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Shaping Places Online

Exploring the potential of the Internet for public engagement in spatial local governance

ACADEMIC DISSERTATION
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UNIVERSITY OF TAMPERE
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Summary

This study explores civic uses of the Internet in the context of spatial local governance in the city of Tampere, Finland. During the last ten years I have been involved in experimenting with novel Internet practices for public participation, and the study builds upon these participatory initiatives. The Internet and spatial technologies have been assumed as means to give a voice to the public and widen the knowledge base that informs planning. In this study I investigate empirically how the potential of the Internet and spatial technologies for public engagement is actualised in practice. The aim of the study is to understand the dynamics in play when the Internet is utilised to engage the public in urban planning and neighbourhood development processes. Methodologically I build upon interpretive policy analysis and science and technology studies. These traditions offer means to approach meaning-making and knowledge production as local, socio-cultural, and material practice.

The study comprises three cases. A dispute over building a bridge over the Tammerkoski rapids is the first of these. The analysis identifies four different ways in which people utilised the Internet during the dispute. The results suggest that the Internet facilitated challenging the local consensus-seeking and streamlined culture of governance. The second case introduces a citizen panel in Tesoma neighbourhood. The panel was established to explore novel ways of participation in the context of neighbourhood development. The results show that the form of information and the form of access to information are crucial to enhance meaningful interaction between residents and city administration. The third case concerns the planning process of Nurmi-Sorila neighbourhood. An online discussion forum in which people could geographically reference their statements was set up to elicit first-hand knowledge about the local characteristics of the place. The results indicate that the production of knowledge from geo-referenced public discussion is not a straightforward task. First, geo-referenced discussion provides multimodal means of meaning-making, which introduces ambiguity to the interpretation. Second, a particular type of knowledge is generated, where issues intended for public articulation are prominent and intimate experiential knowledge of place is overshadowed. Third, knowledge generated by the public is transformed as a result of planners’ practical reasoning.

The cases reveal how the actualisation of the potential of the Internet for public engagement in spatial local governance relies on the interplay between: (1) the issues,
consisting of meanings and knowledge evoked in specific episodes of spatial local governance; (2) the actors who become engaged with generating and negotiating over those meanings, and; (3) the communicative settings generated to engage with the production of knowledge and sharing of meaning, and settings of which in turn actively generate capacities for these activities. This tripartite dynamics serves as useful heuristics to assess the instruments of public engagement as forms in the making. It outlines elements that show how the potential is actualised in specific situations of governance, while embedded in the broader culture of governance. To accompany this dynamics, the study also introduces three dimensions concerning the potential of the Internet for public engagement. The interactional dimension refers to the arrangement of the communicative situation between different actors in a communicative setting. The organising dimension refers to the ways and forms in which information is stored and how it can be accessed. The expressive dimension refers to different modalities of articulation. The results suggest that particular configurations of the interactional, organising, and expressive dimensions in locally specific circumstances have a critical influence on how the Internet facilitates or constrains negotiation over meanings and mobilisation of different forms of knowledge.
Tiivistelmä


Tapaukset avaavat kuinka Internetin potentiaali todellistuu kansalaisten osallistumismenettelystä vuorovaikutuksessa, jota määrittävät: (1) Julkiset kysymykset, koostuen niistä merkityksistä ja tiedosta, jotka tulevat esiin spesifisesti tilan käytröä koskevan hallinnan tilanteissa; (2) Toimijat, jotka ryhtyvät tuottamaan näitä merkityksiä ja neuvottelemaan niistä; (3) Kommunikatiiviset puitteet, joita luodaan merkityksen rakentamiselle, ja jotka vastavuoroisesti luovat uusia kykyjä tuottaa merkityksiä. Tämä kolmiokaaren dynamiikka toimii hyödyllisenä heuristisena apuvälleenä, jonka avulla kansalaisten osallistumisen teoriaa voidaan jatkuvasti tarkastella ja alati muuntaa suoraan. Dynamiikka hahmottelee niitä tekijöitä, jotka näyttävät kuinka potentiaali aktualisoituu tilanteisesti hallinnan käytännöissä huomioiden samalla kuitenkin laajemman hallinnon kulttuurin. Tähän dynamiikkaan liittyy myös kolme ulottuvuutta, jotka tutkimukseni erittelee. Vuorovaikutuksen ulottuvuus viittaa toimijoiden välisen kommunikatiivisen tilan järjestelyihin tietyissä kommunikatiivisissa puitteissa. Organisoinnin ulottuvuus viittaa erilaisiin tapoihin ja muotoihin, joissa informaatiota tallennetaan ja tehdään saavutettavaksi. Ilmastunulottuvuus viittaa erilaisiin artikuloinnin ja argumentoinnin muotoihin. Tutkimukseni tulokset esittävät, että näiden ulottuvuuksien erilaisilla jäsentymisillä on suurta vaikutusta siihen miten Internet edesauttaa tai rajoittaa neuvottelua merkityksistä ja erityyppisen tiedon mobilisointia paikallisessa, tilankäyttöä koskevassa hallinnassa.
Original publications and manuscripts


"I do not think citizens would have the necessary skills to make appropriate designs," said a senior planner after citizens had made visualisations of a bridge that was to be constructed in the city centre of Tampere, Finland. How had we come to this situation? Ordinary people do not usually design bridges, so why had this professional been sucked into a situation where he needed to bother with such an odd question? The question came up in one of the interviews that I conducted with central actors involved in a dispute about building a bridge over the Tammerkoski rapids that traverse the centre of this Finnish middle-sized city.

Many people did not take kindly to the city’s intention to construct a bridge, and a civic movement against the plan started to form at the end of the 1990s. During the planning process, the city of Tampere commissioned an engineering firm to produce visual material to illustrate how the bridge would look like if built. The visualisations were published in the main local newspaper Aamulehti. In response, the citizens produced their own visualisations and published them on the website that had been created for storing information and public debate about the bridge issue. The active citizens felt that the engineers’ visualisations did not convey a correct picture of what the bridge and its surroundings would really look like. The viewpoint of the engineers’ images was from the middle of the rapids, from a point where nobody would normally see the bridge. By contrast, the bridge was depicted from a pedestrian viewpoint in the citizens’ visualisations, illustrating what the bridge would look like in daily life.

The bridge was never built. It was not just the visualisations that caused the original plan to be abandoned. In addition, people had many other means, some of which took advantage of the Internet and others that did not, to influence the decision-making and planning of the bridge. However, the visualisation episode is an example how the Internet and visual means of illustrating spatial matters made a difference.

1 Here I paraphrase a little for the sake of the story. A more exact translation from the original Finnish interview would be: “I don’t really think that some individual citizen, surely they are then a little bit unsophisticated, if you are not in some kind of profession where it is your task to make them. I will not start making a visualisation, because I will not be able to make one. Clearly there is an own special skill involved in it.”
in the process. By designing their own visualisations and by publishing them on the Web, people could illustratively articulate the issue from their perspective.

The episode of bridge visualisations is a telling example of civic use of the Internet in the context of spatial local governance, a term I use to refer to different ways of organizing collective action on issues that become specified in spatial terms at the local level. This study delves into episodes of governance such as that regarding the visualisation of the bridge. My aim is to explore the potential of the Internet for public engagement in spatial local governance. The visualisations show how the Internet may contribute to civic agency in this context, but it is only one example. To better understand how the Internet performs in terms of engaging citizens in the practice of spatial local governance, we need more examples that unfold other characteristics while being contextually interlaced. Since the bridge dispute, I have taken part in various processes where the aim has been to systematically facilitate public engagement by utilising the Internet in land use planning and neighbourhood development (see Chapter 2). The findings from that experimentation are reported in this study.

**The potential of the Internet for public engagement as an object of research**

The question of more inclusive policy-making and planning in the context of urban planning and neighbourhood development is persistent. This indicates both that there is good reason to include citizens in spatial policy making and planning of cities and that there are no simple solutions to this question. The bridge visualisation episode presents aspects of the question that recurred when analysing different cases and situations.

First, *politics of meaning*: People were not only interested in the bridge as a physical structure; they valued the place where the bridge was supposed to be constructed and therefore used the Web and visualisations to generate symbolic meanings of the environment. Thus the episode provides an example of how the place, and values associated with it, became politicised through novel visual use of the Internet. Second, *politics of knowledge*: The episode highlights a particular mode of expression in which

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3 I use the term spatial local governance to include a wide variety of activities from strategic spatial planning to everyday interaction on more mundane matters between residents and administrators regarding physical qualities of places, such as reporting broken streetlights. By including the term spatial I limit my focus to issues that are essentially spatial and pertain to the physical and socio-cultural qualities of particular places. Thus issues relating to the city as a whole, such as budget planning are excluded. Of course such issues may matter in spatial local governance, but if they do, they become locally contextualised in the shape of factors that may have an effect in specific neighbourhoods or places. The focus is on issues that are articulated in location-specific terms (cf. Madanipour, Hull & Healey 2001 on governance of place).

4 Dahlgren (2006, 269) has defined citizenship as “a mode of social agency within the context of pluralistic interests”. I lean on this neo-republican definition in which citizenship is not considered only as a legal status. In the text I use people and citizens interchangeably; from my perspective people become citizens as they act towards collective issues in public.

4 It is from the field of spatial planning where the questioning of classical-modernist institutions of policy making by means of public participation took off in the 1960s. At that time, the idea of central planning by applying technical rationality was prominent. However, this did not produce results without harmful side-effects and consequences, and since then, the public has been called to participate. However, in different countries and contexts legislation and procedures that align a role for public participation within classical-modernist institutions have not been successful in making spatial policy-making and planning more robust (Innes & Booher 2004; Hajer 2009).
local knowledge about qualities of place was mobilised and framed. With the visualisations people aimed at challenging the expert knowledge in the planning process, in this case the images provided by the engineering firm. Third, politics of communicative space: The episode is an example of how a specific local situation, where a new element to the familiar environment was introduced, prompted people to engage with the issue and constitute the Internet as a public space, as a communicative setting where symbolic meanings of place could be articulated and local knowledge mobilised.

These three aspects are intertwined but serve different purposes in the study. The politics of communicative space will serve as the analytical focus against which I consider how meanings and knowledge are generated.

Negotiation over meanings and mobilisation of different knowledge resources are crucial because a city does not constitute an integrated whole. Instead, cities are multiple; they are not static, but always in a state of becoming (Amin & Thrift 2002). Different actors make sense of this multiplicity from their own points of view, or imaginations, as Patsy Healey (2010) has proposed. Almost spontaneously, mutually exclusive decisions have to be made in spatial local governance where different actors have strong vested interests, stakes, and ways of framing and defining problems; tension and conflicts are common and need somehow to be settled (Healey 1997; Hajer 2003).

Spatial local governance is about negotiating qualities of place that consist of a complex array of meanings attached to places, and about using these meanings to maintain, abolish, or transform physical environments (cf. Madanipour et al. 2001). Some of the meanings are complementary and some are contested. Policy-making and planning not only address problems that need to be solved, but in the processes of governance actors give symbolic meanings to the environment. Governance relies on the authoritative enactment of meaning (Hajer 2009), and the challenge in spatial local governance is to act at the intersection of multiple perspectives. Spatial planning and policy-making should take account of different types of knowledge, both those which rely on statistical and technical data and those which are based on phenomenological accounts of life, and take action at the intersection of political-economic and aesthetic-cultural considerations (Madanipour et al. 2001). In consequence, there are strong arguments for public engagement in these issues. First, from the perspective of justice public participation makes sense; the decisions directly affect the living conditions of citizens. Second, the instrumental rationale suggests that the closeness to the context of the matters that are decided makes the inclusion of citizens’ experiential, non-professional, knowledge plausible (Jacobs 1961; Krinsky 1984; Fischer 2000).

Innovations in information and communication technologies in recent decades, especially in the form of the Internet and spatial technologies such as geographic information systems (GIS), have been proposed as means toward more inclusive urban

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5 Following Haila (2008), I consider that each type of knowledge consists of three dimensions: (1) matters of fact, something that is known; (2) a system or method to invoke matters of fact, and; (3) a normative framework because both systems of knowledge and matters of fact rely upon social interpretation. This also means that knowledge is tied to activities that actors deal with by utilizing shared repertoires, that is, knowledge intertwines with practice.
governance. They are assumed to offer new options for public engagement to reinforce democracy and widen the knowledge base behind planning and policy-making. However, there have recently been calls to build up a realistic understanding of the conditions and contexts that shape and transform the net as a resource for civic life (Dahlgren 2009). Authors have explicitly called for case studies to tackle the appropriation for civic uses of the Internet practices (Coleman & Blumler 2009; Dahlgren 2009) and spatial technologies in real-life settings (Rinner & Bird 2009). It is to this problem space that I contribute; the bridge dispute started a research process during which I analysed a variety of cases of experimentation with civic uses of the Web in practices of spatial local governance in the city of Tampere, Finland. The in-depth case studies span the last ten years, and this thesis summarizes and synthesizes the findings from that venture.

The study is exploratory in nature. The reason is clear; the complexity of social processes means that unfolding events interact with new initiatives and experimentation. For example, the way in which the Internet in conjunction with the visualisations figured in the bridge dispute was not predetermined but a result of particular practices and settings generated during the planning process in a specific cultural, geographical, and political context. This implies that the feasibility of the Internet for public engagement in spatial local governance should not be considered in a deterministic fashion. Rather, the potential of the Internet emerges from and is performed in socio-material practices.

From this perspective we can try to ascertain how the Internet and related technologies acquire specific qualities (cf. Grint & Woolgar 1997; Akrich 1992). This is not to say that technologies are insignificant, only that their significance relies on processes and practices, or on local improvisations, as Lucy Suchman has suggested: “improvisational activities are the generative practices out of which new technologies are made” (2002, p.139). Any simple perception, for example of the Internet as a tool ready to be utilised in particular tasks, is inadequate. Yet this does not imply that anything is possible with whatever technologies in whichever circumstances. The materiality of technologies lends them to afford certain things. The fundamental assumption in terms of the present study is that the Internet as a media technology affords constituting settings of interaction and communication.

I explore the potential in the context of spatial local governance by addressing the following research questions:

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6 See articles II and III for a review of these propositions. More specifically, see Budge (1993; 1996), Hague & Loader (1999), and Axford & Huggins (2001) for a discussion about democratic possibilities and constraints in general. For overviews discussing the participatory potential of spatial information, see Sieber (2006), Craig et al. (2002), and Jankowski (2009).

7 Here I am referring to the performativity of technology and the constitutive entanglement of the social and the material (Barad 2006; Latour 2005). The Internet, like all technologies, obtains its shape and meaning only through practices it is drawn into (Pickering 1995; Pels et al. 2002). In other words, the actualisation of the Internet’s potential, its agency, can be seen as a relational achievement of different entities, human and non-human, spun in webs that give shape to practices (Law & Mol 2008; Suchman 2006).

8 To use the language of relational materiality, being a tool is an effect of the associative network that is performed into being by heterogeneous elements.
• What characterizes the communicative settings provided by the Internet in specific episodes of governance?9
• What qualities of these communicative settings facilitate or impede negotiation over meanings?
• What qualities of these communicative settings support taking account of different types of knowledge?
• What are the ways in which these qualities play a part in specific episodes of governance?
• What other elements determine the way in which the Internet is constituted as a communicative setting for public engagement?

I do not believe in simple technical fixes. Instead, I explore the dynamics in play. Exposing the underlying conditions and characteristics of particular situations can provide insight for the further development of the Internet in the context of spatial local governance. Moreover, the study seeks to develop conceptual and methodological insights to understand this dynamics.

Research strategy: methodology and analytic frame

The thesis builds upon five separate studies for which three distinct cases, all of them in the context of Tampere, provide empirical material. The first of the cases has been introduced already. It is the environmental dispute about building a bridge over the Tammerkoski rapids in the centre of town (Article I). The second is a participatory action research project with a citizen panel in the suburban neighbourhood of Tesoma (Article II). Third case (Articles III, IV) introduces a local master plan process in the peri-urban area of Nurmi-Sorila, where a novel instrument of participation was used to initiate public discussion. In addition, one of the articles (V) compares the process in Nurmi-Sorila with another one where the planning process started very differently in terms of the procedures of public participation.

The research problem requires exploration and experimentation, and consequently calls for a case study approach. By exploring various practical cases I aim to identify how the Internet and spatial technologies function in and shape participatory urban governance. This exploration helps in identifying factors that may be applied to other situations by analogical reasoning and generalisation (Haila & Dyke 2006; Smaling 2003). By taking a case study approach, I believe in "the power of the good example", which is often underestimated compared to formal generalisation as a source of scientific reasoning (Flyvbjerg 2001)10. Details of particular cases can tell much more than what is often acknowledged (Jacobs 1961). This means that the

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9 I refer with episodes to events and activities around some particular issue of spatial local governance in which the Internet is utilised. Episode of governance is not identical to planning process. The term allows a focused gaze on particular activities and events in which the Internet is used within planning and urban development processes.

10 See also Flyvbjerg’s (2001) discussion on how Galileo’s experiment from the leaning tower of Pisa can be taken as a single case study that is able to refute Aristotle’s law of gravity.
cases can be taken as phenomena in their own right, without obligation to represent something larger. As Law and Mol (2002) suggest: “they may sensitize the reader to events and situations elsewhere that have not been recognized so far and that may well be improbable. (p.15)”

By exploring different cases I do not wish to reduce the complexity to any single narrative. My aim is to open up the problem space by illustrating the multiplicity that is present in complex issues. In other words, I try not to be an omniscient narrator; instead the aim is to let the episodes unfold relevant aspects and contrasts in the story (Flyvbjerg 1998).

