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Constructing the Urban Citizen: How Public Knowledge Is Translated into Urban Planning Processes

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From Deficit to Democracy and from the Rational to the Material: Public Engagement with Science and Planning

Since the establishment of planning legislation in Western societies in the second half of the twentieth century, public knowledge and interests have played a role in land use planning processes (e.g. Cullingworth 1993; Rydin 1999; Tanquerel 1992). In its legal origins, public participation in planning has been framed in terms of a rather technical format of a legally predetermined consultation of land owners. Its epistemic orientation has mostly followed a Habermasian approach of rationale discourse that is based on the idea that the various interests can be met by one solution (e.g. Healey 1997; Forester 1999; Rydin 1999). More recent trends point to more variegated ways of engaging citizens in urban planning processes. One of these trends, also termed as *material*

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participation, includes non-traditional, aesthetic, affective, experiential and irrational modes of expression, like pictures, songs, poetic imageries and intuitive, material and contextual knowledge that plays a role in planning decisions (Marres 2012; Rydin and Natarajan 2015; Davies et al. 2012; Metzger 2011). A second trend stands for mutual learning-oriented approaches that are based on the idea that planners can learn from citizens and that the city belongs to everyone (e.g. Brabham 2009; Lauwaert 2009; Hommels 2010).

By drawing on this recent trend of more material and mutual learning-oriented participation in urban planning—here termed as *public engagement with planning* (PEP), this chapter draws a parallel to public engagement with science (PES). In both fields, traditional, more one-way, public understanding or rational discourse-oriented communication approaches have been criticised and a turn towards more material and mutual learning-oriented lines of public engagement has been observed. While in planning, this turn stands for a shift from rather rational to more material and mutual learning-oriented approaches (e.g. Rydin 2003); in science, this turn has been conceived as a shift from “deficit” to “democracy” (Irwin 2014).

Furthermore, in planning the aim of public engagement from its origin was to *influence* the planning process, whereas in science public engagement was initiated with the idea to create public *acceptance* for science and technology endeavours.¹ Only later the idea of a public involvement in science and technology emerged, but as such remained a “problematic construction” as Irwin (2014, 74) has termed it.²

Thus, in science, the idea of public engagement emerged after the Second World War under the notion of *Public Understanding of Science* (PUS), with its aim to increase the public acceptability for “big science” projects (de Solla Price 1967). Due to its top-down and one-way communication orientation, its disregard of “civic epistemologies” and its epistemic basis in an expert–lay knowledge divide, this traditional science communication approach has been widely criticised as ill-defined and as a “deficit model” in STS (see e.g. Irwin and Wynne 1996; Wynne 1995; Wynne 1996; Hagendijk 2004; Hagendijk and Irwin 2006; Jasanoff 2005; Wynne 2006). These PUS criticisms and further science policy controversies have contributed to a turn towards a more dialogue-oriented science communication that has been framed under the notion of PES.

In particular, in context of emerging technosciences, like nanotechnology, a more equally and upstream-oriented engagement of the public at an early stage of technology maturity in science and technology-related decision-making has widely been propagated.³

Despite the contribution of PES to an apparently successful shift from science governance to a more complex perception of citizens' knowledge, several authors and PES proponents still draw a rather sceptical picture of such approaches, particularly with regard to their translation into the political process (Nowotny 2014; Jones 2014; Felt et al. 2012). Recent contributions point to the changing relationship between science, democratic and public legitimation (Chilvers and Kearnes 2016) and the temporal, global and sociocultural complexity in which engagement and claims for democracy normally take place (Irwin 2015; Irwin and Horst 2016; Felt 2016).

While PES has widely been discussed, particularly in STS literature, PEP hasn't been largely in the focus of STS analyses so far (exceptions are Davies et al. 2012; Karvonen and van Heur 2014; Hommels 2005).

In planning, comparable to PUS approaches in science communication, rationalist concepts of communicative planning, here termed as PUP, have been criticised as a rather technocratic, top-down or one-way-oriented communication approach. These PUP concepts are further criticised as disregarding the diversity, the individual contexts and situatedness, in which planning projects are normally embedded (Sandercock 1998; Fainstein 2000; Healey 2003). Also the establishment of a gap between expert and lay knowledge has been observed within both: the rational model of communicative planning (PUP) and PUS. Additional criticisms further argued that communicative planning has hardly contributed to a significant inclusion of public opinions and attitudes into the planning process (e.g. Schmid 1999) and that due to their epistemic basis on generating consensus among the involved actors, they are hardly able to reflect the multiple and pluralist facets of democratic societies (Michels 2010).

In the last decade and in parallel to PES initiatives in science communication, these criticisms of rationale planning led to a focus towards more material and mutual learning-oriented approaches of engaging citizens in planning-related decision-making—here termed as PEP—(Rydin 2003; Davies et al. 2012; Marres 2012).⁴ Through their inclusion of

non-traditional aspects of planning such as aesthetic, affective and experiential aspects, such PEP initiatives have been described as going beyond the traditional rational discourse approach (e.g. Rydin and Natarajan 2015). Comparable to PES also PEP has been related to the idea of democracy (Rydin 2007; Karvonen and van Heur 2014).

Thus, several planning offices in Western cities developed strategies for PEP. Such novel forms often take place outside of traditional meeting rooms at different spots in the city and act closer at the living environment of citizens, and they have been conceived as an acknowledged process to improve decision-making (Davies et al. 2012).

Against this background, it is argued here that science and planning are—despite their epistemic differences—comparable with regard to public engagement.⁵ Hence, in the deliberation of science and planning, a turn towards a more reflective, exchange and mutual learning-oriented way of listening and negotiating topics has been observed that incorporates civic epistemologies and takes up situational and material aspects. In science communication, these novel approaches have been challenged for their disconnection from science policy, the public disinterest in the discussion of rather technical topics and for their simplistic picture of science and democracy. In contrast, such novel approaches in planning have received little attention so far. This is where the subsequent analysis starts: by taking up these criticisms of PES, it analyses two case studies of PEP with regard to the ways they show similar shortfalls and with a twofold focus:

1. It analyses the ways the framings of the urban citizens—either in more rational or more engagement-oriented ways—have had an impact on the translation of the results of the two analysed engagement processes into planning-related decision-making.
2. It examines whether criticisms addressed in context of PES, like its disconnection from the political process, can also be found in PEP.

