that would make it easier to reach consensus. Rather, it was criticized for having the effect of moving proceedings closer to the "mainstream":

I found it a bit sad, because the people who dropped out might have held rather extreme views, in quotation marks . . . but when I say 'extreme', I just mean they weren't really mainstream. One woman who dropped out, it was clear she looked at it from a religious point of view. And I thought that was a pity, because that's an important aspect of the questions we were discussing. And then there was someone who dropped out because he had to go and do his military service, I think. And the DJ, someone who was quite different in the way he talked about things . . . they would certainly have provided a lot more variety.

This description of a process of social closure is not intended as a criticism of the organizers' selection procedure—though there are undoubtedly methodological grounds on which one could question it. The much more important point is that one can observe how, in the framework of lab participation, deliberation norms become established which lead to the exclusion of those participants who cannot or do not want to fit in with those norms.

The Dominance of Framing by Experts

Alternative rationalities and models of argument are very much present in citizens' conferences, and they are also articulated—at least at the beginning of the discussions. One can find plenty of empirical evidence of this in the transcripts of the first preparatory weekend meeting (December 13-14, 2003) of the Berlin citizens' conference. Here is some of this evidence:

A large part of the first day is taken up by an introductory lecture on the natural-scientific aspects of the issue, given by a science journalist from *Der Tagesspiegel*, a German daily newspaper. In response to the lecture, one participant formulates a fundamental criticism of medicine from an anthropological perspective. She argues that the recipients of donated organs or cells take on qualities of the donor's character. This gives rise to stifled

laughter. The journalist returns the discussion to scientific questions by posing the problem in an abstract way; he emphasizes that every form of therapy requires a weighing up of the benefits and risks involved. Shortly after this, a participant raises the question of the concepts of illness and therapy. She asks whether all available means must be used to heal a patient, and whether illness may not in many cases be something one can see as an opportunity. This aspect of the issue is not taken up by anyone else. In the same discussion, another participant demands that prevention rather than expensive and ethically dubious research should be prioritized. The lecturer deals with this criticism by saying that prevention cannot help those who are already ill. Immediately after this, the value of stem cell research is fundamentally challenged on the grounds that the greatest scourge of humanity is hunger rather than rare degenerative diseases. One participant asks a rhetorical question which is directed critically at the stem cell research lobby, "Look at the 8 million people who die every year because of food shortages, for example. Who's going to tout their needs?" This leads to a brief discussion of what the priorities of the health service should be. One participant says, "But look at how we set our priorities in general. And you can see that there is very little sympathy for the fact that so much money is invested in this kind of thing while other, much more urgent concerns are neglected." This discussion about questions of justice, however, is interrupted by other participants who want to get back to the narrower issue of stem cell research. People are talking all at once (Are we still talking about stem cell research? That doesn't seem to have anything to do with it!), and for a while there is even a strained atmosphere between the citizens. At any rate, the questions of prevention and priorities are not taken up again in the ensuing discussions.

On the second day (December 14, 2003), there are some further indications that other ways of approaching the subject exist. One participant, who objects to the dominant "majority rationality" of the proceedings (this one-sided scientific way of looking at human beings), wants to invite practitioners of alternative medicine to the expert hearing. She demands that representatives of a holistic approach should be given an opportunity to speak. The moderator treats this objection as a "disruption" of the proceedings. In the following discussion, some of the participants relate their personal experiences of the issue. One of them, who is in favor of stem cell research, is in tears as she tells the story of her grandmother who suffers from Parkinson's disease; another speaker says that his father has Parkinson's too. The group listens to these contributions with respect (the transcript records a murmur of sympathy at this point). The moderator treats this kind of "deviation" from the expert discourse as a challenge. As soon as anyone

starts to argue from a personal perspective, or advocates alternative or “obscure” points of view, the moderator stresses how important it is to incorporate these ways of looking at the issue but then goes to great lengths to direct the discussion away from them.

The outcome is that although the discussion is wide ranging to begin with, it becomes increasingly focused on the moral status of the embryo. This means that the arguments which are central to the experts’ discourse also become the focal point of these exchanges. Looking back, one participant commented (without any indication that this remark was intended as a criticism):

What happened was that . . . we concentrated more and more on one question: When does human life begin?