Accordingly, the concepts I use in each of the articles form a mixed bag. The most important reason for this is the diversity of cases; each study is individual with its own research question, and hence they present different kinds of problems both methodologically and conceptually. In consequence, the particular concepts and specific methods used in individual studies were considered parallel with the case at hand. This was done reflecting on what any particular case would be about and what can be understood in light of this or that case; the guiding principle can be expressed in the form of the question: “what is this case a case of?” (Flyvbjerg 2001), and Wagenaaar’s further elaboration: “in which case is this case a case of?” Chapter 2 describes the choices made for each of the individual studies.

Even if individual studies have their own problem-oriented framing, the separate cases converge on certain aspects. First, all cases relate to people’s attempts at and considerations about using information and communication technologies to affect the future state of the local environment. Means to do so will vary case by case, and of course, one of the aims of the study is to describe this repertoire and discuss why and how they were used and to what effect. Second, all cases take place in the city of Tampere or its surroundings. In other words, the context is coherent. Third, they all occur within the same temporal frame, from 1998 to 2008, when certain societal processes where going on in Finland and in Tampere. Fourth, they all included an intervention of academic research that attempted to improve civic use of the Internet.

My own involvement in the experiments has been a crucial element in the research strategy. I consider that this is in line with Hajer & Wagenaar’s (2003) call for change in policy analysis from inventing solutions for society to formulating feasible understanding by actively participating in the messiness of policy practice. The extent and nature of my own involvement varies from case to case, from following a policy-making process (I) to actively taking part in a participatory action research project (II). In addition, results of the latter were used in the design and features of a web-based public consultation tool (III, IV), and I was also involved in the design process of the instrument.

My involvement with the experimentation implicates that there is inevitably a normative orientation in the study. This orientation is based on the previously mentioned assumption that the Internet could potentially facilitate meaning-making between different actors and widen the knowledge base behind decisions. While I am aware that participatory initiatives generated to promote democracy may produce

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11 Wagenaar’s lecture on case studies at the University of Tampere, 10 May 2005
undemocratic outcomes (Blaug 2002), I do not subscribe to the view that participation could be judged as being either a cure or a deficit for governance a priori. Instead, I take it that we need to experiment with novel participatory exercises and empirically examine what is actually going on in them and what they do in practice (Braun & Schultz 2010; Gomart & Hajer 2003). This entails that each case has to be critically and reflectively examined.

Accordingly, the research effort was not a straightforward hypothesis-data-analysis-report process. Although I ended up in time-consuming learning through what Wagenaar (2011) has recently called extended improvisation12, by ‘muddling through’ the experimentation and cases I was able to realise which methods and concepts I could rely on when gathering data, and specifically when analysing the material. Thus the case study approach facilitated utilising appropriate methodological tools and developing conceptual insights for studying the subject matter.

To construct a general background for the individual studies, I draw theoretically and methodologically on interpretive and pragmatic approaches to policy analysis and planning (Fischer & Forester 1993; Healey 1997; Flyvbjerg 1998; Hajer & Wagenaar 2003; Yanow & Schwarz-Shea 2006; Wagenaar 2011). A fruitful perspective offered by these traditions is twofold: First, language13 does not mirror reality but actively shapes our perception. Second, this shaping of reality with cultural systems of meaning-making takes place in the context of practice. From this perspective knowledge and meanings are collective products of practices and socio-technical interaction. Meanings cannot be usefully understood in terms of single words or sentences; they are dependent on situations and practices14. Cultural dispositions and habits offer a foundation for meanings and provide frames of reference.

The field of science and technology studies (STS) has been helpful for the study as well. These studies in particular have informed the relational way of thinking about material artefacts and devices, which cannot be taken as passive objects or as mere social constructs. It is important not to draw a line between what is social and what is technical, but to analyse practices as collective ways of doing an activity, as arrangements that are entanglements of various entities including artefacts, languages, instruments, and so forth (Pickering 1995; Barry 2001).

Hence the focus of analysis is on practices that take place in particular socio-material settings where meanings are generated and negotiated, and on how action in policy and planning practice is achieved through different frames of reference. In the context of this study this means that the aim is not to find general laws for the potential of the Internet in spatial local governance. Rather, I aim at identifying ways in which meanings are generated and knowledge resources mobilised in practices of governing. From this perspective the cases cannot be analysed as isolated experiments

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12 The term extended improvisation is used to distinguish the process from a simple trial-and-error process. According to Wagenaar (2011, 241), “this improvisational process is methodical, in the sense that […] it rests on assumptions and slowly accumulating knowledge and expertise.”

13 This applies to other sociocultural, and always material, ways of making-meaning as well; knowledge and reasoning can be expressed in many forms, be they sound, words, or pictures (Healey 1997). This is better captured by the notions of multimodality (Kress & Van Leeuwen 2001) and mediated action (Scollon 2001). Article III adapts these concepts for analysing micro-dimensions of meaning-making in the context of a web-based public consultation.

14 Wittgenstein’s concept of language games gives insight on this aspect.
as in a laboratory; instead, analysis takes place in the context of governance processes embedded in particular sociocultural milieux. This entails dialogue between different levels of analysis, zooming in and out as necessary. That is, one needs to delve into distinct events within episodes of governance and analyse these in relation to and reflecting on governance processes and wider culture of governance (Healey 2006; Versteeg & Hajer 2010).
Individual studies

This chapter describes how the cases were selected and how they are related to each other. This will explain how and why particular interventions were made, and also how and why they became part of this study. In addition, the chapter gives a short account of each of the cases, the materials used for analysis, and how the cases were analysed from different viewpoints. But to begin with, I set the scene of the study.

The scene of the participatory exercises: Tampere, Finland

Tampere at the beginning of the 21st century makes an interesting scene for experimentation with information and communication technologies owing to its geographical, political, cultural, and economic characteristics. In this section I describe processes that help to understand the situated manifestation of the Internet’s potential in particular cases. I do not claim a straightforward causality. Instead, this genealogical story brings forth the locally contingent and path-dependent way in which the Internet as a setting for public engagement became generated in episodes of spatial local governance in Tampere.

The basic unit of local government in Finland is the municipality. Finnish municipalities have a broad self-government and a large number of obligations and extensive range of functions including physical and administrative planning, elementary and secondary schools, cultural and educational activities, health care, social welfare services, as well as environmental and technical infrastructure services (Sotarauta 1994; Bäcklund & Mäntysalo 2010). This emphasis on strong municipal government is a cornerstone of public participation in Finnish spatial planning; public administration has the duty to serve citizens and provide them with preconditions for good life (Bäcklund & Mäntysalo 2010).

I use the term city or town interchangeably with municipality for the sake of brevity. Clearly there are differences, as many municipalities in Finland are not towns or cities but administrative units that consist of several towns or villages. For example, in the context of Tampere, the administrative and planning power extends to peri-urban areas around the city such as Nurmi-Surita, which is under scrutiny in one of the cases (Articles III, IV, V).
Finland currently has a three-tier spatial planning system. The main components are the regional land use plan, the local master plan, and the local detailed plan. The system is hierarchical, higher-level plans steering the planning at more detailed levels\textsuperscript{16}. The Government sets national guidelines for more detailed levels, but the municipalities are responsible for, and have a monopoly of both local master planning and detailed land-use planning (Asikainen & Jokinen 2009). A new Land Use and Building Act was enacted in 1999 in Finland\textsuperscript{17}. The law gives a strong role to technical-scientific documents regarding natural conditions, infrastructure, traffic etc. but at the same time the law now explicitly demands the involvement of the public in planning processes.

In practice, cities have developed locally specific ways of organising participation, where different planning paradigms, from comprehensive-rationalist to deliberative and agonistic models, intertwine (Bäcklund & Mäntysalo 2010). According to Bäcklund and Mäntysalo (2010), features from deliberative and agonistic models prevail in Tampere; citizens are able to raise issues for the decision-making agenda and spaces for the politicisation of the issues have been developed. The city has also its own peculiar

\textsuperscript{16} See the website of the Finnish environmental administration, [http://www.ymparisto.fi/default.asp?node=4773&lan=en, accessed 27.04.2011]

\textsuperscript{17} Maankäyttö- ja rakennuslaki 5.2.1999/132. An unofficial translation can be found in the legislative information database website FINLEX, at [http://www.finlex.fi/en/laki/kaannokset/1999/en19990132.pdf [accessed 27.04.2011]]. In article II, the Act is incorrectly translated as Land Use and Planning Act.
characteristics related to spatial local governance and its development, which are crucial to the present discussion and I will turn to these characteristics next.

Tampere is a growing middle-sized city that continually needs to adapt to its geographically bounded location\(^\text{18}\) (see Figure 1, p. 22). From the very beginning Tampere has been industrial, and the thriving industrial development of the city was largely due to its location next to the Tammerkoski rapids, which provided energy for factories founded on their banks. The industrialisation of Tampere was an economic and social success story, and the nick-name ‘Manchester of Finland’ has been carried with pride in the town (Haapala 2005). In the 19\(^{\text{th}}\) century Tampere was the foremost industrial centre in Finland and held that position long into the 20\(^{\text{th}}\) century. In many accounts, Tampere has been described as the heart of industrialisation in Finland. These stories have been used to strengthen a sense of local identity (Haapala 2010).

On the other hand, the rapids connect Lake Näsijärvi in the north to Lake Pyhäjärvi in the south; Tampere’s location on an isthmus between two large lakes has been an important factor in how the city has been forced to adapt to its steadily increasing population. The location effectively limits the boundaries of expansion – and spatial planning – in certain directions. Obviously the location makes traffic planning a difficult task, as the traffic to the city centre is bottlenecked by the lakes.

Many of the factories important to the industrial basis of the city were closed down in the early 1980s. However, the city has managed to change its face from industrial to informational (see Kasvio & Anttiroiko 2005). The change has been reasonably smooth, as the foundation for this shift was laid down already in the 1960s before the heavy industries began to lose their competitive edge\(^\text{19}\) (Kostiainen & Sotarauta 2003). By the end of the 1990s, the ICT sector had gained a firm foothold in the city. At the same time, the global hype around new ICTs was peaking and Nokia’s success story was giving a boost to visioning Finland as a ‘cybertopia’ of the early 21\(^{\text{st}}\) century. The City Strategy from 1997, ‘The Future of Tampere is in Knowledge’, proclaims the commitment of Tampere to become the country’s leading ICT centre and a prominent actor internationally as well. Actually, in the early years of this millennium, Tampere was the only city in Finland where employment in the ICT sector increased. (Laine & Peltonen 2005.)

Following the City Strategy, the eTampere programme was launched in 2000. Its objective was even more ambitious than the aims of the City Strategy. The programme had a general objective to make Tampere a global leader in the research, development and application of issues related to the information society. Within the eTampere programme, civic use of the Internet was brought up, as one of its

\(^{18}\) In March 2011, the city had a population of 213,383 according to the Population Register Centre of Finland. [http://www.vrk.fi, accessed 27.04.2011].

\(^{19}\) In the 1960s, University of Tampere, Tampere University of Technology, and nationwide television channel TV2 started to operate in Tampere. These three institutions increased employment in the knowledge intensive sector considerably. In 1970s, the state-funded Technical Research Centre of Finland (VTT) opened a branch. The two universities and VTT started to lay the foundations for the development of the ICT sector in Tampere. These developments were supported by the Technology Centre Hermia, which was established in 1986 to attract new technology and ICT entrepreneurs. One of the most important players in the field, Nokia, had a research and development team there. See Laine & Peltonen (2005) for more comprehensive narrative on this matter.
core themes was to develop network services that facilitate the everyday life of residents and are accessible to everyone (Poutiainen & Häkli 2009).

Despite this drastic change in the imagery and economy of the city, patterns of local governance have remained surprisingly stable. Since the Second World War a political coalition known as the brothers-in-arms axis (consisting of the conservative National Coalition Party and the Social Democratic Party) has managed to stabilize its co-operation into a local regime and has dominated the decision-making and local political setting. (Laine & Peltonen 2005; Laine 2006.)

The most visible achievements of the coalition were the several drastic changes it accomplished in the cityscape. Tampere has never hesitated to introduce big projects concerning the physical environment. It has been ready to take big risks and make rapid decisions (Kostiainen & Sotarauta 2003). As Laine & Peltonen (2005) argue, the coalition practised active ‘politics of construction’, where construction constituted a shared interest over a wide political spectrum. Construction meant progress, employment, and prosperity for developers and workers. This ‘productivity’ also created tension between the coalition and environmentalists. This has led to confrontations and public debate where the style of local governance has been claimed to be undemocratic.

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20 Häkli and Poutiainen (2010) suggest that the image and identity of Tampere as being at the cutting edge of modern technology has evolved from a narrative on early electrification of the town; Finlayson’s factory was the first to use electric light in northern Europe. Although there is some evidence that the story may not hold completely, it has had a remarkable impact on constituting a specific image of Tampere.

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**Figure 2. Timeline of events.**

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Figure 2 (p. 24) illustrates the developments discussed in this section and how they intersect in time both with research projects on civic uses of ICT in the context of Tampere as well as with planning and neighbourhood development processes where the experimenting took place. I will elaborate on these projects and processes in the next section.

Selection and analyses of the cases

The dispute over the Koskenniska Bridge

When the momentum around the ‘new media’ started to gather speed in the late 1990s, the academic world was interested in the civic potential of the Internet. The Journalism Research Centre of University of Tampere started to study and encourage civic uses of the Internet. It coordinated a three-year project called Locality in the Global Net that was launched in 1998 and influenced the local scene of public discussion by providing opportunities for civic use of the Internet and experimenting with new forms of civic publicness (see Heinonen et al. 2001). The project was based on extensive cooperation with residents, grassroots organizations, academia, and business partners. The activities of the project were visible on the local scene.

The first of my case studies (Article I) took place in the circumstances described above. The case study follows a local environmental dispute on building a new bridge over the Tammerkoski rapids at a place called Koskenniska (see Figure 1, p. 22). The episode with bridge visualisations described in the introductory chapter belongs to this case. Article I traces and analyses how citizens used the Internet, mainly through the platform provided by Locality in the Global Net project, to influence the decision-making in the bridge issue.

In 1998 city agencies brought the bridge issue on the agenda and the public started to mobilise. The project offered an on-line platform for new forms of civic activity in the dispute about Koskenniska Bridge. The analysis follows the case from 1998 to 2001, a time period during which the most intense public discussion and action took place.

The analysis identifies four different ways of using the Internet: (1) A website to collect and store information on the area of Koskenniska and the bridge planning process; (2) on-line discussion groups for public debate; (3) surveys to monitor politicians’ opinions, and; (4) composition images to illustrate the citizens’ view on the issue. Article I analyses how these different ways of using the Internet took place within the bridge dispute and to what effect, opening up the question of how the potential enacted is contextual and contingent on local particularities. Hence the case serves as a crucial starting point for the study and whetted my appetite to experiment with different forms of participatory input in the context of spatial local governance.

The analysis builds upon interpretive policy analysis as a perspective. It follows the planning process and civic use of the Internet therein. The material of this study consists of 14 conversational in-depth interviews with key actors participating in the

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21 There are altogether 8 bridges over the river rapids.
process and representing divergent views, among them city councillors, civil servants, members of the technical board of the city, a journalist, people from the citizen movement, and organisers of the Internet platform used. Other materials consist of discussions in two online discussion forums, newspaper articles in local newspapers, and the visual and textual material on the websites that people used for public action as well as documentation about the decisions in the process and the minutes of the meetings of the city government that handled the bridge case.

A citizen panel in Tesoma neighbourhood

Another project coordinated by the Journalism Research Centre was started at the end of 2001. The project arranged a citizen panel in the suburban neighbourhood of Tesoma (see Figure 1, p. 22). The neighbourhood represents a typical suburb built during the rapid urbanisation of the 1960s and 1970s. Since then, many of the neighbourhoods from this era, including Tesoma, have witnessed adverse side effects of suburbanisation such as increased unemployment.

The aim of the project was to explore novel ways for residents to meaningfully participate in the development of their neighbourhood. The project emphasised reciprocal interaction and co-operation between the city government and the residents. The case of Tesoma was connected to a national neighbourhood development programme, within which the citizen panel project was designed to chart the renewal process and the future development of Tesoma neighbourhood.

The project was based on dialogical methods of action research. A group of 12–15 residents of Tesoma neighbourhood formed a citizen panel that brought its knowledge to the discussion. The project considered local residents as experts on their neighbourhood. Acknowledging the civic expertise, the project aimed at developing participatory practices by utilising the potential of the Internet in communicating and articulating issues.

The citizen panel was active for over a year, having two-hour meetings every two weeks. In the meetings, the panel members were asked to raise issues they had considered important in their experience on Tesoma neighbourhood, its current condition, and issues that needed to be developed and taken under discussion. Issues raised were connected to the practice of daily life, such as traffic arrangements, the visual appearance and character of the shopping mall in the area and its surroundings, which was considered as the centre of the neighbourhood, the maintenance of recreational areas and spaces for leisure activities, or how to organise social spaces for the local youth.

In consecutive meetings, the panel members continued defining issues that were taken up. Discussion that was started in one meeting was continued in the following one to allow panel members to think, reflect and reformulate solutions for current problems and to discover relevant information and knowledge to support their arguments and suggestions. Often the panel rejected its first solution and developed a

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22 The project was called “Kuntalisten osallistuminen kestävän kehityksen tietoyhteiskunnassa KESTY”, or “Citizen participation in sustainable information society” in English.

more grounded argument. After formulating their views, the city representative participating in the project presented the proposals and comments for consideration by the city administration. The proposals utilized maps in conjunction with written arguments. This form of communication proved fruitful, as the city administrators indicated that in this form the proposals could be more easily assimilated from their perspective.