By doing this, this analysis draws on STS literature on PES, on PUS criticisms and on Irwin's (2001) concept of the "scientific citizen", with which he has studied constructions of citizens in public engagement with the biosciences. Hence, Irwin's (2001, 15) relational framing of his scientific citizen concept as the interaction between science and citizenship given

by the different conceptualisations and co-productions of “social processes”, “underlying assumptions” and “operational principles” is further developed for the needs of analysing constructions of citizens in urban planning—or as it is termed here, the *urban citizen*.

Social processes are here understood as the interaction of planners and citizens in PEP initiatives, including the question which planning stakeholders and what kind of citizens have been brought together and the “balance of information and consultation” and the amount of “activity” or “passivity” the participants are accorded. *Underlying assumptions* are conceived as conceptualisations, imaginaries and pre-framings of all the involved actors, related societal domains, namely cities, politics and the public, but also such of technical aspects, like the debated themes and topics in such PEP initiatives. *Operational principles*, finally, are here understood as the technical framework of such deliberative formats, like their institutional location, their communicative approach and their overall technical setting.

Taking this analytical framework and using the described parallels between science and planning with regard to public engagement, this chapter is based on the thesis that STS concepts to analyse PES, like the scientific citizen (Irwin 2001) can—despite their epistemic differences—be applied on the analysis of PEP.

For this chapter two cases of public engagement with urban planning were analysed, and both were collected within a larger research project.⁶ This project investigates zoning and plan development in urban planning in the five Western cities Amsterdam, Lisbon, Vancouver, Vienna and Zurich. Methods consist of participant observations (Emerson et al. 2001) in the related planning offices, document analysis, qualitative expert interviews (Bogner and Menz 2009) and workshop discussions with planners to validate the results (Lamneck 1995). The interviews were recorded, transcribed and—together with the research notes and the pictures—analysed using the method of content analysis (Emerson et al. 2011).

The cases analysed are two urban planning exhibitions⁷:

1. The “getting growth right” exhibition in Zurich from 2013
2. The “Vienna 2025 exhibition: developing the city in dialogue” from 2013/2014

In both exhibitions, citizens were included in the process of developing urban planning documents and both problematised urban growth. The Zurich exhibition was built around the regional development plan and the communal building and zoning code, both legal documents that aimed for a revision. The focus of the Vienna exhibition was on the drafting of a new urban development plan (Stadtentwicklungsplan/STEP), a strategic document that is used as a guide for urban planning decision-making.

From a methodological perspective, the documents in the focus of the two analysed public engagement initiatives differ from their technical and political character and their judicial commitment: while the regional development plan and the zoning code are legal documents, already pre-formulated by their precursors, the urban development plan is a strategic document, and without legal consequences its status is much more open and individually configurable. Furthermore, a zoning code revision involves more political steps than an urban development plan (see Sects. Zurich: “Getting Growth Right” and Vienna 2025: Developing the City in Dialogue). However, despite their differences, the two cases inform each other as both document revisions have been established within an urban planning exhibition and as both exhibitions clearly aimed at including citizens in the development of these urban planning documents.

Hence, the subsequent analysis is twofold: first, it studies how the urban citizen has been constructed in the two exhibitions and in the accompanying events and asks after the ways this framing influenced the translation of the results into the two planning documents. Second, it investigates whether criticisms addressed by STS scholars with regard to public engagement with science—like its disconnection from the political process—can also be found in the two analysed cases of PEP. This leads to the subsequent key questions of this research:

- What are the co-constitutions of the city, planning, the citizens and the planning specialists in these two exhibitions and in the related public events?
- In what way have planning knowledge, planning practice and public knowledge been related to each other?
- How did these two exhibitions construct “the urban citizen”, or more precisely, what were the social processes, the underlying assumptions

and the operational principles in the construction of the urban citizen in these exhibitions?

- Where have these exhibitions been institutionally located?
- How was the balance between information and consultation?
- What pre-framings of all the involved actors could have been observed? How active or passive could the citizens engage?
- What were the underlying social or technical assumptions?
- To what extent have the citizens' ideas and voices been included into the related planning documents? And in what way was urban planning conceived, as a technical, expert-driven or as a participatory process?

The next two sections discuss the two case studies with regard to the mentioned questions, and the last section will conclude on the framings of the “urban citizen” in the two cases and on the impact this framing had on the translation of the results into related decision-making processes.

Zurich: “Getting Growth Right”

In fall 2013 the city of Zurich published a revision of the regional development plan (Richtplan) and a partial revision of the building and zoning code (Bau- und Zonenordnung). Such a zoning code revision involves a decision from the city council (Stadtrat) after which the responsible counsellor—in the case of Zurich, the head of the building department (Hochbaudepartement)⁸—charges the related authority—in this case the office for urban planning (Amt für Städtebau)—to make a first draft that goes back to the building department. The planning and building law that indicates a public consultation of 60 days, before new or revised regional development plans or building and zoning codes come into force. The final version is to be approved by the legislative body of the city, the municipal parliament (Gemeinderat). The referendum is non-mandatory according to the planning and building law (ZH Lex LS 700.1 1975 #699). During this consultation the plans and codes need to be made publically accessible for 60 days and any interested person is allowed to comment on these in written form (ZH Lex LS 700.1 1975, § 7).

To engage public comments, the organisers from the office for urban planning decided to embed the consultation within four communicative approaches, including public events and documentation:

1. An exhibition with the title “getting growth right” (Wachsen, aber richtig), situated in a municipal building of the City of Zurich in the government district where the building department is located (Amtshaus IV);
2. Three reports, accompanying the exhibition;
3. Four panel sessions in the planning department; and
4. A related public lecture series entitled “growing pains”, organised by the University of Zurich and the Department for Urban Development (another municipal authority in the city of Zurich).