As it would have become clear from the above discussion, alternative approaches disappear as the result of an act of self-censorship. However, those who originally brought these views into the discussion do not perceive this as exclusion; rather, they interpret it as a personal learning process. The final outcome is thus a citizens’ judgment on stem cell research which, in its structure and arguments, is reminiscent of statements issued by expert bodies (e.g., National Ethics Council 2002). Lay expertise thus becomes a copy of expert expertise, and it is inevitably a copy of slightly inferior quality. But this “expertization” process raises the question of whether it provides any added value.

The Primacy of Organization

The expertization described above is not the result of a process of ethical deliberation. Alternative approaches and positions are not critically examined or refuted on the basis of arguments—they are just not seen as relevant to the proceedings. The way these contributions sink without trace does not become obvious within the forum because ethical discussions, in which the pressure to justify decisions and positions could emerge, are almost completely absent from the plenary exchanges between the citizens.

To the extent that participation takes the form of a lab experiment, it must be demonstrated that this experiment can function as planned. Only then can one convincingly advocate the institutionalization of this procedure.⁸ As a result, it is the organizational challenges of the procedure that are of common concern. The primacy of organization is forced by the perceived need to turn the citizens’ conference into an event that will have an effect on public opinion.

The success of the experiment is the shared goal toward which the citizens too are working. For this reason, the marginalization of ethical deliberation is, in principle, something that is not imposed but is rather accepted by everyone involved. Organizational aspects are the main concern. Whether the citizens have found new aspects relevant to the assessment of stem cell research, or if they have conducted interesting ethical discussions—these issues are secondary. In fact, there is a broad range of ethical positions to be found among the public. No such position is really embarrassing, because they are already present in expert discourse—from the total rejection of stem cell research to the lifting of all restrictions. The only thing that might make the organizers look a bit foolish would be if the laypeople were to use the wrong concepts.

The selection of relevant aspects of the issue; the drawing up of a catalogue of questions; the selection of experts for the public conference; and the detailed planning of the conference—these are the things that receive most attention during the preparatory phase. As a result, ethical discussions are reduced to “implicit” status. It is true that normative decisions are being made all the time (via the very things noted—selection of issues for discussion, selection of experts, etc.), but they are not openly recognized or discussed as normative questions. What is supposed to be the object of the whole exercise, the ethics of research, that is, normative aspects including the question of the positioning of and judgments made by those involved, disappears down the organizational cracks.

One can reconstruct how this happens with the help of the transcript. Here is a brief, schematic overview of the most important steps taken during the two preparatory weekends. On the first weekend (December 13-14, 2003), the main concern is to draw up a catalogue of issues. Three working groups are set up, each with a specific focus—the current scientific position, legal questions, and ethical norms. During the second preparatory weekend (January 30 to February 1, 2004), agreement is reached on the catalogue of issues for the expert consultation and on a list of experts who are to be invited. There is an intensive debate about the organizational preparations for the public conference—where should it take place, how should the chairs be arranged (in a V or a U shape?), how much time should be allotted for the different parts of the conference program, how should the experts’ contributions be presented to the audience, in what form should they be delivered, how much time should be allowed for questions and discussion, and how should the four issue areas (ethics, the uses of stem cell research, legal issues, and dangers) be structured?

This does not mean that no ethical deliberation whatsoever took place. And indeed, a range of normative positions can be found in the citizens' judgment. But there was no structured dialogue in the group on ethical questions. So, still before the end of the concluding public conference in Berlin, the moderator comments, "We still don't have any idea what position the group as a whole takes on this. We don't know yet." (Doc. 7, 82) It was left to the citizens to organize the debate about ethics themselves, and it took place in small groups, in private meetings, and on the margins of the event.

Conclusion

This article has argued that participation in currently relevant technological contexts is characteristically realized as a *lab experiment*. This means that this kind of lay participation, which is organized by professional participation specialists and carried out under controlled conditions, takes place for the most part without reference to public controversies, to the pursuit of political participation, or to individual concerns. This kind of participation is realized not as protest, expressing genuine pressure from below but as an experiment which is frequently conceived as a research project and carried out under permanent observation by a team of researchers who are present throughout. Of course, institutionalized forms of participation (e.g., petitions calling for a referendum, hearings) continue to exist. In the context of ongoing technology controversies, though, one more frequently encounters a decontextualized form of lab participation that is removed from the life-world and takes place under elaborate methodological supervision. In addition, there is usually no likelihood that this kind of participation will meet with any political response.