The participatory action research approach meant that researchers had an active role in generating local knowledge. Typically participatory action research underlines communities’ local knowledge in understanding social problems that emerge in their living environments (see Flicker et al., 2008). Action research has been described as empowering participants to independently define opportunities and problems in local settings and to adapt and react creatively in these situations (Tacchi et al., 2009). In the case at hand, the attention was not only focused on empowering an acting community of residents but also inviting these civic participants to develop participatory practices of local governance. New information and communication tools were regarded as potential, first, in making these interactive processes public and, second, in generating and sharing knowledge between different actors.

In one phase of the project, the citizen panel deliberated on how the Internet in conjunction with spatial representations and technologies could facilitate interaction and communication between residents, planners, and other administrative authorities. At that time, from September 2002 to March 2003, I was involved with the project, and article II discusses findings from this participatory action research study. The empirical material for this study consists of observations made during the panel meetings and their deliberations on the matter.

The panel produced a ‘requirements specification’ for online applications. The requirements specification distinguishes features of applications that would facilitate residents’ interaction with city administration and planning authorities. The analysis in Article II utilises this and produces a categorisation of different ways in which the Internet in conjunction with spatial technologies facilitates the translation of meaning and increases interaction and communication between neighbourhood actors and planning authorities. The basic categorisation presenting three mechanisms of translation was achieved together with the citizen panel. Then Pauliina Lehtonen and I elaborated the categorisation further by linking it conceptually to the question of knowledge translation between different social worlds24. The work with the citizen panel and findings of this study gave insights for developing new participatory exercises with the Internet to express visually spatial issues.

The planning process in Nurmi-Sorila

After the Tesoma project, I started to negotiate with the city of Tampere about the use of spatial technologies and the web in an actual planning process. At first, our

24 Article II was a joint effort with Pauliina Lehtonen. We both worked on the research project and both of us took part in conducting and observing the citizen panel through which empirical material was produced for use in the article. Analysis was done dialogically, and the writing process was an iterative process in which the text was worked out by rotating the text from one author to the other. Hence, both authors contributed equally to data collection, the analysis of the empirical material, and the actual writing of the article.
attention was on Vuores, a suburb under planning to the south of the city centre (See Figure 1, p. 22). The local master plan process of Vuores had recently provoked a heated public dispute. At the outset, public participation had a minor role there (Leino 2006; Article V). However, to correct the course, the city started to seek new ways of engaging the public in the later stages of the planning process.

An open two-stage architectural competition was held in 2004 on the land use of the central area of Vuores in order to create a distinctive plan for its centre, which could then be used as a basis for detailed zoning of the area. Citizens had a chance to comment on the plans as well, which were on display for public inspection. In addition to the chance to write feedback, a website was designed to accommodate digitised images of the plans and to try a new form of participation on the Internet. Users were able to choose which plans they preferred and rank them, and they could compare the plans and write feedback on the Web. In addition, citizens were also able to adjust their own opinions against arguments given by others because every comment was published on the website. Before the competition jury convened, it received the people’s comments that were published on the Internet. The competitors themselves had also been given information on the website where people could comment on their plans.

Originally, I was trying to achieve a web application in which the plans would be displayed and users could attach graphic icons to the plans and write a conjoined written comment in a similar way as that nowadays popularized by Google Maps and others. The idea was that this would help people to point out particularities in plans and deliberate on them. However, at that time there were no resources for programming such an application. Nonetheless, the experiences from displaying the digitised plans on the Web and giving the opportunity for feedback in the context of architectural competition were promising. In 2005, a process towards another local master plan began and an opportunity for further experimentation emerged.

The third case takes place in this peri-urban area of Nurmi-Sorila, which is some 12 kilometres northeast of the city centre (see Figure 1, p. 22). The planning process included a new policy instrument, which could be called the development image. Its purpose was to find alternative futures for the area. This provided a useful platform for developing an application to generate local knowledge and public discussion about the particularities of the Nurmi-Sorila. The application was used early in the Nurmi-Sorila planning process. Articles III, IV, and V discuss the case of Nurmi-Sorila from different perspectives.

The empirical material of the analysis consists of the outcome of the application, 470 comments consisting of written texts, aerial photos, and graphic icons. These are supported by five interviews with planners and civil servants who were involved in the planning of Nurmi-Sorila, as well as by field notes and communication during the design and development process of the application. In addition, other material consists of articles in local newspapers and official planning documents and observation in the meetings held for public participation.

25 Besides the planning process, a crucial factor for the new experiment was that a computer science student of the University of Tampere, Mikko Lammi, took part in the process and did the application programming as his Master’s Thesis [accessible from http://tutkielmat.uta.fi/pdf/gradu00871.pdf].
In a way my research process culminates in the case of Nurmi-Sorila. I was able to take part in the whole process from the very beginning. Outcomes from the previous project in Tesoma could be utilised, and I had a chance to follow crucial phases of the participatory exercise starting from the design process of the participatory instrument and leading to its implementation and use in practice. I was able to interview planners after the exercise had been completed.

In Article III, I describe the problems of developing and designing the online application and how the design choices influenced the way it was subsequently used for discussing the qualities of Nurmi-Sorila. I describe the design process and discuss the design choices in respect to other experiments elsewhere in which the Internet and spatial technologies have been utilised to facilitate public participation. Then I show how it was initially difficult to analyse the actual output, the geo-referenced discussion. I problematize the assumption that with these tools citizens’ knowledge and information about local characteristics could be easily transferred into the practice of planning. I show that the web application offered users a multiplicity of semiotic resources that they used for their liking, and people from different backgrounds used these multimodal semiotic resources differently, which caused ambiguity. Article III develops an analytical framework in order to make sense of the situated signification by means of geo-referenced discussion.

Article IV discusses the heterogeneity of issues that was generated in and by means of the geo-referenced discussion of Nurmi-Sorila. This article elaborates on how people used the web application in this early phase of a planning process. The article specifies the use of the application in terms of how the geo-referenced discussion forum engaged people to generate knowledge and to express how the place is perceived. In addition, the article analyses the Nurmi-Sorila experiment from the viewpoint of planners, and discusses how the problem space of planners is shaped by practical reasoning, by their obligation to act upon the situation. The analysis utilises the concept of knowing-in-practice to examine how the geo-referenced discussion was transformed through practical reasoning and routine ways of knowing into planning practice and materialised into planning documents.

The fifth article (V) widens the scope of analysis from the specific episode of Nurmi-Sorila by comparing the planning process of Nurmi-Sorila with another local master plan process, Vuores. It discusses these local master plan processes from the perspective of how the different character of the neighbourhoods and participatory procedures used at the beginning of each of the processes influenced the later stages of the planning. Helena Leino and I made the analysis together and wrote the article after observing the differences and similarities between the two planning processes. This comparative case study is based on extensive mate-

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26 The process of making this co-authored article was similar to the one illustrated for article II. The analysis was done in dialogue, with one author presenting ideas and conceptual insights to the other and then reflecting on points that the other made. Writing was managed in the same way. One of the authors worked on some piece and then passed it on to the other until both were satisfied with the result. Hence the result is a shared piece of work, whose every bit has a touch from both authors.

27 Helena Leino (2006) wrote her doctoral thesis on public participation and power in the Vuores local master plan process.
rrial collected for the doctoral thesis of Helena Leino on Vuores and my material on Nurmi-Sorila.

The two planning cases of Vuores and Nurmi-Sorila were interrelated right from the beginning. The planning of the Nurmi-Sorila area has been under sporadic public discussion ever since the area was merged with Tampere in 1966. In the middle of the 1990s these two areas were seen as two options, Nurmi-Sorila in the north and Vuores in the south, for providing new homes for rapidly increasing population of the city. Nurmi-Sorila was on the agenda first, but in 1997 the city directed its gaze to the South and the planning of Vuores started. The public, particularly the residents in the Vuores area, were unhappy because they did not get to participate early on in the process and because the city treated the neighbourhood as a blank slate on which anything could be planned. Even the name Vuores was alien to the inhabitants; according to them they were living in a village of Hervanta. This resulted into a long and heated public dispute.

In the early years of the 2000s, Tampere was still growing rapidly, and the planning of Nurmi-Sorila again rose onto the agenda. The planning of Nurmi-Sorila started publicly in 2005, as has been described above, by engaging the public in georeferenced discussion to produce a development image for the area. The article analyses these two interrelated but clearly different processes. The focus is on how the different images of place were central in how planners expected the people to engage with planning in each of the processes, and how in turn these place images influenced the way in which people participated in each of the processes.

28 Her material was collected for the period of 1998–2003. She interviewed 26 key figures and also used newspaper articles from four local newspapers, the minutes of the meetings of the Vuores project group, observations from public meetings 1998–2003, communiqués from the City of Tampere 1997–2003, the online discussion on the City of Tampere website 1998–2003, and TV programmes about Vuores broadcast 1998–2000.
Dynamic constitution of the Internet as a participatory setting

While analysing the cases, I came up with a conception that the potential of the Internet and spatial technologies in public engagement of spatial local governance rests on the dynamics of communicative spaces, which consists of: (1) the dimensions of the potential and (2) the co-construction of issues, publics, and communicative spaces (see Figure 3, p. 34). This dynamics help to understand how the potential of the Web for public engagement becomes actualised in specific episodes of governance that present different circumstances.

Dimensions of the potential: interactional, organising, and expressive

The potential of the Internet and spatial technologies for public engagement comprises three dimensions, all of which take part in how meanings are articulated in particular settings. I call these interactional, organising, and expressive dimensions.

The interactional dimension relates to how the communication between different actors is achieved. Basically this dimension is about questions such as: Are people talking face-to-face? Do people interact in real time, or is it possible for them to discuss while physically distant? Do they have to share a fixed moment for interaction? Who is allowed to speak to whom and what kind of language is customary and appropriated?29

The organising dimension of ICT relates to how the information is stored and how it can be accessed. The Internet provides relatively inexpensive public access to large amounts of data that can be retrieved by users according to their informational needs. Interactional dimension is linked to the organising dimension by way of how the public discussion and other new information can be stored on the Internet. The access to previous discussions facilitates reflective debate and developing evidence and

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29 Erving Goffman’s term interaction order is useful to illustrate this dimension; interaction orders are social arrangements by which we form relations in social interaction (Goffman 1983).
argumentation. (Coleman & Blumler 2009.) The organising dimension is shaped by spatial technologies, such as geographical information systems, that are used in conjunction with the Internet. These technologies allow information to be arranged based on spatial categorisations and spatial distribution. They also provide visual means of displaying this information, which facilitate illustrating spatial matters (Sieber 2006). This also brings the expressive dimension to the fore.

The expressive dimension brings forth different modalities of political argumentation; some stem from everyday life and have their own register of expression, while others belong more ‘properly’ to the skilfully crafted domain of argumentation, as Bourdieu (1991) has suggested. As Dahlgren (2009, 110) reminds us, information can be manifested in many ways, and the forms of appropriating information are evolving: “New media technologies can promote new modalities of thought and expression, new ways of knowing...There are different communicative forms and registers among different groups, defined in terms of education, cultural background, specific circumstances, and so on.” ICT can potentially give illustrative means to articulate views and ideas, and to present information with different semiotic resources ranging from written text to photographs, simulations and artistic expression.

The organising, interactional, and expressive dimensions of the potential can be enacted in a multitude of different configurations. The dimensions are certainly intertwined, but analytical distinction is helpful, as each dimension has specific properties that may be realised in practice. This allows highlighting interesting differences and contrasts that reveal different aspects from the cases that rely on different configurations of the three dimensions. I find that these dimensions open up an analytical horizon to address the question of how the Web figures in public engagement in the context of spatial local governance. However, there are also other factors in play, and here we come to the dynamics between issues, publics, and communicative settings.

The co-construction of issues, publics, and communicative settings

None of the cases represent civic participation simply in terms of rational argumentation, or even as deliberative ‘talk’; instead they all point at how the Internet may facilitate different ways of engaging with issues, where these different ways of engagement affect in turn who will participate and how they can generate meanings and discuss issues. Regarding this, Barry (2001, 10) has made an argument worth quoting at length:

"The contemporary public sphere cannot be understood as something like a set of spaces in which rational discussion simply takes place in an unmediated fashion. They are not like the Greek polis of the modern political imagination. Rather they are arrangements of persons and technical devices formed in particular settings, within which it is possible to articulate a range of rhetorical forms. It is these socio-technical arrangements that may allow arguments to be made, differences to be recognised and addressed, and which may include and exclude certain categories of person and argument. Different
arrangements have different advantages and disadvantages. But there is no ideal socio-technical form for a public sphere.”

My case studies forced me to realise that actors do not have pre-determined roles in the communicative spaces that are enacted for public engagement. The question is not just about a group of people, known a priori, which enters into some kind of communicative space and discuss and define issues and exchange meanings. The phenomenon is much richer.

The issues influence who will constitute the public by engaging some people and not others. It has been argued that issues are the organising principle of the public (Marres 2007; see also Dewey 1991/1927; Leino & Laine 2012). It became clear while studying the cases that place-making issues are not static, and neither is the public who make these issues their matters of concern. Issues need to be defined, framed, and narrated, in other words, they have to be constructed. While it is the work of the public to do it, we cannot take it as a pre-existing entity. The public emerge through articulating issues; the publics and their issues perform themselves into being (Felt & Fochler 2010; Michael 2009). For this performance the publics with their constituent issues need settings of communication.

The act of setting up any communicative space is itself communication resulting from the socio-material arrangements enacted. The communicative settings take an active part in shaping the interaction and are in turn shaped by this interaction. Gomart’s and Hajer’s (2003) discussion on the generative role of the settings of politics is helpful here. Their basic idea is that political capacities are achievements of particular settings rather than predetermined properties of persons. In their words, new settings and forms of policy making and governance should be taken as “mediators, active forms, which transform and fabricate new capacities in those who pass through them” (Gomart & Hajer 2003, p.40). In my case such new settings and forms were arrangements that utilise the Internet for public engagement.

Individual studies reveal different aspects of these settings by paying attention to the intricacies of the dynamic between the issues and the settings of issue articulation, and the particular local situations where the settings are enacted. Hence the particularities of situations matter in this dynamic. The local conditions are important, such as the cultural and political situation, the way in which governance is practised, and the information and communication infrastructure available; all these shape how knowledge resources are mobilised and meanings generated in particular communicative spaces. In consequence, there are no objective structures that provide unbiased settings for public discussion. Foucault (1984) made it clear that communication always masks certain assumptions from the very beginning.

The communicative spaces where the public emerge, and where the issues are articulated, are biased and in essence full of meanings. Actors enter the settings and

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30 This does not mean that the public would define issues from a blank slate. Instead, a lot of discursive recirculation, as Derek Hook (2001) calls it; takes place; issues defined earlier in other communicative settings are often the basis for the re-construction of issues. This in turn, however, does not mean that everything would be only repetition of what has been said earlier.

31 For example, communicative arrangements prescribe certain roles and forms of behaviour for the public (Felt & Fochler 2010, Michael 2009). I thank Maria Åkerman for helping me to clarify this.
negotiate the situation. Hence different settings have from the outset their own opportunities and restrictions for public discussion and meaning-making. As the settings are enacted through practices, the opportunities and restrictions change in the making. In the case of Koskenniska, it was crucial that the dispute happened at the same time when Locality in the global net research project was developed and the Internet was generally becoming an everyday means of communication (see Article I and Chapter 4). In Nurmi-Sorila planning process, the lack of construction lots for detached houses and the positive image of the neighbourhood were crucial in evoking a certain kind of public to express their concern on matters that they felt important (see Articles IV, V, and Chapter 4).

Accordingly, the actualisation of the Internet’s potential for public engagement can be conceived as the tripartite dynamics between: (1) Issues, consisting of meanings and knowledge that are evoked in specific episodes of spatial local governance; (2) actors who become engaged with generating and negotiating over those meanings, and; (3) communicative settings generated to engage with the production and sharing of meaning, and which in turn generate capacities for this activity.

In what follows, I use the dynamics described above to discuss ways in which the Internet became a setting for public engagement, and how the potential of the Internet was actualised in the cases that I studied. I use the three dimensions of the potential as a heuristic to scrutinize how the different configurations of the dimensions facilitated actors in pursuing particular tasks in different cases and communicative settings.
In this section I present the main results and discuss three different ways in which the potential of the Web became actualised in the circumstances that the cases provided.

**Challenging the local culture of governance**

The Koskenniska Bridge case (Article I) took place in the early days of experimenting with the civic uses of the Internet. The use of the Web did not take place through procedures designed by governmental institutions or planning authorities. Instead, the Internet was used mainly to support the emergent public that was objecting to the bridge. In this situation, people utilised the Internet in four different ways to influence decision-making: (1) the visualisations of the bridge; (2) online forums for public discussion; (3) an archive of information, and; (4) surveys or opinion polls made for decision-makers. Ridell (2005) calls these different ways of utilising the Web for public action civic web genres. They all had particular characteristics and served particular purposes during the planning process, which will be discussed next.

**Making visualisations – challenging expertise**

The episode with bridge visualisations (see Chapter 1) is a fine example how the Internet came to be used for civic action in the Koskenniska Bridge case (Article I). Active citizens tried to achieve certain things with visualisations. First, they demonstrated that the visualisations of the city did not depict the situation adequately. Second, they showed what would happen to the place if the bridge were built. They wanted to articulate that the special character of the place would be lost if a vehicle bridge occupied the area. But that was not enough for people objecting to the bridge. They went even further by making another visualisation in which a pedestrian bridge was depicted. They demonstrated that they opposed a *vehicle* bridge, which would
bring car traffic to the place. With this visualisation people put forward an alternative option of a pedestrian bridge. To extrapolate, people were not against change in general, but against the loss of quality in the local environment. They accepted the change, and by illustrating the pedestrian bridge, citizens even tried to open up the discussion for another path of urban development.