The citation below, extracted from the flyer to the “getting growth right” exhibition, points to a rather one-way communication-oriented framing of the citizens. It further hints to the underlying assumption that the planners decide on urban development and include the citizens to learn about their decisions. Thus, the major aim of the exhibition might have been that of informing citizens on current urban planning knowledge and the ways this has been included into the revisions of the regional development plan and the zoning code:

In the exhibition “getting growth right” Zurich people are invited to get a picture on the ways the city should develop and what this means for the regional development plan and for the building and zoning code. (Stadt Zürich 2013, 2, translated by the author)

The core of the exhibition was built around an existing vast three-dimensional wooden model of the municipal area of the city of Zurich, as it is used in architecture. This model is situated in the basement of the planning department (Fig. 6.1). It displays a detailed cubatory scheme of each building and a true-to-life reproduction of the urban natures; however, it excludes any urban infrastructures, as it is the custom in architecture models. This model was complemented with rectangular, coloured ceiling lamps, on which a selection of human activities and functions



Fig. 6.1 “Getting growth right” exhibition, cardboard model with coloured ceiling lamps and posters (photograph by author)

were made visible. By including these activities into the exhibition, the organisers point to a rather functionalist understanding of the city that, besides its material layers like buildings, natures and the free space, is also composed by some specific human activities.

The walls of the exhibition rooms were covered with posters. Those pre-framed the discourse by illustrating the spatial development aims of the city of Zurich. Each poster had a visually offset last section, summarising the content by a normative statement like “keeping growth right”, “Zurich stays Zurich” and “get involved”.

The poster with its last section saying “get involved” was one of the only ones that directly addressed the public and encouraged the visitors to comment on both revisions (that of the regional development plan and the partial zoning code revision). Thus, the pre-framing of the citizen’s contribution was rather narrow and positioned in the context of rationale discourse, namely by citizens who have the interest and the

ability to visit the exhibition and who are able to read and interpret quite complex plans and to write and to bring a personal attitude into a written statement (Figs. 6.2 and 6.3).

Furthermore, the floor of the exhibition was decorated with coloured bubbles, posing questions like “Which city do we want?” “Does this



Fig. 6.2 Poster at the exhibition (photograph by author)



Fig. 6.3 Bubbles on the floor of the exhibition room (photograph by author)

concern me?” “How dense is dense?” and “Is there space for everything?” Again, these questions rather appeared as rhetoric ones, as the visitors weren’t provided with a possibility to answer them. And again, urban planning topics have been summarised by relatively vague and general questions with unclear assignments of who poses these questions and where and in what way they can be answered.

As an additional communicative approach copies of publications were made available for inspection in the exhibition room, including the current and former zoning codes, plans and overviews. Several of these publications were sold at the exhibition, like a synoptic overview on the planned partial revision of the zoning code (CHF 29.60), an exemplification of the planned revision (CHF 37.), and the three publications “fairer” (gerechter), a historic overview on the development of zoning codes in Zurich; “further” (weiter), an overview on urban sustainability; and “more dense” (dichter), an outline of examples of urban densification (each CHF 25.). Within these publications, the planners were framed as

experts with clear strategies and written-down ideas of the ways they aim at developing the city. And the citizens were also indirectly framed as members of knowledge societies with abilities in not only reading texts but also rather complex plans and in being wealthy enough to buy these publications.

Beside the exhibition and the publications, the organisers hosted four public panel sessions in the planning department. These sessions that covered pressing issues like density, fairness, housing and labour were designed around a similar frame, namely, experts giving talks, a panel discussion and the audience that could ask questions after the panel discussion. Here, again we can see a rather imbalanced setting of top-down information—or one-way discussion, meaning that the citizens could only passively engage as audience and had to wait until the end of the panel discussion before they could raise their own questions.

As a fourth approach, the University of Zurich and the Department for Urban Development (Stadtentwicklung), which is located in another division of the city of Zurich administration, organised a public lecture series that problematised urban growth under the title “growing pains: societal challenges of urban development and its meaning for Zurich”. This series consisted of nine sessions that took place at different locations in the city, like at the University of Zurich, in the city hall, at the University of the arts, in a cinema, in a tramway, at an alternative culture centre and at two private locations in the city (Hengartner and Schindler 2014). By situating itself also outside of traditional places for such a lecture series—namely, the lecture hall—and included public transport and cultural centres, this lecture series was aimed at more complex and multifaceted perspective of citizens, the city and spaces of participation.

Immediately after the publication of the zoning code revision in the opening of the “getting growth right” exhibition, harsh critique and a media controversy emerged on the planned partial zoning code revision. Over 150 objections were made. In the media, the revision was considered as severely flawed. Several adaptations were seen as opposing the interests of most stakeholders, ranging from investors to housing cooperatives (e.g. NZZ 2014a). In October 2014, the city council issued a press release, in which it gave an overview on the substantially overworked

first draft of the zoning code revision (Stadt Zürich 2014). The city council has included a high degree of the objections that have been made by the public within the consultation process (e.g. NZZ 2014b, c).⁹

To sum up: Comparable to the PUS model in science communication, the “getting growth right” exhibition and the surrounding events were mainly technically, top-down and expert-driven framed. They followed a communication style that was based on information and understanding rather than on mutual learning. Furthermore, it excluded a wide range of citizens that, for example, lack abilities and interests in architecture and planning topics. Except for some events of the public lecture series, there was only little space for more exchange-oriented modes of deliberation.

The construction of the citizens changed between the lay person and the stakeholder. But even the lay persons were conceived as having a basic understanding of architecture and planning to follow the expert discourse. However, this framing changed, when the citizens acted within the predetermined frames of the consultation process and submitted an objection.¹⁰ Then the citizens were framed as stakeholders and the chances were high that their voice was included into the revision of the related documents.¹¹

Vienna 2025: Developing the City in Dialogue

In fall 2013 the city of Vienna opened the exhibition: “Vienna 2025: Developing the city in dialogue”, at its permanent urban planning information centre (Planungswerkstatt), which is located at an administrative building in the government district of the city of Vienna. A second phase of the exhibition started in spring 2014 and lasted until the end of summer 2014.¹² The reason for this exhibition was the design of a new urban development plan (Stadtentwicklungsplan/StEP) that was intended to be decided on in fall 2014 (MA18 2014b). This plan is, in contrast to the regional development plan and zoning code analysed in Zurich, not a legal document but an urban development vision that consists of strategies, principles and focal points. There are also fewer steps in the political process: the municipal parliament (Gemeinderat) charges the responsible authority, the planning department “Magistratsabteilung” (MA 18), with

composing an urban development plan, which after its termination is enforced by the municipal parliament.