Going a step further, we can connect this finding with recent sociological debates that have employed terms such as "society as a lab" and "real-life experiments" (see Krohn and Weyer 1994; Groß and Krohn 2005). This work has pointed out that practices of knowledge production which used to take place within an institutionally confined setting are now expanding to encompass the whole of society; either because the social world is being subjected to the hygiene conditions of the laboratory, in order to make it possible to use lab products there (Latour 1988), or because the whole of society is becoming a test object as the production of knowledge increasingly takes place in contexts of use (Krohn and Weyer 1994). This latter aspect is of particular interest for the issue being addressed here. Krohn and Weyer argue that alongside the abstract and decontextualized production of knowledge in lab experiments, or even in place of it, we are seeing a

concrete and risky kind of knowledge production which relies on field tests and experimental trials carried out under real-world conditions. They argue further that because the way technologies function, and their effects usually cannot be studied on a small scale in the laboratory, there is a growing trend toward experiments conducted *within, with, and on* society. This kind of expansion of science places a significant burden of risks on society—risks which in part cannot be justified, and which up until now have been more or less domesticated because science stopped at the boundaries of the laboratory.

It would be natural to assume that this kind of expansion of science into society is bound to trigger a stronger demand for participation. However, contemporary efforts to stimulate political and public debate show that this is not the case. Rather, it demonstrates that the role of public participation in matters of science and technology seems to be moving in the opposite direction. Formerly, participation in the form of protest had transgressed institutional boundaries and sometimes taken on militant forms in putting forward demands that laypeople should be included in debates on and decisions over research and technology. More recently, participation has acquired a small-scale, miniaturized form in which the public—externally organized—takes its allotted place sitting down at round table discussions. We can therefore conclude, *While society at large is becoming a laboratory in which knowledge is produced, public participation is retreating from society into the lab.*

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Notes

1. To avoid misunderstandings, this article draws on participatory exercises aiming at providing *policy advice* like in participatory technology assessment (Joss and Bellucci 2002). It does not deal with civic engagement in the field of *scientific research* (but see the influential work of Epstein 1996). The terms consensus conference and citizens’ conference are interchangeable. However, I prefer the

- latter because this participation model does not expect the lay citizens' deliberations to result in consensus.
2. For empirical research on protest movements, see Bauer (1995) and Rucht, Koopmans, and Neidhardt (1998).
 3. Even expert commissions are required to adopt this form of science communication. The former national ethics council of the United States (the President's Council on Bioethics set up by George W. Bush in 2001) was indebted "to provide a forum for a national discussion of bioethical issues" (Executive Order 13237, section 2). The task of the German Ethics Council, to give another example, is specified in the law setting it up as "informing the public and encouraging discussion in society, engaging the various social groups" (§ 2 Ethics Council Act), and the council fulfills this requirement by organizing regular public events.
 4. As one of the reviewers correctly noted, the idea of anticipating and facing public controversies by initiating public engagement projects at an earlier stage of technology development received considerable attention in science policy, especially in the case of nanotechnology (Karinen and Guston 2009; Kurath 2009). This upstream engagement aims at avoiding stalemates in technology controversies as experienced in the case of agribiotechnology. An insightful analysis of various engagement projects (Kurath and Gisler 2009) shows that this kind of anticipatory politics constitutes a special type of invited participation that is quite similar to my notion of lab participation.
 5. A well-structured overview of the most significant formats of participatory technology assessment can be found in Fiorino (1990), Rowe and Frewer (2005), see also Joss and Bellucci (2002) and Renn, Webler, and Wiedemann (1995); on more unusual formats, see Slocum (2003). For further discussion of various types of citizen panels with special regard to the issue of representation see Brown (2006).
 6. There are numerous analyses of lay participation, but these do not illuminate the concrete interaction processes (see Marris and Joly 1999; Purdue 1999; Hagendijk and Irwin 2006). This also applies to the relevant evaluations, which look exclusively at the formal qualities of the deliberations (Rowe, March, and Frewer 2004; Horlick-Jones et al. 2007; Guston 1999).
 7. The research project entitled "Expert knowledge, the public and political decisions" (2004-07) has been funded by the German Federal Ministry of Education and Research in the framework program "Knowledge for decision-making processes" and has been carried out at the Institute of Social Research in Frankfurt am Main and the Institute of Technology Assessment of the Austrian Academy of Sciences in Vienna. My habilitation project "Sociology of bioethical expertise" (2007-09) has been funded under the "Austrian Programme for Advanced Research and Technology".

8. And indeed, the media usually report on the procedure as a new method, not on any concrete results it may have produced (Hennen 2002).

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Bio

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