However, public debate was stagnated because both sides of the dispute claimed the other was subjective and not depicting the situation truthfully. On the one hand the people opposing the bridge considered that the visualisations of the city palliated the real situation. On the other hand the planners judged the visualisations of the citizens as incompetent and as distorting the truth. In the end the problem was that the visualisations were different things for the parties; they served different purposes. The citizens wanted public discussion about different alternatives and to express their perspective whereas the planners needed technically accurate images to enable planning. Instead of technical rationality people relied on cultural rationality, which is “concerned with impacts, intrusions, and implications of a particular event or phenomenon on the social relations that constitute the world” (Fischer 2000, p.133).

By using the visualisations, people wanted to include the affective dimension, their passion for keeping the place as it is, and this kind of expression was beyond technical rational argumentation. People utilised the visualisation, which is a traditional technical rational tool for planners, in different terms, by trying to convey with them the sense of place in Koskenniska, and how it was important not to ruin it by introducing vehicle traffic to the area. For the same reason, people objecting to the bridge thought that those in favour of the bridge would change their minds only if they would visit the place, and see its value (cf. Barry 2001).

As Dahlgren suggests, it is unlikely that there would be public engagement without affect, without passion. What would be the motivation to participate without it? Values and truth are not separable, so passions and reasons are interconnected. Civic agency must have an affective drive (Dahlgren 2009). This is in line with the mechanism of democracy proposed by Dewey (1927/1991): people have to be drawn to issues that are seen (or felt) problematic. Reason is hardly enough to make people engage with issues.

**Discussing anonymously in public – dissuading decision-makers**

The Koskenniska Bridge was discussed on two different online forums. One was a discussion forum that was maintained by local news media and the other was established by the Locality in the Global Net research project. There was differentiation between these two forums in terms of content and style. The debate was more spontaneous and vivid in the former whereas the arguments were more developed and considered in the latter. However, this does not mean that the discussion was more just in the discussion forum provided by the research project. Actually, it served more

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32 Regarding this, Flyvbjerg’s (2001) discussion on the difference between intellectual virtues of technè and phronèsis is also insightful. Technè is oriented towards production and based on practical instrumental rationality guided by a conscious goal, whereas phronèsis is oriented towards action and includes deliberation about values in praxis.
to provide a space for those against the bridge to share their concern and develop their views. The supporters of the bridge did not want to take part in the discussion because they considered that if they would write something even remotely positive about the bridge, the dominant group in the forum would floor them. The results show that the Internet may facilitate setting up communicative spaces for public discussion, but there is a lot of variation in terms of how the enactment of these spaces takes place in practice. In on-line discussion forums some factors that define how people frame the social interaction situation, and semiotic resources that are available in face-to-face discussion, are lacking, such as gestures and physical proximity, and some other such resources become available. This has many consequences. For example, the Koskenniska case gives insight into the question of anonymity. In the interviews, the anonymity of online forums was thought to be problematic, as it increased the number of inappropriate messages. This had the effect of reducing the number of participants in the discussions.

The anonymity afforded by online forums is often viewed as problematic. However, it is more interesting that particularly council members and civil servants avoided discussions that assured discussants anonymity. One reason was that they did not want to nail down their arguments too tightly. As discussions stay on the Internet so that anyone can retrieve earlier discussions later on, writing on an online forum is comparable to a written document. Politicians and civil servants want to keep open opportunities for changing situations. Here the organising dimension of the Internet was crucial in influencing what kinds of arguments were evinced. This finding is in line with Hajer’s (2009) view on the difficulties of authoritative enactment of meaning in contemporary mediatised society. Decision-makers and politicians are nowadays in a situation where their arguments expressed in one stage are constantly in danger of being taken over by some other media and used there by other actors.

Archiving information – building identity

Websites can be used to store information. For example, in the bridge case, the website was used to gather information about the area where the bridge was to be constructed. There were stories about the long history of the area, which highlighted its cultural value. The website was seen as a place in which this kind of stories could be gathered to build a common knowledge base. One central aim of the website was to reinforce the image of place. The information stored on the website served to highlight and construct the narrative in which the cultural history of the area was underlined and the place was respected as the quiet corner it provided in the centre of the city.

By extrapolation, people wanted to create shared cultural beliefs of how we should live, and mobilise actors by trusting that others would find their point of view legitimate. Thus the information on the website can be interpreted to function both as a way to build identity and to define the question of the bridge as an issue of cultural politics. Hence the website was taking part in the politics of making places.

33 Noelle-Neumann’s (1993) theory of the spiral of silence is telling here. In general, people try to gain acceptance, and if they believe they are in the minority, fear of isolation, of not having a widely accepted view, prevents them from expressing opinions in public.
In addition, whenever a new decision was made in the planning process, it was published on the website. The Web was used as an information archive both to raise awareness of the history of the Koskenniska area and to make political actions and decisions more traceable. In this sense, the Internet aided people in acting towards transparency of information. In general, publicity was a strategy that people employed in the Koskenniska case. They used the website to keep the public discussion about the issue alive. Usually the mass media take up whatever issue and soon find the matter concluded.

**Conducting surveys – holding authorities accountable**

One of the innovative ways of using the Web in the Koskenniska dispute by those opposed to the bridge was making surveys and publishing them on the Internet. Surveys asked, for example, whether council members would allocate money for the bridge in the next budget meeting. The surveys were published on the website set up for the bridge issue so that they could be accessed at any time in the future. This helped people to gain publicity in other media. Local newspapers raised the bridge issue onto the agenda by reporting on the surveys and their results. In a sense, citizens strategically grappled with the traditional instrument of mass media, namely survey, to their own ends, but with the help of the mass media.

In addition, the surveys were referred to later in the process to support argumentation, so the surveys published on the Web served a watch-dog function; when something was to be decided in the process, people could return to the surveys and check how authorities had responded earlier. Because the surveys were published in the Web and they could be accessed later, ill-considered arguments did not work; the respondents had to weigh their words. This can be a way to induce decision-makers to ponder the issue at-hand, and at least temporarily increase its relative importance among numerous other issues on the decision-makers’ agenda.

**Enhancing the flow of knowledge and information**

In the Tesoma case (Article II), the citizen panel’s concern came from everyday life. The panel members had a concern regarding their neighbourhood in general and this gave them an incentive to think how they could interact with the authorities meaningfully should need arise. The Internet in conjunction with spatial means of organising and representing information was thought to facilitate meaningful interaction and sharing and translation of knowledge between residents and actors from the institutions of local governance.

The analysis of the Tesoma case stresses a broad view of citizen participation. From this perspective citizen participation in spatial local governance can be viewed as a continuous but fluctuating and sporadic interaction between institutional and neighbourhood actors. In terms of complexity theory, increasing interactions between different kinds of actors makes the system more robust. The work with the citizen
The study suggests three different elements, or mechanisms of translation as we call them in Article II, that facilitate the translation of knowledge between residents and planners: (1) spatially organised information; (2) illustrative and interactive spatial representations and visualisations; (3) multimodal means of producing input.

**Spatially organised information and illustrative spatial visualisations**

As the first element facilitating their interaction with governance authorities, the citizen panel deemed it important to have access both to information and to the authorities responsible for the issue at hand from the residents’ perspective. The citizen panel considered that arranging information around a familiar concept of their neighbourhood would help in accessing information. Often information is arranged according to the logic of administration, based on the tasks of different administrative and governmental agencies. From residents’ perspective map-based access to information follows their logic better. Residents do not want to know which sector of administration is responsible for which issue in relation to other issues. Instead, they have certain concerns and want to know about these matters and also about who or what institution of governance is responsible for these.

The second element facilitating the translation of knowledge between residents and planners is to use illustrative and interactive spatial visualisations and simulations. These assist the translation of technical-rational information used in administrative work, policy-making, and planning. Information on the socio-economic, spatial and temporal distribution of issues is important in policy-making and planning (Innes & Booher 2010). The citizen panel identified a need for technical-rational information to support their reasoning on neighbourhood matters in the governance context. The panel members wanted to widen their view and comprehend the reasons behind decisions and plans that concerned their neighbourhood. For instance, when the citizen panel made a report in which particular issues of traffic safety in the neighbourhood were listed, the panel received information such as how much it would cost to install traffic lights for a pedestrian crossing or to construct a pavement. The panel worked out its list by collating this economic information with their own experiences of traffic safety. Hence it combined particularized knowledge based on their experiences with generalised technical rational knowledge. These complementary forms of knowledge have been found essential for urban planning (Krimsky 1984).
The citizen panel considered that interactive simulations of long-term developments of the neighbourhood and the city would help to perceive issues more widely while binding these developments to familiar elements and particular locations in the neighbourhood. For example, when the city is planning to close down a municipal day care centre in the neighbourhood, the spatial simulation of socio-economic processes beyond the immediate environment supports linking one’s own experiences to the issues discussed in public. These results resonate with findings that people are more able to cope with complex social and technical issues than is often acknowledged (Corburn 2005; Wagenaar 2007). Work with the citizen panel confirms Wagenaar’s finding that people approach issues in a holistic manner. To support their reasoning, they want technical-rational information that is used by administrators and planners in policy-making and planning. The panel members found this type of information unavailable. What is more, they stressed that information should be made accessible in illustrative forms to make it usable. Spatial representations and interactive simulations were found to be such forms.

In other words, illustrative spatial representations and interactive simulations support civic awareness of issues. In a way, these technological tools of representation and communication helped to build interactional expertise between actors relying on divergent systems of knowledge. Interactional expertise means to be linguistically able to communicate and discuss matters on some specific domain while not being capable of contributing directly in the practice of that domain (Collins & Evans 2002; Collins 2004; Selinger & Mix 2004). This kind of interactional expertise could furthermore alleviate tensions and ambiguity resulting from incapability of creating shared meaning between different actors.

The results also concur with Jason Corburn’s characterisation that when people with local knowledge seek a voice in the domain of professionals, “they must manage the tension of valuing their own experience while simultaneously accepting the worldview of professionals” (Corburn 2005, p.65). The problem is that people need to be ‘multilingual’ in terms of discourse. They have to be able to articulate knowledge from the experiential domain and translate it into a language professionals will listen to and understand. The results suggest that illustrative and interactive ways of representing spatial information on the Web may at least start to respond to this challenge in the context of spatial local governance. On the other hand, it has been argued that this may lead to difficulties in incorporating the arguments derived from everyday life (Van Herzele & Van Woerkum 2008; see also article IV).

**Multimodal means of articulating issues**

The third element found important relates more specifically to the translation of non-professional experiential knowledge to the governance processes. The citizen panel considered that various communicative means should be used for this. For example, maps and photographs could be used in conjunction with written comments to illustrate specific matters in the neighbourhood. The use of various communicative means could prevent possible misunderstandings when people’s experiential knowledge was
interpreted by the administration. The citizen panel pondered that multimodal means of communicating spatial matters would support both everyday concerns relating to the maintenance and repair of the neighbourhoods, and situations of policy-making and planning where the city administration wants to consult residents to elicit local knowledge. Particularly this mechanism was experimented with further in the case of Nurmi-Sorila (Articles III, IV, and V).

The results suggest that more attention should be paid to the form of illustrating and presenting information in interactive processes and knowledge production. In this interaction, spatial means of organising and displaying information, such as interactive maps, proved to be useful means to present and visualize knowledge resources that different actors in a city environment utilise. For example, maps fit well with the bureaucratic approach of administration because they offer a general overview of spatial entities, such as neighbourhoods. Such a view from above is not how residents usually approach issues of their neighbourhood. However, even if locations in maps are viewed from above, from the residents’ perspective they still provide means to point out specific details in them and thus to capture local particularities. (Article II.)

Online spatial representations seem to provide a way to situate larger issues into the neighbourhood and to the particular and conversely, this way facilitating taking into account different scales of issues. Our results from the panel show that the panel members were willing to discuss their experiential knowing of neighbourhood issues in relation to wider scales. Although the ideas were connected to practical, everyday life and were pragmatic in nature, the panel saw the importance of participatory tools from a broader perspective. This is in line with Wagenaar’s (2007, p. 32) insight regarding the pragmatism in residents’ reasoning which presents “a way of dealing with issues in which concreteness and a continuous awareness of complexity go hand in hand”.

While our case study supports these findings, it also suggests that technical-rational discourse is so dominant in governmental decision-making that citizens feel that acquiring this kind of information is necessary to gain credibility within processes of city governance. The context of engagement disposes citizens to act from a subject position that persuades them to think in terms that are familiar to administration and planning. However, as we ask in Article II, what is the moral obligation of citizens to acquire technical-rational of information to widen their knowledge base? To put it another way, are citizens the ones who need to have the most comprehensive grasp of the issues?

The citizen panel thought that communicating by means of spatial visualisations, such as interactive map interfaces, presents a suitable format in connecting residents and administration. Administration could make its knowledge more approachable and understandable by utilising visual communication tools, for example maps, as translating devices between its organisation and residents. In this sense, the practicality of the spatial view allows localities to serve as a starting point for discussions in participatory and interactive processes and to support mutual knowledge production. However, my conclusions concerning the geo-referenced discussion in Nurmi-Sorila
planning process complicate this picture by illuminating ways in which the participatory instrument itself, and the procedures and process of planning in which it was implemented, shaped the knowledge generated (Articles III, IV, V).

**Producing knowledge for land use planning**

The geo-referenced discussion forum implemented in the early stages of the land use planning process of the Nurmi-Sorila area created yet another setting, which provides a different aspect of how public discussion can take place. In this case, the online consultation tool was designed to incorporate residents’ local knowledge and views into the planning process.

The analysis of the Nurmi-Sorila case reveals important aspects of the knowledge generation process: (1) geo-referenced discussion generates public knowledge; (2) the assimilation of public knowledge into planning practice entails transforming it; (3) multimodality introduces ambiguity to the meaning-making process; (4) local circumstances influence the form which public knowledge assumes. I will turn to these aspects next.

**Eliciting public knowledge**

Some of the discussion threads concerned everyday problems of the area, such as problematic road crossings where visibility is blocked by a particular traffic sign. Others concerned issues on wider scales, such as how the planning in the Tampere Region should be directed. The way in which the discussion was organised, that is, by geographically referenced places on aerial photographs, provided a variety of means for generating meanings.

In addition, the geo-referenced discussion was open to all who wanted to engage, so people articulated meanings differently depending on their background and the relational networks providing their frames of reference. Residents encountering troubles in the neighbourhood could precisely plot their location. People who were not residents and who probably had different expectations of the planning process raised different issues. This is of crucial importance and complicates the interpretation of the discussion.

The results from the participatory exercise in Nurmi-Sorila indicate that it is not pure local knowledge that is generated by means of geo-referenced public discussion. Instead, novel type of knowledge is created, *public knowledge*, which takes shape through the types of issues the technology of geo-referenced discussion affords in its particular context of use. (Articles III, IV.)

**Assimilating citizens’ knowledge into planning practice**

From all the information available, the planners assimilated only particular types of issues that could be further processed into usable knowledge for the planning process (Articles IV, V). Much of the work of planners is based on practical
reasoning, on an obligation to act upon the situation at hand. How they act in particular situations is conditioned by habitus, or their dispositions to act. What this meant in the Nurmi-Sorila case is that particular issues, on particular scales, assumed a dominant role in the subsequent planning documents that were written to report the outcome of the geo-referenced discussion. The issues suitable for the level of local master plan were prominent and other issues were either omitted from the documents or transformed into a suitable format. For example, everyday troubles, such as a problematic road crossing, were hardly included in the subsequent planning. This was because the practice of planning constrains the work of planners. (Article IV.)

In the Nurmi-Sorila case, the planners were keen to find general patterns based on the distribution of graphic icons. Here the organising dimension of the Internet’s potential is at work; the discussion was stored in a database with coordinates that linked the discussions to particular spots on the aerial photographs. In this way the information system gave a means to organise and interpret the discussion relative to particular locations in Nurmi-Sorila. Planners saw the opportunity to make an overview of how the discussion was spread out in the area, and made thematic maps of what was discussed in different parts of Nurmi-Sorila.

However, there is a caveat again here. The interpretation of the discussion cannot rely on any assumption that, for example, graphic icons have a fixed meaning among people involved in the geo-referenced discussion. When I explored the different discussion threads as communicative acts in detail, I found how the graphic icons were interpreted in multiple ways by the users of the application. Sometimes this differed remarkably from how the designers of the application had ‘intended’ the graphic icons to be used. The information system is conducive to a certain kind of analysis, but local improvisations, when users act upon the situation at hand, makes finding general patterns and overviews a qualitative task, especially when the people using the application are making expressive statements (Articles III, IV, V).

By extrapolation, this finding actually raises doubts concerning the usefulness of a geo-referenced consultation based on simple icons. There should always be other means, such as language, where users can qualitatively specify how they are using the icon, what an icon is a symbol of.

**Multimodality and qualitative spatial information introducing ambiguities**

According to my interpretation, the aerial photographs had an orientating function, which was persuading users to frame the social interaction situation and the issue at hand in a particular way (cf. Dewulf et al. 2009; Van Herzele & Van Woerkum 2008). The aerial photographs display some distinct features such as roads and forest strips shown from afar. This kind of setting evokes biases as to what kind of issues people with different backgrounds can raise. For example, some people with background knowledge can claim that certain species live in a forest patch shown; without training this is not discernible in the aerial photos. The aerial photographs
offer different semiotic resources for meaning making. How actors can communi-
cate depends on settings, practices and the habitus of the actors (Hutchby 2001). 
Prior experiences, educational background, and other factors, captured by the term 
habitus by Bourdieu (1990), gave people different communicative affordances to 
generate meanings about Nurmi-Sorila. Thus the interplay between the commu-
nicative setting of geo-referenced discussion and the actors who entered to articu-
late issues took a prominent part in defining what kind of knowledge was elabo-
rated by means of the application.