As the quote below extracted from the flyer of the “Vienna 2025” exhibition shows, the Viennese planners have framed the StEP revision and the exhibition within a rather exchange and consultation-oriented framework. The organisers stressed the importance of the dialogue starting from the beginning of the process to secure a mutual understanding of urban development:

The decision of the Viennese municipal council on the StEP, scheduled in summer 2014, is the final step in a process, lasting more than two years. Within this process, a mutual understanding of the core challenges in the urban development of Vienna have been worked out. For securing the effects of participatory processes in the implementation, a constructive dialogue has been consequently applied from the beginning of the thematic elaboration of StEP 2025. (MA18 2014b, 4, translated by the author)

Thus, the consultation process started initially after the decision of the municipal parliament in 2011, to compose a new urban master plan and included a series of deliberative interactions. These started with a knowledge platform including six workshops. Within the following 18 months the urban development plan project was advanced with additional workshops and cross-section topics. From the beginning, the organisers showed a sensitivity to exchange and non-traditional modes of deliberation that included atmospheric, material and sonorous aspects, like music, locations outside of lecture hall and the planning department and diverse modes of articulation, like slam poetry and theatre, and they established a soundboard and a platform for a regular exchange with district representatives.

In early 2013, further deliberative approaches, like future talks, future labs, sounding boards, workshops as well as a teaching course and a website were established.¹³ These approaches showed a multidimensional and complex framing of the citizens by accounting for various age, education, gender, social and cultural backgrounds. Further events included everyday practices and colloquial discourses and operated closely at the living environment of citizens, like meetings that

have been developed in collaboration with concerned actors and citizen groups. In these meetings, they had the possibility to discuss topics like local urban sustainability agenda, the strategic development of Vienna, public transport and cycling.

The exhibition “Vienna 2025: developing the city in dialogue” was composed by an assemblage of diverse objects and interactive tools and was designed with the aim to address a wide range of citizens in terms of age, education, gender and cultural background. The exhibition combined visual and playful objects with highly interactive gadgets, like a panoramic terminal and a simulation game that enabled the visitors to act as decision-makers in the city. The exhibition further included a green city index, by which the visitors could compare the environmental achievements of cities around the globe and an interactive tool that showed the networking of urban spaces and green environments in the city, to which the visitors could contribute their own ideas and imaginations via a specific application. Audio guides informed the visitors on mobility and traffic topics and smart city mobility solutions (Fig. 6.4).



Fig. 6.4 Entrance of the exhibition (Source: <https://www.wien.gv.at/stadtentwicklung/veranstaltungen/ausstellungen/2013/wien2025/>; visited 02.10.2015)

Further discussion and public engagement events accompanied the exhibition, as for example, the screening of the movie *my favourite. n visions*, in which young people engaged with the future development of the Favoriten district. Another workshop located in the architecture and urban planning department at the TU Vienna (Vienna University of Technology) consisted of a presentation of the department's current research and a public discussion.

Also in its second phase, starting in spring 2014, the “StEP 2025” exhibition was accompanied by a series of events. They were organised to showcase and promote the upcoming urban master plan and discussed public engagement in the Viennese context. They included further non-traditional modes of deliberative interaction, closely related to everyday life (Fig. 6.5).¹⁴

The process brought up the idea of the StEP 2025 becoming an orientation toolkit with concepts and guidelines rather than a strategic master plan. The process further resulted in the selection of three thematic



Fig. 6.5 Panorama terminal at the Vienna 2025 exhibition (Source: <https://www.wien.gv.at/stadtentwicklung/veranstaltungen/ausstellungen/2013/wien2025/>; visited 02.10.2015)

concepts on *participation*, *mobility* and *public space* and the decision to elaborate a particular master plan to each of these themes. However, these ideas were abandoned during the elaboration process of the final document. On June 25, 2014, the municipal council of the city of Vienna issued its new urban master plan, in which it outlined its urban development strategy within a single document.

The new urban master plan is built up around four core sections, including (1) urban development, (2) the built environment, (3) growth and (4) network.¹⁵ In order to strengthen and further elaborate selected major topics from the master plan, four, instead of the originally identified three thematic concepts, have been established including *public space* and *mobility* as originally resulted from the consultation process. While *participation* was abandoned as a topic for an own master plan, new topics, including high-rise buildings and free and green space, have been identified as topics to be discussed further as a thematic concept.¹⁶

In general, the new urban master plan covers a high variety of topics. The multitude of covered themes and aspects might point to the broad public and actor group consultation. However, it is not obvious to trace back and specify the public impacts into the plan. Compared to its precursor document, which frames planning strategies in a rather rational style, the analysis of the StEP 2025 document points to a more complex conception of planning. Besides classic planning topics, like functions, building heights and infrastructure, the StEP 2025 also refers to atmospheres, social and aesthetic aspects, like flexibility, social and gender justice, integration, ecology and liveability (MA18 2014a). However, as the analysis of the MA18 (2014b) document shows, the translation of the multifaceted aspects, produced within the diverse events in the development process of the master plan, into a written version was difficult. Thus, the final master plan document formally appears as a report, mainly worked out by planning and urban design specialists but on the basis of public engagement. As it is indicated in the impressum of the report, only selected aspects from the public consultation process have been included in the final version of the STEP 2025 (MA18 2014a, 143). Aspects mentioned in the STEP 2025 report that haven't been included are ideas developed in the science slam event and in the *my favourite.n visions* movie. Furthermore, such subsumed under terms like "centre

landscapes”, “responsibility for the city” and “intergenerational liveability” haven’t found their way into the final version of the STEP 2025 either (MA18 2014b, a).