The geo-referenced discussion experiment in Nurmi-Sorila reveals ambiguities 
in knowledge production. Interpreting the micro-politics of meaning making in 
knowledge production with the geo-referenced discussion is critical. Accordingly, 
Article III introduces a conceptual framework consisting of discourse analysis that 
takes into account the performative dimension of signification and various context-
specific communicative resources with concepts of multimodality and mediated 
action. The framework also tries to grasp the dimension that human actors are 
not the only actors who shape the settings; in these technological settings, there 
are various ‘human-machine configurations’ (Suchman, 2006). The multimodal 
approach points to how geo-referenced discussion forum, as a material arrange-
ment that provide some particular semiotic resources in some specific situation that 
engage certain actors, take part in defining what issues gain dominance in these 
particular settings and, ultimately, what kind of knowledge is produced in prac-
tice. By using this framework, the detailed micro-level analysis of geo-referenced 
discussion showed how people engaged with the issues in this public forum using 
semiotic resources that became available in the setting.

A multimodal discourse analytical lens brought into focus the ambiguities of 
knowledge production. The design of the Nurmi-Sorila policy experiment should 
be viewed as an attempt to invoke a particular kind of setting to stage on-coming 
events of its use: the use of aerial photographs instead of topographical maps; the 
choice of certain symbols over others to produce certain types of thematic infor-
mation; the possibility for public discussion instead of collecting information indi-
vidually. All these favour some styles of expression over others and some forms of 
knowledge production over others. As Hajer (2009) has suggested, such drama-
turgy is essential for the performance of politics. The acts of staging of policy-
making settings may or may not be intentional, but nevertheless they may have 
unintended consequences because the diverse actors in the setting rely on distinct 
systems of signification. Settings may afford various communicative resources and 
thus they can be used to frame the situation unexpectedly.

Contingencies due to local circumstances and practical situations of use

In the case of Nurmi-Sorila, the motivation of the geo-referenced public forum 
was to initiate discussion about the character of the area to support the subsequent 
planning process. However, in practice, for those who engaged in the geo-referenced 
discussion, it turned out to be a space of deliberation on the future of the Nurmi-
Sorila area as well as on land use planning on a wider scale in Tampere Region. This broadened the scope of the instrument, which was primarily designed to consult citizens on their favourite places, problematic places, and places in need of development. Hence the case points at discrepancies between the designers’ expectations of how users would use the web application and the use actually made of it (cf. Wilkie & Michael 2009).

There are a number of factors in play here that influenced how the Web was constituted as a communicative setting for public engagement in this case. First, the collective place image of Nurmi-Sorila provided a viable starting point for the geo-referenced discussion and was crucial to how the process of planning proceeded (Article V). We compared the Nurmi-Sorila planning process with the land use planning of Vuores, which did not have a place image among planners: Vuores was framed as an ‘empty space’ in which a new neighbourhood could be developed. The planners thought they could start planning without taking local particularities into account. However, this approach upset the local residents. They would have wanted to engage in planning early on, but actually they saw in the press that some plans already existed. Also, residents had a clear place image originating in their attachment to daily practices in the area. By contrast, from the outset the collective image of Nurmi-Sorila as a cultural landscape was more widely known among different actors. This gave a point of departure to learn more about meanings assigned to the neighbourhood by means of geo-referenced discussion. (Article V.)

In Nurmi-Sorila, people could participate in the geo-referenced discussion without being local residents. This arrangement in conjunction with the collective place image motivated non-residents to participate by means of geo-referenced discussion. Perhaps they hoped that they could move to live in the area one day\(^3\). This arrangement, in addition to the lack of much wanted detached houses and continuously increasing population of the city, led the discussion to be more about possible construction sites than about particular characteristics of Nurmi-Sorila. (Article IV.)

The participation of would-be residents in the discussion seems reasonable. Whether or not they move to the area is dependent on how attractive the neighbourhood appears. If these people are engaged early on, they can provide insight on what makes the area attractive. There is a caveat here that needs to be recognised; if people are seeking, for example, an idyllic form of living close to nature, they may promote the planning of some area while at the same time forget that the planning of the area may impinge on the charm of the place. (Article V.) Planners were pleased and surprised to see that not everyone was opposed to their intention to start planning. The open geo-referenced public discussion initiated before the final planning process alleviated potential conflicts between residents and planners.

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\(^3\) Actually in the Nurmi-Sorila web application there were several comments in which a wish to move into Nurmi-Sorila was explicitly articulated.
Concluding remarks: 
Towards communicative spaces for shaping places

My case studies demonstrate that the Internet can enhance the flow of information and the integration of different sources of knowledge into place-making. This requires appropriate communicative spaces in which cultural adherences towards issues can be expressed. Such communicative spaces are enacted in locally specific situations. For example, the Nurmi-Sorila case shows that local improvisations have a critical influence on the communicative setting constituted by the Internet.

Accordingly, my results suggest that the outcomes of participatory exercises should always be evaluated with local improvisations in mind. The contingent nature of the potential means that new capacities are created during the implementation. People approach issues of spatial local governance holistically, mixing values, experiences, and technical information to articulate meaning in the way a specific situation demands. A good way to nurture the potential of the Internet and spatial technologies is to let capacities be generated in the making; there has to be room for surprises. Therefore, when we develop novel ways that utilise information and communication technologies to engage the public, I suggest we should strive for what Gomart & Hajer (2003) call good experiments, that is, new political settings and forms that allow new capacities to be created among actors. My results concur with their argument that neither the design nor the analysis of participatory exercises can rely on universal predetermined criteria because the settings have emergent properties.

I present aspects that serve as heuristics for assessing participation as form in the making. First, the co-construction of issues, publics, and communicative settings outlines elements that show how the potential becomes actualised in specific situations of governance, embedded in a broader culture of governance. Meanings and knowledge generated in spatial local governance are a result of the complex interplay between issues and their constituent publics, which take shape in particular settings and practices. For instance, the intention to build a bridge evoked the process of

36 Gomart & Hajer (2003, p.45) elaborate that “the quality of a deliberation would then be investigated in terms of the variation of practices, acknowledging that the criteria of a deliberative democracy will change and vary and cannot be fixed a priori”.
mobilising actors and constructing a shared identity. The initiative to use the Internet in these tasks emanated from citizens’ needs, which matched the academic interest of a research project studying civic uses of the Web. The Internet could be harnessed as a communicative space for public action to challenge the local streamlined and consensus-seeking governance culture.

Second, the configurations of interactional, organising, and expressive dimensions provides useful heuristics for studying participation through information technology. In most situations attention has to be paid to all these three dimensions. In fact, I can think of no situation where only one of the dimensions would be in play. However, the results suggest that there are no general criteria for how communicative, expressive, and organising dimensions should be configured. But importantly, the use of the dimensions as analytical tools helped me to analyse the potential in the different communicative settings of the cases. Particular configurations of the dimensions have a critical influence on how the Internet facilitates or constrains negotiation over meanings and mobilisation of different forms of knowledge. I expect that these dimensions can be useful in future explorations with civic uses of the Internet and spatial technologies.

For example, the social interaction situation in the Nurmi-Sorila case was framed as something that could be called ‘oligopticon-within-panopticon’\(^\text{37}\). People were able to look at the area from afar and above, as if from a planning perspective. At the same time, residents knew that the discussion was to be used in the planning process. At issue was not a private conversation, but a public discussion in which arguments addressed questions of spatial policy-making. This in turn had an effect on what kind of knowledge was generated.

The organising dimension influenced politics of meaning and politics of knowledge. In the Koskenniska Bridge case, information archived in the website helped to build a shared identity and highlight the meaning of place. The case of the citizen panel in Tesoma demonstrates how the organising dimension of the Internet worked to widen the residents’ awareness of issues by giving access to information that is normally used in professional practice. Furthermore, this information can be arranged spatially in a form that follows residents’ logic. These results are a useful reminder to the contemporary discussion on open data and transparency of information. More effort should be invested in the form of information, in how it is represented, and in forms of access to this information. In the context of spatial local governance, visual and interactive representations can help in organising information in illustrative and accessible ways.

In the Nurmi-Sorila case, the use of multimodal semiotic resources assisted the discussion to escape any simple codification of information. The issues were formulated and articulated by defining the situation, a process in which the web-based instrument takes part. For example, the graphic icons were used to point out partic-

\(^{37}\) Foucault (1995) uses the term panopticon to describe a disciplinary mechanism of observation in which all subjects are in a state of constant visibility: ‘The Panopticon is a machine for dissociating the see/being seen dyad: in the peripheric ring, one is totally seen, without ever seeing; in the central tower, one sees everything without ever being seen’ (p.201). Conversely, according to Latour (2005) oligoptica “see much too little to feed the megalomania of the inspector or the paranoia of the inspected, but what they see, they see it well” (p.181).
ular locations on the aerial photos; the icons in conjunction with the aerial photos gave people indexical resources to define what they were talking about. However, when interpreted in conjunction with written commentaries, the use of graphic icons appeared more complex than just pointing to specific locations on aerial photos. The results show that when graphic icons are used with written comments, the icons can refer to a variety of spatial scales. In addition, the aerial photographs afforded different means of meaning-making depending on the user's ability to interpret features on the photos.

In effect, the analysis of the Nurmi-Sorila case suggests that although geo-referenced discussion provides a way to spatially organise discussion, we should be wary of using such tools to make generalisations or handle information as divided into clearly defined units, which can be accessed from a database and forced into quantitatively specified entities. My study suggests that geographically referenced discussion is a valuable tool to provoke discussion about qualities of place, but at the same time the results point at the need to develop better tools to analyse the outcomes.

The three case studies exemplify the complex relationship between different types of knowledge and ways of knowing that inform spatial local governance. My cases show how the question should not be addressed as mutually exclusive types of knowledge, but as forms that interact and are transformed and merged in practices and settings in which different social worlds meet. The results support the findings of Van Herzele & Van Woerkum (2008) that visualisation tools have both an enabling and a constraining impact on what kind of knowledge can be attained with them in planning processes.

My results suggest that communicative spaces that utilise visual means of meaning-making on spatial matters influence the relationship between professional and non-formalised knowledge in a number of ways. First, these communicative settings can provide means of contextualising discussion by giving a visual access to familiar entities in the local environment. Second, spatially organised discussion can provide planners with useful information, which they can incorporate in their work. Third, spatial visualisations can provide an access to technical-rational knowledge of socio-material processes, which people find important to understand in order to be credible participants in planning processes. Fourth, visual spatial representations are powerful, and people can harness them to challenge the professional way of knowing issues.

However, at least in the context of Tampere, the technical-rational discourse is so powerful that other ways of knowing and articulating issues easily become subordinated. While these technologies may bring together different types of knowledge, they are inclined to afford certain ways of knowing things. The Nurmi-Sorila case illustrates that when people frame the situation as an arena for public discussion, they adapt their reasoning to discourses that are deemed suitable for public articulation. This shapes the issues that are generated and knowledge that emerge. In addition, the information and communication technology facilitates transforming citizens’ knowledge and views into planning information that can be assimilated into planning practice. However, this entails categorisation and can lead to loss of meaning.
Therefore, instead of always striving for easy acquisition of information, it would be better to treat geo-referenced discussion as multimodal narratives that bring different aspects of particular places without the obligation to find overall patterns that can be spatially arranged at the scale in which planning takes place. This could open up possibilities for people to generate ‘pinpoint clues’ (cf. Jacobs 1961) on local processes and values assigned to place. After all, we make sense of everyday life in the form of narrative (Fischer 2003). If planning is a form of persuasive storytelling (Throgmorton 2003), then the communicative spaces that utilise the Web and spatial technologies could be viewed more as sites of storytelling where people use different semiotic resources to build up their narratives.

The critical point here is twofold: First, values, emotional attachment, and other experiential considerations regarding places are essential in engaging the public to articulate issues. Second, these meanings cannot be easily mediated by language alone; neither can the technical-rational information needed to build up a broad understanding of issues. The results from all the individual cases suggest that other means are needed, and technologies that provide multimodal means can facilitate interaction between different ways of knowing. However, not everything can be solved by novel means of information technology. For example, despite all the efforts at utilising the Web in the Koskenniska Bridge case, people expected that planners and administrators would understand their perspective much better if they would physically visit the place with the neighbourhood actors. Spatial representations, such as visualisations of the bridge, aid in expressing particular types of knowledge and meanings assigned to a place, but they can never replace phenomenological understanding of the place.
Literature


Internet julkisena toimintatilana
OSALLISTUVAA VERKON KÄYTTÖÄ PAIKALLISESSA YMPÄRISTÖKIELISTASSA

JARKKO BAMBERG


Artikkelissa esitellään ja erittellään Koskenniskan siltaprosessin aikana käytettyjä verkko-osallistumisen muotoja, joita olivat informaatiot ja prosessista tallentaneet netissä, keskustelufoorumit, viranhaltijoille ja luottamushenkilöille tehdut kyselyt sekä havainnekatuvat ja -piirrokset sillasta. Tutkimuksen tulokset osoittavat, että Internet on julkisena toimintatilana nousut haastamaan valtamediaa ja muita perinteisempiä julkisen toiminnan tiloja, mikä auttaa löytämään avaimia suljetun suomalaisen kunnallishallinnon avaimiseen.
Taustalla osallistuminen ja
informaatioteknologian kehittyminen

Koskenniskan ajoneuvosillan suunnittelu ja siitä käytä julkinen keskustelu sijoittuu ajallisesti kahden merkittävän muutosprosessin keskelle. Ensiksi, kansalaisten osallistuminen päättöksentekoon oli noussut keskeiseksi kunnallispolitiikan kysymyksiksi. Toiseksi, uudesta informaatio- ja kommunikaatioteknologiasta oli tulut yhä rakenteellisempi osa yhteiskuntaamme.


**Tapaus Koskenniska**


Niin siinä epähuomioissa tavallaan, että se kansalaisliike sai kaadettua sellaisen mielettömän Tamhannattakaavan, oli suunniteltu 40-kerroksisia kerrostaloja, sillai oikee hirvitys, niin siinä samalla tavallaan pääsi, että se oli vienyt niin täysin sen liikkeen voimavarat sen kaavan kaataminen, että se silta niin kuin livahdi siihen. (kuntalainen)


Prosessiin vaikutti suuresti se, että Manseforumien tutkijat pitivät julkista keskustelua yllä. He yrittivät aktivoida sekä sillan vastustajia että kannattajia keskustelemaan. Tätä työtä voisi kutsua julkiisuusaktivismiksi. Erityisen tärkeää on kuitenkin huomata, että Koskenniskan tapauksessa Internetin käyttö kansalaisvaikuttamises-
sa suuntautui “alhaalta–ylös”, aktiivisten kuntalaisten tarpeista ja Mansefoorumin tutkijoiden huomattua, että Internetissä on potentiaalia sellaisille vaikuttamisen välineille, joita kaupunkilaiset voisivat käyttää toiminnassaan.

Jos olet käynyt kattomassa, niin siellä on aika hyvät, noi Mältinranta-sivut muutenkin olemassa. (median edustaja)

Kun kysyn haastatelluita Koskenniskan sillan suunnitteluprosessin etenemisestä, vastaus oli usein edellä olevan haastatteluotteen kaltainen “en nyt muista tarkalleen, mutta se löytyy kyllä netistä”. Internet olikin melkein ainoa informaatiolähde, jonka haastattellut mainitsivat. Informatio- ja kommunikaatioteknologia oli siis mukana prosessissa. Selvitän seuraavaksi erittelemällä neljää erityistä Internetin käyttötapaa:

1. Mältinrannan nettisivut, joille kerättiin ja tallennettiin informaatiota prosessin edetessä.
2. Keskustelufoorumit, joissa käytiin julkista keskustelua.
4. Havainnekuvat ja -piirrokset sillasta.

Nettisivut kansalaismuistin kokoajana ja tallentajana


Niin se Mansefoorumi on ollut nyt parin vuoden aikana kyllä aika informatiivinen (...) Myös mä olen näin valtuutettuna käynyt monta kertaa tarkistamassa sieltä, kun siellä on vanhatkin jutut, että miten ne asiat menikään. (valtuutettu)


ja pitämään se siellä. Informaatio on saatavilla Internetissä riippumatta ajasta ja paikasta: tämän vuoksi nettisivut pystyvät pitämään Koskenniskan siltakysymystä julkisuudessa silloinkin, kun siitä ei keskusteltu muualla, kuten paikallisissa sano-
malehdissä.