After the issuing of the new master plan ideas no observable public or media controversy emerged. News coverage was rather supportive and benevolent, except for a few experts who addressed a general criticism of participatory approaches in judging the vast dimension of the public consultation as facilitating the silencing of sceptical voices (e.g. Die Presse 2014; Vasari 2015). However, it might be problematic to trace back the absence of public controversy in Vienna on the comprehensive inclusion of citizens in the development process of the StEP 2025 only. The process might have created an atmosphere of participation in which critical voices were silenced because there was a general understanding that the process was participatory.

Compared to Zurich, where the negotiated plan was a legal document with considerable impact on the economic value of private property, the StEP is a strategic document only without such specific impact. Furthermore, the strategies, formulated within the StEP 2025 have been elaborated in rather general terms. Therefore, the overall framework provided within the StEP might not have given much target space.

To sum up, the deliberation process leading to the STEP 2025 urban master plan in Vienna showed awareness, openness and sensitivity to forms of deliberative interaction that operated closely at the living environment of citizens and thus included civic epistemologies at multiple levels. This has enabled a multifaceted framing of the citizen, including age, cultural, social and gender diversities. In these terms, the development process of a new urban master plan for Vienna emerged within a deliberative and mutual understanding-oriented framing, in which both the planners and the citizens actively contributed to the collection of ideas for the document.

The communicative balance of the exhibition and the related events was clearly on the side of dialogue and mutual understanding, and selected insights from this process were taken up into the final version of the master plan. Against this background, the STEP 2025 process can be framed as having included two steps: (1) generation of potential ideas in different participatory formats and (2) composing a new plan by experts

who used the collection of the ideas as a resource. Thus, despite its framing in a rather deliberative and upstream mode of public engagement, the analysis has shown that in the end the planners and municipal officers mainly framed the content of the master plan. This points to the difficulties of a translation of such a broad and multifaceted public consultation, including everyday life encounters, into an urban strategy, outlined in a written document. Furthermore, it remains to be seen in what ways the multifaceted visions expressed in the STEP 2025 master plan will be translated and taken up within specific urban planning projects.

Rational Democracies and Deliberative Deficits in the Translation of Public Knowledge into the Planning Practice

In both cities, Zurich and Vienna, urban development was problematised in terms of urban growth, and citizens were engaged in the revision of a planning document. While this document in Zurich was part of a legally pre-framed procedure to change the communal zoning code and the cantonal development code, the document discussed in Vienna was an informal urban master plan. In Zurich, the engagement of the public was limited to the frames of visiting an exhibition, to commenting (in written form) on an already pre-formulated first version of a zoning and development plan revision, to listening to panel sessions at the planning office and to a public lecture series that took place at different locations in the city. Furthermore, the citizens could formulate written comments to specific aspects in the pre-formulated documents. Thus, the balance of the exhibition, the panel and the public lecture series in Zurich was rather on the information than on the consultation side. Planners were conceived as the experts that frame the topics and the issues to be discussed.

In Vienna, the development process of a new urban master plan emerged within a more deliberative and dialogue-oriented framing, in which both the planners and the citizens contributed to the development of the document from the beginning. The process consisted of a multiplicity of activities, including two exhibitions at the urban

information centre “Planungswerkstatt” and the engagement of the citizens in accompanying workshops that consisted of site visits, movie screenings, discussions, science slams and other interactive elements. The balance of the exhibition and the related events was clearly on the deliberation and mutual understanding side, and the citizens could engage quite actively and contribute to shaping the urban development plan through different activities.

Rational, formal and one-way communication approaches in science and in planning have been challenged as a deficit model by STS scholars and planning theorists due to their omission of civic epistemologies. The Zurich case has mainly consisted of such a formal, predefined communication approach that informs citizens rather than to engage them. As it is legally intended, citizens’ objections had to be included into the revision of the zoning code document. However, since the objections were mainly made by expert or stakeholder citizens that provided the planners with rationale objections that could have been included into the revision of the document, the civic epistemologies included in this case remained rather narrow.

Also new and more democratic forms of PES have been criticised in recent STS literature for their difficulties in translating public knowledge into the political process. Whether these criticisms also apply to the Vienna 2025 public deliberation process can’t be determined at this juncture. This study has shown that Viennese planners included a multiplicity of citizens’ ideas into their urban planning strategy. However, despite the various topics the new urban master plan addresses on diverse levels, it remains unclear to what extent the knowledge produced in non-traditional modes of deliberative interaction, for example, the poetry slam and the movie screening, could have been included in the final version of the urban development plan. Further effects might lie in the creation of mini-publics around certain issues and that people with similar ideas, concerns and interests could have been brought in contact. However, it remains to be seen in what way the multifaceted visions expressed in the master plan will be translated into specific urban planning projects and legal documents.

In both cities, the urban citizen has been constructed as an informed and interested member of the knowledge society and knowledgeable to intervene in planning decision-making. In Zurich, particularly in the consulta-

tion process, when the citizens were meant to formulate written objections against the plan revisions, their construction changed from a lay person to that of a stakeholder. In this role, they were conceived as being further able to understand the rather complex planning issues and to formulate their own attitude towards the draft documents in written form. Thus, the urban citizen addressed in Zurich is able to follow expert talks, is wealthy enough to buy urban planning documents and, most importantly, is able to act as a stakeholder in formulating a written comment to the revision of the related documents. In Vienna, planners seem to attribute their citizens more abilities and possibilities in co-developing the city than in Zurich.

In contrast, the Viennese approach has enabled a more diverse framing of the urban citizen, including cultural, social, age and gender diversities. Also in Vienna a distinction between experts and citizens took place. But here it was not that the experts developed all the ideas and that the citizens could only react to them; in Vienna the citizens developed the ideas and the experts put the plan together based on them.

As the foregoing sections have shown, in both PES and PEP, one of the core concerns is the inclusion of public knowledge in the decision-making processes at an early stage of the discussion or, in other words, the *impact* or the *relevance* of public engagement. In both domains more reflective exchange and mutual learning-oriented ways of listening and negotiating topics that incorporate civic epistemologies and take up situational and material aspects have gained importance. While in PES these novel approaches have been challenged for their disconnection from science policy, the public disinterest in the discussion of rather technical topics and for their simplistic picture of science and democracy, such novel approaches in PEP have received only little attention in STS and planning theory so far.