Keskustelupalstat julkisen keskustelun tilana

Koskenniskan prosessin kuluessa julkista keskustelua käyttiin pääosin kahdella eri
Internetin keskustelufoorumilla. Toinen oli paikallislehti Tamperelaisen ylläpitä-
mä Polemiikki.net, toista yllöpitivät Mansefoorumin tutkijat Mältinranta-sivujen
yhteydessä. Keskustelujen aktiivisuus ja tyylit olivat erilaisia näillä kahdella fooru-
millaa. Polemiikki.netissä keskustelu oli aktiivisempaa ja sitä seurattiin tasaisemmin.
Mansefoorumin keskusteluissa uusia viestiketjuja aloitettiin harvemmin ja siksi
foorumi tarvitsikin enemmän tiedottamista, jotta siellä olevia viestejä luettuisiin ja
niihin vastattaisiin. Mansefoorumin keskustelupalsta oli kuitenkin etuja. Foro-
min Mältinranta-keskustelupalsta oli rakennettu käsittelemään vain Koskenniskaa
koskevia asioita ja sijoittaminen Mältinranta-sivujen yhteyteen tuki ja ruokiki
foorumilla käyttäjä keskustelujaa. Haastateltavat pitivät Polemiikki.netin keskustelujua
spontaanimpina ja vilkkainquina kuin Mansefoorumin keskustelujaa, mutta samalla
niiden ajateltiin olevan epäasiallisempia ja asiantuntemattomampia. Mansefooru-

Yleisesti ottaen haastatellut pitivät yhtenä Internetin keskustelupalstojen suu-
rimmista ongelmista nimimerkkien käyttöä ja anonimityttä, joiden suojuosta on
helppo heitellä epäasiallisia kommentteja. Tämä johti Koskenniskan tapauksessa
seinähenkiökohtaisuuksiin, jolloin varsinainen siltakeskustelu jää taka-alalle. Har-
kitun ja yhteisymmärrykseen perustuvan keskustelun mahdollisuudet hupenivat,
kun argumentointi ei kohdistunut asiakysymyksiin. Epäasialliset kommentit myös
vähensivät keskustelupalstojen viestien määrää ylipääätään, koska monet eivät ha-
lunneet ottaa osaa keskusteluun, jonka kokivat asiattomaksi.

Erityisesti kunnan viranhaltijat ja luottamushenkilöt välittivät keskustelujaa,
joissa taatettiin anonymiteetti. Varsinkin ajoneuvosiltaa puolustaneet ajattelivat,
 että heidät tyrmätäisiin keskustelufoorumeilla välittömästi, jos he kirjoittaisivat
sillasta jotain edes hieman positiivista. He pitivätkin Internetin keskustelufoor-
rumejä lähinnä ajoneuvosiltaa vastustaneiden keskinäisissä keskusteluryhmässä.
Toinen syy välittää kirjoittamista netin keskustelupalstoille oli se, että luotta-
mushenkilot ja viranhaltijat eivät halunneet sitoa mielipiteitään liian tiukasti.
Keskustelupalstoilla tieto säilyyy ja se on kenen tahansa saatavilla, ja sikäli ke
skustelufoorumeille kirjoitettua kommenttia voi verrata kirjalliseen dokumenttii,
johon on helppo vedota jälkeenpäin. Valtuutetuille oli tärkeää säilyttää pelivaraa
mielipiteen muuttumisen varalta. On kuitenkin painotettava, että luottamushen-
kilot seurasivat keskustelupalstoja, vaikka eivät kirjoittaneet niihin. He halusivat
seurata keskustelua ja nähdä sitä kautta millaisia mielipiteitä ihmisillä oli ja mihin
suuntaan ne olivat kehittymässä:

Se on aika jännä, että tulee tätä tässä, ihan kenen tahansa kanssa puhuu, niin
huomaa että, aha, se on lukenen jotain sieltä netistä, kun mää melkein päivittäin
seuraan jotain keskustelupalstaan sieltä. Että kyllä niitä seuraa muutkin. Vähän
salaa, tirkistelee, mään vähän luulen että se on niin. Saahan sieltä hyviä vinkkejä.
(valtuutettu)


Haastateltavat eivät olleet yksimielisiä keskustelufoorumien ja sanomalehtien saavutettavuudesta. Jotkut olivat sitä mieltä, että netissä keskustelua on helpompia seurata ja siksi se on saavutettavuudeltaan parempi. Toiset taas sanoivat sanomalehden saavuttavan useampia ihmisiä. Syy ristiriitaan näyttäisi olevan siinä, että keskustelupalstojen ja sanomalehtien saavutettavuus oli luonteelta erityyppistä:
Keskeinen tekijä


Ensimmäisessä kyselyssä (ks. kuvio 1) huhtikuussa 1999 tiedusteltiin kaupunginvaltuutettujen kantaa siitä, kannattavatko he ajoneuvosiltavarauksesta poistamista Finlaysonin asemakaavasta, ja toisaalta haluavatko he kansannäenestystensä asiasta. Kysely tehtiin ennen kaupunginvaltuuston kokousta, jossa kansannäestysaloitteesta päättettiin. Toinen kysely suunnattiin saman vuoden elokuussa tekniselle laitakunnalle. Siinä kysyttiin laitakunnan jäseniltä aikovatko he osoittaa määrärahaa Koskenniskan ajoneuvosillalle seuraavan vuoden budjettiin. Lukauksessa toteutetussa kolmannessa kyselyssä valtuutetut saivat vastata kysymyksiin sillan aloitusmääräraahast, jota tekninen lautakunta olisi esittänyt seuraavan vuoden budjettiin.


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| tekninen lautakunta  | - onko käynnit tutustumassa alueeseen  
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- vaarantaako silta Mäntinrannan myönteisen kehityksen                             | huhtikuu 2001 |
| tekninen lautakunta  | - ehdottaako määrärahaa seuraavalle vuodelle                                                   | elokuu 2001 |

Kuvio 1. Koskenniskan sillasta tehdyt kyselyt.

...teet olivat kehittyneet, ja olivatko esimerkiksi politiikkojen mielipiteet vaihtuneet vastaamisen jälkeen. Kuntalaiset myös käyttivät myöhemmässä kannanotoissaan tätä mahdollisuutta hyväksi ja vetosivat kyselyissä annettuihin vastauksiin. Kuntalaiset pystyivät tällä tavoin seuraamaan ja painostamaan poliittisia päätäjiä.

**Havainnekuvilla koeteltiin kansalaisten mielikuvitusta**


Kuntalaiset tekivät myös vaihtoehtoist havainnekuvat kevyen liikenteen sillasta. He halusivat osoittaa ajoneuvosillalle vaihtoehdon, joka säilyttäisi alueen luonteen ja ympäristön muutumattomana. Toisin sanoen he eivät pelkästään kritisoineet kaupungin havainnekuvia vaan toivat esille aivan uuden vaihtoehdon, jollaista kaupunki ei esiintynyt.

Julkinen keskustelu havainnekuvista kuitenkin lamaantui kahdesta syystä. Ensiksi, osapuolet näkivät toistensa havainnekuvat tarkoituushakuisina. Siltaa vastustaneet kuntalaiset uskoivat kaupungin tehneen kuvat todellista tilannetta kaunis-

**Internet paikallisen hallintatavan haastajana ja julkisena toimintatilana**

Koskenniskan sillan tapaustutkimuksen keskeinen päätelmä on, että uudella informaatio- ja kommunikaatioteknologialla oli todellista merkitystä suunnitteluprosessissa. Prosessin kuluessa kaupunkilaistais käyttävät Internetiä luovasti vaikuttaakseen prosessiin. Internet tarjosi uuden ulottuvuuden julkiseen keskusteluun, joka oli haaste suunnitteluviranomaisille, kaupunginvaltuutetuille ja muille kaupunkisuunnittelun keskeisille toimijoille. Uuden informaatioteknologian käyttö tekeekin mahdolliseksi sellaisten osallistumistapojen kehittämisen ja kehittymisen, jollaisia ei ole käytössä vielä nykyisissä osallistumisprosessissa ja -käytännöissä.


Tällainen julkinen toimintatila poikkeaa Habermasin (1989) esittämästä julkisen tilan käsittestä, jossa korostuu rationaalinen mielipiteiden muodostus. Rättäli


On kuitenkin tärkeää huomata, että olemassa olevat rakenteet vaikuttavat siihen, millaisia mahdollisuuksia julkisen toimintatilan syntymiselle on jossakin tietyssä tilanteessa ja millaisiksi ne muovattuvat siinä. Koskenniskan sillan tapauksessa aktiivisille kuntalaisille syntyi uudenlaista toimintatilaa muun muassa siksi, että Tampereen yliopistossa oli Paikallisius verkkomediassa -tutkimushanke meneillään ja Internet oli ylipäättää tarpeeksiksi kehittynyt kuntalaisen tarpeita vastaavaksi.


Journalismin ja viestinnän tutkimuksen kannalta on kiintoisaa, että Internetin myötä on tullut tarpeita myös uudenlaiselle julkisuustyöläisille, jotka eivät vertaudu suoraan toimittajiin. Esimerkiksi Koskenniskan tapauksessa ilman Mansefoorumin tutkijoita Internetin käyttö olisi luultavasti jäänyt huomattavasti vähäisemmäksi. Toimittajista poiketen heidän tehtävänään ei ollut tuottaa sisältöä pelikentälle, vaan pyrkiä tekemään sisällöntuottaminen muille mahdollisesti.

Julkisten toimintatilojen dynaaminen luonne tarkoittaa tutkimuksen kannalta myös sitä, että tiettyjen yksittäisten sovellusten kokeileminen ja tutkiminen eivät riitä, vaan on tärkeää tehdä tutkimusta päättöenksonkopsesseista ja tarkastella informaatio- ja kommunikaatioteknologian vaikutusta tutkittavan prosessin kontekstissa. Tällöin on kiinnitettävä huomiota paikallisien olosuhteisiin ja erityisesti paikalliseen päättöenksonkulttuuriin ja hallintataapaan. Myös osallistuvan informaatio- ja kommunikaatioteknologian tutkimus tulisi kytkeä läheisesti (paikallisiiin) poliittisiin prosessseihin. Samasta syystä kansalaisosallistumisen informaatioteknologisten välineiden suunnittelussa tulisi huomioida paikalliset piirteet.

Viitteet

1 Polemiikki.net (http://polemiikki.net, ei enää toiminmassa) oli kaupunkilehti Tampereisen ja Soon Communications Oy:n (nykyinen Elisa) ylläpitämä kaikille avoin kaupunkilaisten keskustelufoorumi.
2 Mansefoorumi (http://mansefoorumi.uut.fi) on Paikallisuus verkkomediaassa -tutkimushankkeen yksi osa, jossa kokeitiin Internetin soveltuvuutta paikallisen kansalaiskeskustelun ja yleisemmin vastavuoroisen julkisen viestinnän alustaksi.
3 Koskenniskan aluetta kutsutaan myös Mälitännäksiksi paikalla sijainneen mallastamon (malteri) myötä.

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Chapter 8

Facilitating Knowledge Sharing in E-Governance: Online Spatial Displays as Translating Devices

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ABSTRACT

This chapter introduces a case study that aimed at developing practices of neighborhood participation by utilizing information and communication technologies. A participatory action research project organized a citizen panel in the neighborhood of Tesoma in the city of Tampere, Finland. The panel tried to find meaningful ways for residents to influence the development of their neighborhood. The central aim was to articulate and mediate their local knowledge to administration that traditionally leans on technical-rational knowledge. The case study suggests that interactive online spatial displays have potential to facilitate meaningful exchange of information by three mechanisms of translation: 1) by giving access to information from viewpoints familiar to the residents, 2) aiding the translation of technical-rational information of public administration for citizens with illustrative visualizations, and 3) giving residents multimodal means of producing input to administrators and planners. Interactive online spatial displays, such as interactive maps and simulations, are considered to work particularly well as translating devices supporting these mechanisms.

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INTRODUCTION

Citizen participation at a neighborhood level is often perceived to take place in specific events that are arranged within planning processes and particular stages of decision-making. However, participation at this level is entangled with questions that rise from actions of everyday life. Therefore, reflecting on insights from complexity theory, we want to take a broader view of neighborhood participation and extend it to various practices that include continuous as well as sporadic interaction and collaboration between institutional and neighborhood actors, particularly between city government and residents.

One of the central questions of governance is how to provide settings and arrangements for meaningful interaction between local experiential knowledge and knowledge based on technical-rational information (Fischer, 2000). However, drawing on an approach that sees knowledge as being tied to practice (Cook & Yanow, 1993), we consider that dissemination of knowledge to the use of governance is not a straightforward matter. In addition, often knowledge that could be available is not used because it is situated in periphery from the viewpoint of decision-makers and public administration (Yanow, 2004). This means that much of the knowledge potential resides in different practices scattered around the city. If knowledge is understood from this practice-based approach as knowing, as a situated capability to act, there is twofold potential in information and communication technologies (ICTs) such as the Internet and geographic information systems (GIS) to facilitate participatory arrangements in e-governance. They can 1) support building collective competences to act, and 2) facilitate interaction between different actors that are members of various different social worlds but do not share them all together. In this chapter, we focus on this potential. Hence the crucial question: How can ICT be utilized to increase interactions between different actors in governance of cities? The question has to be discussed while acknowledging that at the same time knowledge is not directly accessible but needs to be translated from the practices that created it.

The chapter opens up the above question by way of a participatory action research project, which aimed at developing ICT-mediated participatory practices with a citizen panel. After opening our conceptual framework consisting of insights from theories of practice-based knowing and complexity, we introduce our case study with a citizen panel in Tesoma neighborhood in the city of Tampere, Finland. Then we move on to consider how neighborhood participation can be understood as various interactions between citizens and administration where different kinds of information and knowledge merge. This leads us to discuss how the citizen panel discovered ways to apply interactive online spatial displays to support interaction and knowledge sharing between citizens and administration.

BACKGROUND

Web-Based Spatial Technologies in E-Governance

Recent societal and technological changes, such as the move from government to governance (see Pierre, 2000) and rapid developments in information and communication technologies, have stimulated a vast amount of scholarly discussion of democratic practices and communication between institutional actors and the public. These changes have encouraged searching for more transparent and participatory decision-making processes (see Hague & Loader, 1999; Axford & Huggins, 2001).

Many of the initiatives around citizen engagement in e-democracy practices have focused on improving the efficiency of administration by paying attention to the ways how governmental information could be better accessed by citizens...
Facilitating Knowledge Sharing in E-Governance

(see Hague & Loader, 1999; Hacker & van Dijk, 2000; Day & Schuler, 2004). This viewpoint easily directs the emphasis on technological tools and the competence of citizens to properly take advantage of the new electronic services offered to them by governments. In this vein, citizens are being placed into the position of the customer-user instead of being regarded as responsible and legitimate actors in decision-making processes.

In collaborative governance, citizens become co-producers of policies that affect their everyday life in society. In this view, ICT is approached as an arena that serves public, reflexive, and democratic negotiation of governance. (Coleman & Kaposi, 2006.) Coleman and Kaposi see the transformative potential of the Internet in encouraging emerging modes of communication. They explicate that the central role of civic networks in collaborative governance is bringing the experiential knowledge and perceptions of stakeholders to the center of accountable governance. (Ibid., 2006.)

In addition to the Internet, spatial technologies such as geographic information systems have received a lot of attention as means to facilitate public participation (for overviews, see Sieber, 2006, Craig et al., 2002). According to Richard Kingston (2007) “these tools are meant to help people make better planning decisions by enabling improved communication, design and analysis in place making” (Kingston, 2007, p. 139).

Broadly taken, the aims of the experimentation of the Internet in conjunction with spatial technologies include two dimensions. First, communication is enhanced as spatial technologies help convey meanings regarding spatial matters (Craig et al., 2002; Sieber, 2006). This is obviously a central aspect in urban planning. Furthermore, the Internet offers a possibility to extend and diversify public discussion and the interplay between different actors in planning processes. It has been suggested that with these technologies one can reach a much bigger audience than with traditional means such as town hall meetings (Bosworth et al., 2002). Second, GIS helps to store large quantities of information and, once archived, information can be retrieved from a database through user interfaces that allow assembling of information in a comprehensible and meaningful manner. This facilitates knowledge production.

We do not want to take a deterministic stance by bringing up this twofold potential. We are not interested in questions such as what the ICT does as a predetermined entity. Social studies of science and technology have rendered this kind of a question insupportable, as it presumes an objectively verifiable truth. What we can do is to find out how certain technologies gain specific attributes (Grint & Woolgar, 1997; Akrich, 1992).

Grint and Woolgar (1997) elaborate on this as follows: “This is not to suggest that machines do not have effects. Instead, what counts as an effect […] is taken to be a social process involving the persuasive interpretation of information and convincing attribution of capacities” (Grint & Woolgar 1997, p.33).

Regarding this, there are questions relating to how the potential of the Internet and GIS in public participation is realized in practice. First, it depends on how public participation is understood. Is it restricted to some specific (and somewhat rare) occasions, such as voting in elections or public hearing in a certain phase of a planning process? Or, is it continuous but fluctuating interaction between actors? Drawing on insights from complexity theory, we take the latter point of view. Second, widening the knowledge base through more inclusive governance is not a straightforward matter but needs means of translation; the following approach that acknowledges the underlying complexity of urban governance and sees knowledge as being dependent on practices helps to tackle these questions.
On Complexity and Epistemic Diversity

Complexity is an overriding characteristic in governance of urban cities. Cities consist of multiple on-going activities that form a mixed bag. Processes related to industry, commerce, dwelling and recreation are practiced in cities. Different practices give shape and structure to cities. Governance tries to comprehend these processes and have an effect on them. The means of governing vary from reactionary responses of short-term events to the guidance of anticipated structural developments of the city. Complexity in modern cities brings in specific challenges concerning governance. The need for wide knowledge acquisition for robust decision-making and problem solving is immanent. However, the complexity in governance cannot be controlled or eliminated. This is because complexity does not rely on the number of parts within the system, but on the intensity and density of interaction in the system. Although control is not a viable option in tackling with complexity, complexity can be harnessed and understood, meaning that there are more or less worthwhile ways of dealing with it. (Wagenaar, 2007.)

Complex systems have emergent properties, which are produced by the interactions between separate parts of the system. The separate parts of the system do not have these properties; they are productions of the interactions between its parts. (Ibid.) Accordingly, the citizens’ non-reductionist way of dealing with problems complements well the technical-rational decision-making that is disciplined by administrative borders because this way the system can better respond to its emergent properties. Policy analyst Wagenaar (2007) puts it as follows:

Because expert knowledge is primarily aimed at the understanding (and alleged control) of the separate parts of the system (e.g. members of ethnic minorities, food suppliers, school dropouts, employers, etc.), it threatens to miss the emergent properties of the system entirely. (Wagenaar, 2007, p. 24.)

Hence, complexity theory proposes that we should strive for participatory governance because...

...it increases system diversity and system interaction. Both have the effect of contributing to the flow of knowledge through the system so that it enables the actors in the system to produce, appreciate, and select productive intervention strategies and arrive at coordination of problem solving and decision-making (Wagenaar, 2007, p. 29).

We follow the work of Wagenaar in considering the crucial role of citizen participation in governance when trying to harness the complex social systems of urban environment. In this light, we propose that governance in cities takes place in settings that can be described as systems of fragmented knowledge. Bruni et al. (2007, p. 83) define systems of fragmented knowledge as “learning settings in which people, symbols, and technologies work jointly to construct and reconstruct understanding of social and organizational action”. They use remote consultation practice in the health care field as an example of a system of fragmented knowledge. They argue that in such a system, knowledge is not carried only by people but by artifacts as well. We believe the system of fragmented knowledge to be a useful concept in the context of city governance as well. This practice-based approach is useful as the concept of practice captures how specific forms of knowing are culturally and historically constructed with particular material arrangements (Bruni et al., 2007).

As an analogy, we draw on a perspective of citizen participation where actors, such as residents and city government, act inside a shared system of fragmented knowledge that consists of various practices. Actors interpret this system in social interaction from their own viewpoints; e.g. admin-
Administratively created borders of municipalities and localities are guidelines for city planners, whereas everyday practices – which are not dictated by administrative borders – direct the perceptions of residents. As the system consists of various practices that emerge and take place somewhat independently on other practices, social worlds have specific ways of knowing. In order to function properly, the system needs means to translate knowledge from one form to another.

However, there are supposedly differences between the systems of remote health care and governance of cities. The system of fragmented knowledge in health care works more on a coded, routine-like basis, whereas the system of fragmented knowledge in city governance takes a more organic form, having multiple configurations. How can information move meaningfully in a system if the way of knowing, i.e. sense-making by utilization of information and knowledge in practice (Cook & Brown, 1999), varies from one social world to the next? Two interrelated problems can be drawn from the above: how to attain information and knowledge, and how to make sense of it?

These questions on information acquisition and interpretation should be considered from the viewpoints of administration and planners as well as citizens. Planners may perceive that some knowledge in the periphery is not valuable and thus there might be no means to acquire local experiential knowledge from the citizens. Administration often works without enough transparency, and hence citizens might not be able to acquire information even if the issues concern them. This does not have to be administrations’ and planners’ attempt to conceal their decisions, rather it may stem from the fact that administration does not know all the consequences of their decisions. In this chapter, the citizens’ viewpoint is emphasized when approaching these questions. In what follows, we introduce a case study that will be discussed in order to tackle the questions of information acquisition and interpretation.

DELIBERATING ON KNOWLEDGE SHARING

Case and Methods: Action Research Project in Tesoma Neighborhood

The complexity inherent to governance effectively evades the possibility of constructing a universal model for public participation. Solutions on how to arrange participation will always be context-specific. Accordingly, we do not intend to build up a universally applicable model for public participation. Instead, by using an approach that combines case study analysis with action research methods, we want to bring up elements from the case that may provide insights about how and why interpretation and interaction between different actors could be facilitated by interactive online spatial displays. The advantage of case studies is that they can provide valuable knowledge that is concrete and practical. By taking a case study approach, we believe on “the power of the good example”, which is often underestimated compared to formal generalization as a source of a scientific development (Flyvbjerg, 2001) ⁴. However, the findings can find meaning and place in other cases through analogical generalization (Smaling, 2003). The case study allows us to trace particular characteristics of interactive online spatial displays that relate to participatory governance and citizen participation at a neighborhood level. In addition, the case study approach lets us discuss the potential of ICT in a specific context and practice. This is helpful, as we take technology to be inter-related with social practices.

The chapter bases on an empirical case study in which the University of Tampere and the City of Tampere co-operatively organized a development project in a local neighborhood of Tesoma⁵. The project was implemented at a time when themes of neighborhood renewal, diffusion of information society and development of civic participation started to intersect in the Finnish society⁶. Tesoma represents a typical neighborhood that was built
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during the rapid urbanization in the 1960s and 1970s. Initially, the Finnish neighborhoods of that era were facilitating the increasing population movement and housing pressures stemming from the migration from rural areas to urban towns. Since then, many of these neighborhoods, including Tesoma, have witnessed a lot of negative side effects of urbanization such as increased unemployment and crime rates.

In the neighborhood renewal project, the citizen panel played the role of an informant of civic knowledge at the neighborhood level. The starting point in this joint project was to consider the local residents as experts of their neighborhood. Traditionally, the kind of knowledge and expertise that have been recognized as relevant in processes of urban planning have been narrowly defined as rational, basically meaning technical-scientific planning knowledge. Nevertheless, technical-scientific knowledge has proved insufficient in situations where different agents and forms of knowledge come together (Irwin & Wynne, 1996; Fischer, 2000; Hajer & Wagenaar, 2003). Acknowledging the civic expertise, the project aimed at developing participatory practices by utilizing the potential of communication technology in civic participation.

The aim of the project was to give residents an opportunity to gain more voice in the development process of their living environment. A group of 12–15 residents of Tesoma neighborhood formed a citizen panel that brought its knowledge under discussion. The project partners, researchers from the University of Tampere and practitioners from the City of Tampere, shared the view that ICT should be made accessible and available for citizens’ use. The project emphasized mutual interaction and co-operation between the city government and the residents.

Researchers took an active stand in the process of local knowledge creation as the approach was based on participatory action research. Typically participatory action research emphasizes communities’ local knowledge in naming and understanding social problems that emerge in their living environments (see Flicker et al., 2008). Action research has been described as empowering participants to independently define problems and opportunities in local settings and to creatively react and adapt to these situations and solutions (Tacchi et al., 2009).

The general understanding of action research approach has rested on a normative view which recognizes the potential of the approach in developing democratic and deliberative practices. Especially participatory action research has been defined through aims that make a difference to research participants’ living situations as well as to their ways of producing, interpreting and understanding knowledge (Genat, 2009, 103; McTaggart, 1997). In the case at hand, the development of e-democratic practices was not only focused on empowering an acting community of residents but also inviting these civic participants to develop participatory practices of local governance. New means of information and communication were regarded potential, first, in making these interactive processes public and, second, in enhancing the mutual knowledge sharing and creation between different agents. The researchers were involved in encouraging and pursuing these aims by generating community activity in a local neighborhood in conditions where little public citizen activity was taking place.

Working With the Citizen Panel

The launch of the citizen panel was announced to the residents with invitations delivered to their homes that included directions on how to participate. The panel was active for over a year, having two-hour meetings every two weeks. The meetings were usually held in a local high school in Tesoma. In the meetings, the researchers and the city representative worked as the chairman of the discussions and as the secretary when documenting the meetings. First the panel’s action was connected to the preparation of a general
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development plan of Tesoma neighborhood on which our project partner in the city organization was working. By collaborating with the panel, the City wanted to gather local knowledge of issues that residents considered important in their living environment. The issues varied from positive features of the neighborhood to issues experienced problematic and calling for repair. In the first meeting, the panel members were asked to bring up issues they had experienced important when thinking about Tesoma neighborhood, its current condition and issues that needed to be developed and taken under discussion. The issues raised concerned everyday life practices of the neighborhood residents: for example, traffic arrangements; appearance and character of the shopping mall in the area and its surroundings; maintenance of recreational areas and spaces for leisure activities; as well as discussion on how to organize social spaces for the local youth.

In the subsequent meetings, the panel members continued defining the issues. The panel formulated its action by discussing one issue over two or three meetings. Discussion started in one meeting was continued in the next meeting to allow panel members to reflect and reformulate solutions for current problems and to discover relevant information and knowledge to support their arguments and suggestions. Often the group rejected their first solution and then another one, a more grounded solution, was developed. After formulating their views, the city representative participating in this project helped to pass on the proposals and comments for the consideration of the city administration.

However, the residents, the researchers and the city representative together recognized in the panel’s discussions that when forwarding the panel’s proposals to the city government, the proposals needed to be well formulated and arguments clearly articulated. To escape the risk of being publicly blamed as presenters of information that bases on individual desires and opinions, on ‘how one feels about it’, we all recognized the limits of the panel’s knowledge, which resulted in our needing technical-scientific information on which to base the citizen panel’s deliberation. (See Heikkilä & Lehtonen, 2004.) In addition, the group members carried out tasks between meetings that expanded the panel’s knowledge to better cover the residents’ point of view. They gathered background information for the discussions. They asked fellow residents for their viewpoints and suggestions on issues that concerned everyday life in Tesoma. They organized local happenings and encounters with relevant agents at their neighborhood locality. Hence their mostly experiential knowledge was made more robust with two types of knowledge: (1) rational, technical-scientific knowledge that was considered more legitimate in city governance, and (2) knowledge that represented views of a wider group of people than themselves.

The panel’s discussions were supported by a vast amount of information resources that touched upon different aspects of the neighborhood, for instance documentation of the area’s spatial development history and its current trends, information regarding plans of future land use and its priorities, demographic data of the neighborhood, and information of proprietorships of building sites on the area. The intensive participation of the city organization in the project opened a rare chance for the residents to access and analyze GIS-based information of their neighborhood and use this generally acknowledged technical-scientific information as a resource to co-construct and reflect their views (see Heikkilä & Lehtonen, 2004). The panel members did not use GIS in the traditional sense. They did not work with specific desktop software designed for analysis of geographical information. Instead, they analyzed thematic maps by discussing them in their meetings. The thematic maps were previously produced for administrative purposes from GIS data on the City of Tampere. For example, the panel had a thematic map showing how the green areas in town were classified for maintenance. This kind of geographic information is not usually available...
for the general public but is extensively used in the city organization.

Such intense co-operation between the public and public officials, as the work with the citizen panel in Tesoma exemplifies, was fairly uncommon in Finland in the early 2000s. In urban planning procedures, civic participation has been traditionally constrained to previously determined phases and occasions. In addition, the local political decision-making culture in Tampere has previously been closed with little possibilities for citizens to participate (Laine & Peltonen, 2003). Participatory methods started to gain more focus as the general atmosphere for participation in society opened up and new legislation was set up for land use planning. Currently, the land use and planning act gives general guidelines on how participation should be arranged in planning processes. The case of Tesoma was not connected to a planning process as such but to a national neighborhood development program, within which the Tesoma project was designed to chart the renewal process and the future development of this urban neighborhood. In this sense, the citizen panel worked beyond the usual assumptions of public participation.

Examples and Experiences of Online Spatial Displays

Instead of relying on GIS data only as a provider of background information for citizens’ discussion, the project wanted to take advantage of the potential of spatial technologies and the Internet to create concrete ideas or examples for public participation. Originally, the idea of developing web-based tools and services was raised by the researchers, because studying the web as a tool for public participation was one of the key aspects in the university’s research project. At the same time, the participants of the citizen panel had a clear interest in developing the conditions of their residential area. This interest encouraged the panel to think about designing digital forms of public participation. The discussion was started on the kinds of possibilities the ICT could offer for residents. The panel members’ focus was on what would increase their opportunities to participate in public discussion as well as their possibilities to follow the preparation processes of administrative issues for decision-making.

When utilizing thematic maps based on GIS data that the city organization provided, the panel members recognized that the most important and interesting type of data was usually inaccessible to them. With this they referred, for instance, to various databases of the local government that included specific information on the neighborhoods. The citizen panel acknowledged in their deliberation that they would need this kind of technical-rational information to contribute to the local development plan. This observation about widening the knowledge base of the residents was also addressed when the panel started to discuss the possibilities to enhance meaningful interaction with public agencies and public officials by web-mediated means.

The topic was approached by exploring online examples and applications. The researchers introduced examples that they considered as possibly interesting for the members of the panel and essential for the question at hand. All the introduced examples shared visual and spatial means for knowledge representation as they utilized a map as an interface. For instance, the city of Tampere shares information about services, recreational areas and traffic routes on a map-based application. Another example showed an interactive illustration of the development of rental housing and development of black people’s residential neighborhoods in New York City. This example combined temporal view with spatial development, which evoked the citizen panel to ponder development trends in these New York areas and causalities that encouraged the development. The introduced examples clearly stimulated the panel to re-think processes of societal development as well as the question of how information is illustrated and visualized.
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Presumably, the utilization of maps as illustrators may have directed the citizen panel to recognize maps as relevant and functioning tools for presenting information. However, the panel had already had encouraging experiences of map and GIS use earlier in the project. The feasibility of map-based presentation of knowledge was noticed when the panel relied on maps as an illustrative form of knowledge presentation that supported the panel’s arguments. When it discussed the maintenance of local recreation and green areas in Tesoma, it got access to information that was categorized by the City organization for the general maintenance of green areas. The citizen panel then evaluated the accessed data to the experientially lived green areas in the Tesoma neighborhood. They observed the classifications and categorizations both on a map presentation and on a walking tour together with city officials and compared the technical-scientific information provided by the city of Tampere to their own knowledge. Then the panel created its suggestion on how to develop the maintenance and use of recreational areas. The panel visualized its arguments with two maps by attaching brief explanatory comments on specific places that were experienced as meaningful and important, or which had problems (see one of the maps in Figure 1).

The citizen panel also pointed out some defects in their neighborhood that concerned traffic arrangements and security. It decided to construct a map that included places that were experienced as problematic. The problematic places were indexed with numbers and presented on a map with a brief comment and a photo of the specific place (see Figure 2). For example, number 1 on the map had a corresponding photo showing a road crossing. The photo was attached with a comment “Pavement missing from the other side of Kohmankaari Road”. The maps with commentaries and photos were delivered to the city administration as well as published on the panel’s web site.

Experiences from utilizing maps and other visual presentations to illustrate local place-
specific information functioned as reference points when the citizen panel started to discuss online participatory tools. Spatial view on web applications was emphasized as the citizens recognized the need for spatial demographic data as well as for data that would illustrate local temporal development online (e.g. trajectories of spatial infrastructural development or sufficiency of social services). The relevance of spatial data was addressed in the panel from two viewpoints: 1) information was needed to evaluate local governmental decisions and 2) to support local residency on the level of everyday life.

To equip citizens with competences to evaluate, for example, long-term policies that affected spatial development, the citizen panel emphasized the need to access temporal information. This information would encompass a wider view of an issue at hand. However, citizens also recognized the need for information that would facilitate local residents in arranging their everyday life. These requirements were linked to situations in which spatial-temporal information of one’s living-environment would clarify city-governmental decisions, be it vast future policies or specific planning proposals.

After recognizing the potential related to the use of spatial data, the citizen panel’s action was set up – as we mentioned earlier – with examples in which GIS data was represented by means of the Internet. This gave a springboard for citizens to develop their views on tools useful for web-mediated participation. During this deliberation dialogical methods were used. For example, when documenting the panel’s perceptions, one of the researchers typed the panel’s views on a laptop and projected them on the wall. This way the panel could see that the researchers understood what the panel was trying to articulate. In addition, the researchers constantly double-checked that the arguments were entered accordingly and that everyone in the panel shared current views. The deliberation with the citizen panel helped to identify mechanisms that facilitate interaction and translation of different kinds of information and knowledge, which we will come to next.
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Interaction and Translation of Information: Three Mechanisms

Based on its deliberative discussions, the panel structured a proposal called ‘the requirements specification’ to articulate and mediate its ideas about the development of online participatory tools from the residents’ viewpoint (see Heikkilä & Lehtonen, 2004). Analysis of the work of the citizen panel and its requirements specification yields three different functions or mechanisms that facilitate the interaction and translation of information: 1) access and retrieval, 2) tracking and interpretation and 3) production and sharing of information. These will help in elaborating how we handled the interrelated problems of two-way information acquisition and interpretation of information acquired.

Access and Retrieval

Regarding information search and access the panel recognized the importance of online information service that would serve residents in their activities, which would include for example: web services that would entail various information, for example contact details of local authorities, leisure facilities, parking lots, and available recreation areas or meeting spaces in the neighborhood. All this information would need to be arranged in a way that would be easy to find and use. The panel members had noticed the difficulty of searching for information of their neighborhood on the city’s website; the website was built on the governmental way of knowing, which differed from the residents’ way of knowing. Because of the difference between ways of knowing, the panel members felt that the city’s website was difficult to use and cumbersome. One of the panel members elaborated this:

“The search engine is the weakest link on the city’s website. In order to find correct contact details, the user should know the structure of city government very profoundly.”

In order to easily find information, citizens were supposed to understand bureaucratic processes and the sectoral logic of the administration (Heikkilä & Lehtonen, 2004). However, instead of thinking which administrative sector is responsible for their matters, residents would prefer to use a web interface where information would be arranged based on spatial division, such as neighborhoods. In the panel’s view, spatial organization of information on the city’s website would better serve citizens by giving access to information from the familiar viewpoint. This could possibly function as a way to a more effective governance by reducing unnecessary contacts from citizens to civil servants because the information would be more easily and accurately accessible online for city residents, as one panel member pondered:

“If information could be found this way, interaction would be efficient both from the viewpoint of residents and administration. Any [resident’s] question would be channeled more precisely to the right address and it could be answered faster.”