However, due to the significant epistemic differences of science and planning, the link between PES and PEP provokes questions concerning their comparability and whether previous PES discussions really fit with the observed urban planning cases. Obviously a debate over GM food, nanotechnology or synthetic biology at a national level might differ considerably from that on a specific planning project in a neighbourhood of the home city, in terms of civic interest and impact. And in contrast to emerging technologies, planning topics are characterised by a genuine closure to the living environment of the involved citizens. In particular,

when such participatory events focus on a specific and localised planning topic, it is easier to generate public interest for such a discussion than on overarching planning strategies or emerging technologies. This is particularly the case when citizens feel that the knowledge generated within participatory events has relevance and impact on a specific planning decision. In both PES and PEP, a core concern often is its disconnection from politics and decision-making. This disconnection might even be stronger with science, which is often perceived in terms of autonomy and academic freedom, while each planning project is inherently dependent on external decisions and policies.

However, despite these divergences, the planning cases, particularly the Vienna case, have shown that more material and mutual learning-oriented participatory formats can provide results that can fruitfully inspire the political process. Particularly, the consideration of local contexts instead of national discourses, the relation on alternative discussion formats that also address emotions, material and situational issues and atmospheres, as well as the location of such events at places closer to the living environment of the citizens than auditoria and meeting rooms, might address a wider range of citizens. Acting at the local context and including more material aspects might particularly be a format to experiment with in complex PES issues, like such on emerging technologies and technoscientific developments.

Notes

1. See, for example, the *Public Understanding of Science* (PUS) paradigm, which has been based on the idea that the public acceptance of science and technology is related to public understanding of scientific topics (see e.g. Bodmer et al. 1985).
2. Public engagement with science (PES) has been conceived as a “problematic construction” (Irwin 2014, 74) that is not able to deliver its promises of a more democratic inclusion of citizens in science and technology-related decision-making (Stilgoe et al. 2014).
3. See, for example, Irwin and Michael (2003), Grove-White et al. (2004), Wilsdon and Willis 2004, Macnaghten et al. (2005), Kearnes et al. (2006), Kearnes and Wynne (2007), Felt et al. (2007).

4. Furthermore, recently increased public protests against large urban planning projects, like Stuttgart 21, the Media Spree Project in Berlin and the Gängeviertel in Hamburg, have been conceived as a claim for a more direct democratic orientation in planning-related decision-making, which traditionally has mainly been linked to indirect and representative approaches (Othengrafen and Sondermann 2015).
5. Similar parallels between science and planning have been drawn by Davies et al. (2012), who compare the criticisms addressed to citizen engagement in urban planning to those to citizen engagement in technoscience. Furthermore, Karvonen and van Heur (2014) draw on STS analyses of scientific laboratories to analyse urban planning projects as “urban laboratories”. Also Hommels (2005, 328) has pointed to interactions between technosciences and urban development.
6. This research is funded by the Swiss National Science Foundation (grant number 100013-146516).
7. Both exhibitions were held in German. All the subsequent translations of quotes, document titles and excerpts, as well as the title of the exhibitions are translations of the author.
8. The Hochbaudepartement of the city of Zurich is assigned with urban planning, built heritage conservation and urban archaeology (see <https://www.stadt-zuerich.ch/hbd.html>/visited 20.01.2016).
9. See https://www.stadt-zuerich.ch/hbd/de/index/.../bzo/bzo_teilrevision.htm (visited January 29, 2016).
10. Besides individual citizens, mainly land owners and also organisations that have a working lobby and experience in making their voices heard in these processes made objections, such as housing associations and owner organisations (interview source).
11. Hence, also the media controversy might have put a certain pressure on the office for urban planning to profoundly overwork the zoning code revision and to include a high degree of the objections made.
12. In Vienna urban information is institutionalised within the Magistratsabteilung (MA18). This department established the “Planungswerkstatt” as a permanent exhibition in an administrative building in the government district in 1989. From its beginning, the aim of this exhibition was to inform the public on urban planning projects, with quarterly changing topics (MA18 2009). Since 2010, when Vienna has a red–green coalition, the format of the Planungswerkstatt has considerably changed from an informative exhibition to a more interactive format. These exhibitions have covered current topics from the Viennese urban development

- process and have been complemented with interactive elements, such as round tables and presentations not only within the location of the Planungswerkstatt but also at selected sites in the city and abroad.
13. Particularly the future.labs were established as important forums in which further actors including organisations, corporations and institutions organised smaller events. The aim of the future.labs was to develop specific contents and positions on the urban development of Vienna. Within this format, the organisers were free in their thematic focus and the design of the deliberative interaction.
 14. Such events, for example, included a cabaret and a presentation on aging in the city, a participatory event on developing visionary ideas for a lively Vienna and a discussion evening of Caritas Vienna on social solidarity. They further consisted of a discussion of urban goods traffic, experimental research and teaching, as well as a science slam event (MA18 2014b).
 15. Urban development is framed in terms of strategic and legal instruments for urban and landscape planning, including principles for the future urban development in terms of liveability, social justice, gender equality, education, cosmopolity, prosperity, integration, ecology and participation. Strategies for developing the built environment include aspects like soft urban redevelopment and a focus on internal growth to protect attractive green and free space and support smart consumption of resources. Urban growth strategies are framed in terms of knowledge societies, European regional development, high-quality infrastructure and district development, especially with regard to the attraction of high-tech research and development firms. Strategies for developing networks include a strengthening of multifaceted mobility, urban green and free space, and social infrastructure (MA18 2014a).
 16. See <https://www.wien.gv.at/stadtentwicklung/strategien/step/step2025/fachkonzepte/> (visited January 20, 2015).

References

- Bodmer, W.S., et al. 1985. *The Public Understanding of Science*. London: The Royal Society.
- Bogner, Alexander, and Wolfgang Menz. 2009. *Experteninterviews: Theorien, Methoden, Anwendungsfelder*. Wiesbaden: Verlag für Sozialwissenschaften.
- Brabham, Daren C. 2009. Crowdsourcing the Public Participation Process for Planning Projects. *Planning Theory* 8 (3): 242–262.

- Chilvers, Jason, and Matthew Kearnes. 2016. Science, Democracy and Emergent Publics. In *Remaking Participation: Science, Environment and Emergent Publics*, ed. J. Chilvers and Matthew Kearnes, 1–28. London and New York: Earthscan-Routledge.
- Cullingworth, Barry J. 1993. *The Political Culture of Planning: American Land Use Planning in Comparative Perspective*. New York and London: Routledge.
- Davies, Sarah R., Cynthia Selin, Gretchen Gano, and Ângela Guimarães Pereira. 2012. Citizen Engagement and Urban Change: Three Case Studies of Material Deliberation. *Cities* 29: 351–357.
- de Solla Price, Derek J. 1967. *Little Science, Big Science*. New York: Columbia University Press.
- Die Presse. 2014. Stadtentwicklung in Wien: Mehr Wohnraum. *Die Presse*, January 29.
- Emerson, R.M., R.I. Fretz, and L.L. Shaw. 2001. Participant Observation and Fieldnotes. In *Handbook of Ethnography*, ed. Paul Atkinson, Amanda Coffey, Sara Delamont, John Lofland, and Lyn Lofland. Thousand Oaks: Sage.
- Emerson, Robert M., Rachel I. Fretz, and Linda L. Shaw. 2011. *Writing Ethnographic Fieldnotes*. 2nd ed. Chicago: University of Chicago Press.
- Fainstein, Susan. 2000. New Directions in Planning Theory. *Urban Affairs Review* 35 (4): 451–478.
- Felt, Ulrike. 2016. The Temporal Choreographies of Participation: Thinking Innovation and Society from a Time-Sensitive Perspective. In *Remaking Participation: Science, Environment and Emergent Publics*, ed. Jason Chilvers and Matthew Kearnes, 178–198. London and New York: Earthscan-Routledge.
- Felt, Ulrike, Brian Wynne, Michel Callon, Maria Eduarda Gonçalves, Sheila Jasanoff, Maria Jepsen, Pierre-Benoît Joly, et al. 2007. *Taking European Knowledge Society Seriously*. Luxembourg: European Commission.
- Felt, U., J. Igelsböck, A. Schikowitz, and T. Völker. 2012. Challenging Participation in Sustainability Research. *International Journal of Deliberative Mechanisms in Science* 1 (1): 4–34.
- Forester, John. 1999. *The Deliberative Practitioner: Encouraging Participatory Planning Processes*. Cambridge, MA: MIT Press.
- Grove-White, Robin, Matthew Kearnes, Paul Miller, Phil Macnaghten, James Wilsdon, and Brian Wynne. 2004. Bio-to-Nano? Learning the Lessons, Interrogating the Comparison. A Working Paper by the *Institute for Environment, Philosophy and Public Policy*, Lancaster University and Demos. Lancaster: Demos/Lancaster University.
- Hagendijk, Rob P. 2004. The Public Understanding of Science and Public Participation in Regulated Worlds. *Minerva* 42: 41–59.

- Hagendijk, Rob, and Alan Irwin. 2006. Public Deliberation and Governance: Engaging with Science and Technology in Contemporary Europe. *Minerva* 44: 167–184.
- Healey, Patsy. 1997. *Collaborative Planning: Shaping Places in Fragmented Societies*. London: Macmillan.
- . 2003. Collaborative Planning in Perspective. *Planning Theory* 2 (2): 101–123.
- Hengartner, Thomas, and Anna Schindler, eds. 2014. *Wachstumsschmerzen. Gesellschaftliche Herausforderungen der Stadtentwicklung und ihre Bedeutung für Zürich*. Zürich: Seismo.
- Hommels, Anique. 2005. Studying Obduracy in the City: Toward a Productive Fusion Between Technology Studies and Urban Studies. *Science, Technology & Human Values* 30 (3): 323–351.
- . 2010. Changing Obdurate Urban Objects: The Attempts to Reconstruct the Highway through Maastricht. In *Urban Assemblages: How Actor-Network Theory Changes Urban Studies*, ed. Ignacio Farias and Thomas Bender, 139–160. London: Routledge.
- Irwin, Alan. 2001. Constructing the Scientific Citizen: Science and Democracy in the Biosciences. *Public Understanding of Science* 10 (1): 1–18.
- . 2014. From Deficit to Democracy (Re-Visited). *Public Understanding of Science* 23 (1): 71–76.
- . 2015. On the Local Constitution of Global Futures: Science and Democratic Engagement in a Decentred World. *Nordic Journal of Science and Technology* 3 (2): 24–32.
- Irwin, Alan, and Maja Horst. 2016. Engaging in a Decentred World: Overflows, Ambiguities and the Governance of Climate Change. In *Remaking Participation: Science, Environment and Emergent Publics*, ed. Jason Chilvers and Matthew Kearnes, 64–80. London and New York: Earthscan-Routledge.
- Irwin, Alan, and Mike Michael. 2003. *Science, Social Theory and Public Knowledge*. Maidenhead, Berks: Open University Press.
- Irwin, Alan, and Brian Wynne. 1996. *Misunderstanding Science? The Public Reconstruction of Science and Technology*. Cambridge: Cambridge University Press.
- Jasanoff, Sheila. 2005. *Designs on Nature: Science and Democracy in Europe and the United States*. Princeton, NJ: Princeton University Press.
- Jones, Richard A.L. 2014. Reflecting on Public Engagement and Science Policy. *Public Understanding of Science* 23 (1): 27–31.

- Karvonen, Andrew, and Bas van Heur. 2014. Urban Laboratories: Experiments in Reworking Cities. *International Journal of Urban and Regional Research* 38 (2): 379–392.
- Kearnes, Matthew, Phil Macnaghten, and James Wilsdon. 2006. *Governing at the Nanoscale. People, Policies and Emerging Technologies*. London: Demos.
- Kearnes, Matthew, and Brian Wynne. 2007. On Nanotechnology and Ambivalence: The Politics of Enthusiasm. *Nanoethics* 1 (2): 131–142.
- Lamneck, Siegfried. 1995. *Qualitative Sozialforschung: Band 2 Methoden und Techniken*. Weinheim: Beltz.
- Lauwaert, Maaïke. 2009. Playing the City: Public Participation in a Contested Suburban Area. *Journal of Urban Technology* 16 (2): 143–168.
- MA18. 2014a. STEP 2025: Stadtentwicklungsplan Wien. Vol. Beschlossen vom Wiener Gemeinderat am 25. Juni 2014. Wien: Magistratsabteilung der Stadt Wien, MA 18: Stadtentwicklung und Stadtplanung.
- . 2014b. Wien 2025: Im Dialog Stadt entwickeln. Eine Ausstellung in der Wiener Planungswerkstatt. Wien: Magistratsabteilung der Stadt Wien, MA 18: Stadtentwicklung und Stadtplanung.
- Macnaghten, Philipp, Matthew Kearnes, and Brian Wynne. 2005. Nanotechnology, Governance and Public Deliberation: What Role for the Social Sciences. *Science Communications* 21 (2): 1–24.
- Marres, Nortje. 2012. *Material Participation: Technology, the Environment and Everyday Publics*. Basingstoke: Palgrave.
- Metzger, Jonathan. 2011. Strange Spaces: A Rationale for Bringing Art and Artists into the Planning Process. *Planning Theory* 10 (3): 213–238.
- Michels, Christoph. 2010. *Räume der Partizipation: Wie man ein Kunstmuseum inszeniert*. St. Gallen. Bamberg: Difo-Druck.
- Nowotny, Helga. 2014. Engaging with the Political Imaginaries of Science: Near Misses and Future Targets. *Public Understanding of Science* 23 (1): 16–20.
- NZZ. 2014a. Kritik an Revision der Zürcher Bau- und Zonenordnung: Architekten planen für den Papierkorb. *Neue Zürcher Zeitung (NZZ)*, February 7.
- . 2014b. Revidierte Bau- und Zonenordnung: Die wichtigsten Korrekturen. *Neue Zürcher Zeitung (NZZ)*, October 29.
- . 2014c. Zürcher Bau- und Zonenordnung: Zürichs Stadtrat krebst zurück. *Neue Zürcher Zeitung (NZZ)*, October 29.
- Othengrafen, Frank, and Martin Sondermann. 2015. Konflikte, Proteste, Initiativen und die Kultur der Planung—Stadtentwicklung unter demokratischen Vorzeichen? In *Städtische Planungskulturen im Spiegel von*

- Konflikten, Protesten und Initiativen*, ed. Frank Othengrafen and Martin Sondermann. Berlin: Planungsrundschau.
- Rydin, Yvonne. 1999. Public Participation in Planning. In *British Planning 50 Years of Urban and Regional Policy*, ed. Barry Cullingworth, 184–197. London: The Athlone Press.
- . 2003. *Conflict, Consensus and Rationality in Environmental Planning*. Oxford: Oxford University Press.
- . 2007. Re-Examining the Role of Knowledge within Planning Theory. *Planning Theory* 6 (1): 52–68.
- Rydin, Yvonne, and L.C. Natarajan. 2015. The Materiality of Public Participation: The Case of Community Consultation on Spatial Planning for North Northamptonshire, England. *Local Environment*. doi:[10.1080/13549839.2015.1095718](https://doi.org/10.1080/13549839.2015.1095718).
- Sandercock, Leonie. 1998. *Towards Cosmopolis: Planning for Multicultural Cities*. Chichester, UK and New York: J.Wiley Reprint.
- Schmid, Oliver. 1999. *Verhandlungsorientierte Verfahren in der Raumplanung*. Zürich: Institut für Orts-, Regional- und Landesplanung.
- Stadt Zürich. 2013. *Wachsen, aber richtig. Öffentliche Auflage und Ausstellung zur Überarbeitung des regionalen Richtplans und zur Teilrevision der Bau- und Zonenordnung der Stadt Zürich*. Zürich: Hochbaudepartement der Stadt Zürich.
- . 2014. *Teilrevision der Bau- und Zonenordnung der Stadt Zürich, BZO 2014, Änderungen der Bauordnung (Synoptische Darstellung)*. Stadt Zürich: Hochbaudepartement, Amt für Städtebau (AfS).
- Stilgoe, Jack, Simon J. Lock, and James Wilsdon. 2014. Why Should we Promote Public Engagement with Science? *Public Understanding of Science* 23 (1): 4–15.
- Tanquerel, Thierry. 1992. Les modalités d'intervention du public dans les choix d'aménagement : le point de vue du droit. In *La négociation: son rôle, sa place dans l'aménagement du territoire et la protection de l'environnement*, ed. Jean Ruegg, Nicolas Mettan, and Luc Vodoz, 59–78. Lausanne: Presses polytechniques et universitaires romandes.
- Vasari, Bernd. 2015. Die große Neuordnung auf der Straße. *Wiener Zeitung*, February 3.
- Wilsdon, James, and Rebecca Willis. 2004. *See-Through Science: Why Public Engagement Needs to Move Upstream*. London: DEMOS.
- Wynne, Brian. 1995. Public Understanding of Science. In *Handbook of Science and Technology Studies*, ed. Sheila Jasanoff, Gerald E. Markle, James C. Petersen, and Trevor Pinch, 361–388. Thousand Oaks: Sage.

- . 1996. May the Sheep Safely Graze? A Reflexive View of the Expert-Lay Knowledge Divide. In *Risk, Environment and Modernity: Towards a New Ecology*, ed. Scott Lash, Bronislaw Szerszynski, and Bryan Wynne. London: Sage.
- . 2006. Public Engagement as a Means of Restoring Public Trust in Science: Hitting the Notes, But Missing the Music? *Community Genetics* 9: 211–220.
- ZH Lex LS 700.1. 1975. Kanton Zürich: Planungs- und Baugesetz (PBG) vom 7. September 1975.

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