In the panel’s view, the neighborhood is a concept around which public information services should be aggregated. The panel felt there was a gap between how residents and city government approached issues, and considered this gap as one reason for reducing meaningful interaction between institutional actors and citizens. The call for a better access to municipal information serves both residents in arranging their everyday lives and administration’s efficacy, but furthermore, opens up operations and procedures of municipal organizations and makes them more visible and concrete to residents. In translating governmental actions to residents, the ICT may enable the interaction of rational and bureaucratically organized knowledge of administration with the experiential knowledge of citizens. This might encourage
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mutual learning; for example, citizens could learn how government as an organization arranges its functions. Moreover, developing online tools that enhance the continuous and direct communication between citizens and public administration may open a way out of labeling public participation into specific stages of planning and policy-making processes.

Access and retrieval answers two questions that pertain to residents. First, how to find information on public services? And second, how to find the people who are responsible for particular issues within the institutions of governance? From this viewpoint, the function of access and retrieval is both retrieval of governmental information and access to people, i.e. the city officials whom to contact.

Tracking and Interpretation

Whereas the question of facilitating information retrieval and access focused on information about specific details for conducting everyday life in the local neighborhood, the aspect of tracking and interpretation covers a more general focus; basically it would serve the civic awareness of decision-making and policy-making processes. The panel members recognized the lack of specific information that the city government used in its decision-making; for instance when making decisions on child care, retirement homes, or health care centers in neighborhoods. Equipping citizens with this information that administration holds important when making and executing decisions could decrease the gap between different available knowledge forms.

Online services that reinforce information interpretation would equip residents with diverse data that would support their capabilities to participate in public discussion and evaluate local decision-making. This type of information would, according to the citizen panel’s view, help in understanding and interpreting governmental decisions and their grounds. This can be envisioned to improve the quality of reciprocal citizen–city interaction. Online spatial displays make it possible to use dynamic simulations that can illustrate long-term spatial-temporal information simultaneously binding it to neighborhood localities. For instance, representing temporal changes with visual and spatial tools combines different ways and forms to process and locate information. One panel member brought up an illustrative example:

“You could present on a map where families with children and the elderly live. At the same time, you could design a function to the map from which you could see the development of the population as years go by. This would be useful information when you plan for example where to locate nurseries.”

In addition, regarding information tracking and interpretation, the citizen panel came up with the idea of a ‘vigilant announcement system’ that would automatically send email to registered users when a particular issue was under discussion in city government. This system would be maintained by the city administration and the citizens could join in by registering to certain themes and topics that they considered interesting. This kind of service can be seen as helping citizens to ‘stay tuned’ in governmental processes. (See Heikkilä & Lehtonen, 2004.) This would also encourage people to engage with issues. As political scientist Hajer (2003) has suggested, citizens are political activists on ‘stand-by’, meaning that nowadays it is often policy-making that triggers active citizenship. The kind of service that the panel suggested increases the potential for igniting citizens to act. This kind of system has been recently adopted by the City of Tampere15.

The information that was thought to serve the task of knowledge interpretation was interlinked with local spatial development trajectories, which was the kind of information that citizens usually have no access. The panel members addressed the need to increase awareness of the information
and knowledge that the public decision-making leans on, as becomes clear from the comment of one member of the panel:

“The outlook and awareness about the aspects of one’s own neighborhood would broaden and issues would be easier to discern.”

Lack of knowledge is not a welcome situation in the interaction between citizens and public administration:

*Both enter communications loaded with hopes and expectations based on a history of earlier experiences, understandings, and assumptions about the other and certain self-images, strengths, and vulnerabilities. Lack of knowledge inevitably results in an ascription of motives – almost always negative motives, such as stupidity, obstinacy, duplicity, or carelessness. (Wagenaar, 2007, p. 28.)*

Making the privileged information of the administrative apparatus accessible to citizens would serve the aims of participatory democracy. Keeping both decision-making and the implementation of decision at the administrative or privatized level often results in strong opposition from citizen groups or administrative inertia (Wagenaar, 2007). The opposite strategy, we believe, would encourage the interest of the neighborhood residents in political affairs and policy-making. That is, the translation and the delivery of information that has functioned as a basis of decisions, strategies, and policies might help to decrease tensions and ambiguities that result from inability to create shared meaning across different social worlds.

The tracking and interpretation aspect tackles the question: What is going on here and why? The vigilant announcement system would answer the first part of the question by informing citizens whenever they need to be aware of issues in which they might have or develop an interest. The second part of the question is about translating information the citizens feel they need to consider in deliberating on issues concerning their neighborhood. To take legitimate part in such deliberations, residents want to have technical-rational information that institutions of governance use in their decision-making. Here, online spatial displays were regarded useful in acquiring technical-rational information that could be combined with local knowledge to expand the capability of citizens, particularly residents, to act in the context of governance.

**Production and Sharing**

The panel’s third point was that citizens should be legitimate actors in creating and producing local knowledge and in participating in the governance of the city. They highlighted situations in which citizens could use the Internet to provide authorities with neighborhood-level experiential information that the administration perhaps would not be aware of, e.g. issues that would need instant repairing or maintenance but might be too local to be detected otherwise within a vast organization. The panel drew heavily on the idea of equipping citizens with possibilities to illustrate and visualize their messages with photos, pictures or marking places on an online map. This, they argued, was to improve interpretation of civic knowledge at the city-government level. Following the citizens’ logic, this service would help in making civic messages and knowledge clearer to civil servants. Moreover, this would facilitate the mediation of civic knowledge to civil servants. The panel also sketched an idea to combine written and visual messages when contacting civil servants:

“A map could be produced of the surroundings of Tesomajärvi Lake, in which one could design for instance paths and lighting.”

Another member added that:

“In addition it would be good to attach photos of the area, for example photos of defects.”
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They acknowledged that it is sometimes difficult to express one’s ideas, questions and other messages in a simple format, such as written text. They imagined the use of various communicative means could prevent possible misunderstandings as citizens’ experiential knowledge was interpreted by the administration.

An arena for geographically referenced public discussion is an example that was developed partly based on experiences from the work with the citizen panel. This instrument was recently used in a land use planning process in the city of Tampere. Generally, the geo-referenced public discussion forum enabled multimodal means of public input (Bamberg, 2010). It consisted of aerial photographs that were displayed on the Internet. Users were able to move and attach graphic icons to the aerial photos. They could also make conjoined written commentaries with the icons. Users could retrieve earlier comments and express their opinions and counter-arguments to form threads of public discussion. The application was used in an early planning phase to start discussion on the ‘character’ of the neighborhood. The discussion was then used in planning to develop a vision for the area. (Ibid.) The previous example concerned the context of spatial planning. Another example related to everyday life is the use of online spatial displays for knowledge production. This refers to the City of Tampere service for informing about streetlight blackouts. The system allows users to inform the administration about broken streetlights by producing a spatial interface with a map to point the exact location where the light has gone out.

The function of production and sharing is to give input into governance related processes. This contains both long-term developments, such as policy-making and planning processes, where input focuses on producing knowledge for these processes, and continuous interaction with administration that ‘keeps the business going on as usual’. Hence, the aspect of production and sharing concerns the questions: How to let administrators know what is going on in the neighborhood and how to influence the future development of the area?

Table 1 summarizes the above discussion on how online spatial displays as translating devices influence interaction between residents and administrators, officials, and planners, through three mechanisms of translation. Accordingly, it illustrates aspects that may facilitate the city governance – as a system of fragmented knowledge – to harness complexity with aforementioned online tools.

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Table 1. Three mechanisms of translation
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Online Spatial Displays as Translating Devices

Many studies suggest that local experiential knowledge of citizens is needed to address the problems resulting from the complexity of contemporary governance. Our study underlines that there is a need to find ways to provide technical-rational information for citizens in illustrative forms that make sense from the perspective of residents. This would aid them in reflecting their own experiential knowledge with patterns of information that policy-makers and administrators use. We stress that it is not a question of simple transfer of local knowledge into (technical-rational) decision-making, or vice versa, but blending information from both. Actually, these two ways of knowing are not previously determined entities but created actively in practices. Knowledge is created in situations through practices and action of particular social worlds (Knorr-Cetina, 1981; Haraway, 1991; Cook & Brown, 1999; Wagenaar & Cook, 2003). In specific situations certain kind of knowledge enables action; this means that situations define valuable knowledge. Usually in governance knowledge is formulated and presented to serve previously determined aims of action.

Although we have made a distinction between experiential knowledge of local residents and technical-rational knowledge of city governance, we are not saying that situated local knowledge is reserved only for residents. We all are residents of some particular neighborhoods. Here, the keyword is particular. Although representatives of city government, officials, and administrators do have local knowledge related to neighborhoods where they themselves live, they cannot be experts of other neighborhoods because knowledge of those other neighborhoods is tied to daily practices. Certainly part of this kind of knowledge could be acquired by visiting localities and ‘monitoring’ local environments by walking around and taking part in the practice of everyday life. However, research does not show much evidence of this kind of knowledge acquisition, as Wagenaar (2007, p. 27) notes: “Time and again we find that the general rule is that elected officials and professional administrators are not well informed about the slice of reality that they deal with or about effects that their policy measures have on the ground.”

We have illustrated how more attention should be paid to the form of illustrating and presenting information in interactive processes and knowledge production of city governance. In this interaction, spatial displays such as interactive maps proved to be useful means to present and visualize knowledge resources that different actors in a city environment utilize. For example, maps fit well to the bureaucratic approach of administration because they offer a general overview of spatial entities, such as neighborhoods. This kind of overview is not how residents usually approach issues of their neighborhood. However, even if locations in maps are viewed from above, from citizens’ point of view they still provide means to point out specific details in them and thus a possibility to capture local particularities. Online spatial displays seem to provide a way to situate larger issues into the neighborhood and to the particular and vice versa, this way facilitating taking into account different scales of issues. Our experiences with the panel show that the panel members were able to set their ideas into wider scales. Although the ideas were connected to practical, everyday life and were pragmatic in nature, the citizens saw the importance of participatory tools from a broader perspective. This supports Wagenaar’s (2007, p. 32) finding that residents approach problem solving with considerable pragmatism that addresses “a way of dealing with issues in which concreteness and a continuous awareness of complexity go hand in hand”.

While our case study resonates well with Wagenaar’s findings, it also points out that technical-rational discourse is so strong in governmental decision-making that citizens feel that if they are to be credibly considered within city governance,
acquiring this kind of information is necessary. But what is the moral obligation of citizens to acquire technical-rational of information to widen their knowledge base? To put it in another way, are citizens the ones who need to be the experts, the ones who have the most comprehensive grasp of the issues? Another question is whether it is ethical to make all the information public and at what level of detail. By this we refer to things such as demographic data and issues related to the development of an area. The ethnic origin of residents could be used as an example here; e.g. the example given earlier about the development of black people’s residential neighborhoods. Another example would be geo-demographic information about the income of residents. These obviously raise questions of the limits of transparency.

In their elaboration of the system of fragmented knowledge concept, Bruni et al. (2007) stress the importance of discursive practices to align different parts of the system. In our case, we bring up the possibility of online spatial displays to facilitate the alignment by three mechanisms of translation. In order to lend support to smooth interconnectedness between different actors in city governance, which is seen as a system of fragmented knowledge, information should be translatable between different social worlds. The citizen panel thought that spatial displays, such as interactive map interfaces, present a suitable format in connecting residents and administration. Administration could make its knowledge more approachable and understandable by utilizing visual communication tools, for example maps, as translating devices between its organization and residents. In this sense, practicality of the spatial view allows localities to function as a starting point for discussions in participatory and interactive processes and support mutual knowledge production.

**FUTURE RESEARCH DIRECTIONS**

The ICT, and especially spatial technology, are evolving rapidly at the moment. Their development is often directed at economic or entertainment purposes, such as offering users the possibility to geographically reference their holiday photos. However, any technology is a social-material arrangement, a heterogeneous network that is performed into being (Law, 1994). This means that new technologies, such as Google’s street view, even if controversial, may potentially provide ways to support more inclusive governance with a wide knowledge base. There is a need for further research of these spatial technologies as they continue to develop. It needs to be stressed that the three mechanisms of translation of online spatial displays presented in this chapter most probably are not the only mechanisms upon which spatial technologies may operate in participatory settings. As new technological innovations emerge and their implementations are enacted in various settings, new mechanisms may become equally or more valid. We hope that these will not go unnoticed and wish that the mechanisms of translation presented in this chapter will inspire future research to find other mechanisms and elaborate on the ones we have brought up.

Our case has focused on the viewpoint of residents in producing and articulating their local knowledge, as well as on their apprehension of technical-rational information that is used in policy-making and planning. However, for a more comprehensive understanding, further research is needed to clarify how planners and administrators incorporate local knowledge in their practices when translating devices are utilized. In addition, we argue that instead of emphasizing the division of different forms of knowledge a priori, we should try to understand how they emerge and blend in situated practices and what kind of possibilities and constraints surface as they are enacted. Furthermore, focus should be paid on studying how these different forms of knowledge could best be
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utilized in different contexts and circumstances in order to use them as accompanying each other instead of only emphasizing the differences of their origins. Therefore we call for more concrete methods for handling and bringing knowledge forms together. In our case, we utilized maps and GIS data to interpret citizens’ experiential knowledge to the language of civil servants, such as urban planners. Similarly, means for visualizing or representing governmental or administrative communication could be explored.

The citizen panel’s work has also raised the question of transparency and access, namely what kind of information should be made available. This is rather an ethical question, as more information can increase trust between different actors. However, certain kinds of information could affect neighborhoods’ image, endanger equity and lead to conflicts or unwanted development of particular neighborhoods. This is a question of detail, as at some point information can be too specific. However, general guidelines on this issue would be difficult to make; at what point information becomes too specific is a matter to be decided in practical situations. Research concentrating on this aspect would be most welcome.

CONCLUSION

This chapter has discussed how interactions between citizens and city government could be supported with the aid of ICT. The question of how certain e-governance applications could assist the translation and movement of different forms of knowledge in governance was brought up. In the case introduced above, interactive online spatial displays were found useful in this task. The case study suggests that online spatial displays, as translating devices, have potential to facilitate meaningful exchange of information by three mechanisms of translation: 1) by giving access to information from a viewpoint familiar to residents, namely their neighborhood, instead of organizing information according to administrative borders and sectoral logic, 2) by aiding the translation of technical-rational information of public administration for citizens with illustrative visualizations, and 3) by giving residents multimodal means of articulating information to administrators and planners and thus aiding the translation of local experiential knowledge for the use of public administration. Accordingly, these mechanisms serve to increase interactions within the system of governance and hence knowledge sharing between different actors.

The case study confirms previous findings that citizens approach issues in a holistic manner, and that they are able to work on complex issues and want to see different aspects. They approach issues with considerable pragmatism, in a manner in which practical orientation to situation specific problem solving intertwines with other larger problems and contexts. As Wagenaar (2007) found out in his study: “Over and over again, citizens demonstrated that a focus on practical problem solving went hand in hand with an awareness of the permanence of the problems in their neighborhood” (Wagenaar 2007, p.32).

This has consequences on what kind of information citizens prefer to use when deliberating on public issues. The experiential or situational knowledge of citizens is often restricted misleadingly to civic experiences only. However, people’s knowledge is not only limited to their everyday experiences but builds on a vast combination of experiences and ‘rational information’ that is enacted in changing situations and based on habitus (Bourdieu 1990). Residents are capable of attaching their situational knowledge to a larger framework with various practices. In addition to local experiential knowledge, they would like to utilize technical-rational information that decision-makers use in their work. This kind of information should be available in a form that is comprehensible without extensive education.

One of our central ideas in the Tesoma project was to ponder with citizens how the Internet and
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GIS could advance possibilities to act online as a democratic citizen. Therefore, at that time the starting point differed from the general trend where discussion of the development of information society development was focused on expert level of governmental and business worlds. Digital innovations were developed more from top-down, based on governmental needs, which did not recognize the potential of local knowledge of the residents. Increasing governmental transparency by providing citizens with wider access to municipal information fulfilled the democratization requirements for governance (e.g. Hague & Loader, 1999; van Dijk & Hacker, 2000, pp. 214–215).

New forms of digital applications during the past decade have shown that ICTs may take a central place in social practices. If the early innovations were developed more from governmental interests and were top-down-driven, the process has now, after the expansion of web 2.0 and diverse social media applications, turned to emphasize openness and peer-networks in developing practices of online activities (see Bowman & Willis, 2003; Bruns, 2005; Gillmor, 2004), as well as to incorporate versatile technological tools that in the early 2000s were inaccessible for ordinary people.

Despite the recent development, we think that many of the questions that were raised within our empirical case study are still relevant in discussing the area of participatory e-governance. We stress the need to move forward from discussing access and information delivery to analyze practices of knowledge production, presentation and interpretation. We argue that posting more information on the web to improve organizational transparency is not enough. More intensive attention should be paid to the form of access, meaning how information is organized and presented, which we have demonstrated by taking interactive online spatial displays as a focal point.

To enable encounters between different ways of knowing, processes of governance should become sensitized to the experiential knowledge of citizens and to the ways they express their opinions, stories and hopes about their everyday environment. Furthermore, citizen participation in governance needs to arrive at credible results. So far it has been rather difficult for citizens to access knowledge produced in policy-making and planning and, thus, to follow decision-making processes. To become legitimate and responsible participants in city governance, citizens want to hear and see the effects of their participation; they need to receive feedback on their input (see Coleman & Blumler, 2009).

E-democracy initiatives have been criticized for being too often developed in the name of convenience, which has made these developments rather hollow, if they are evaluated based on the real aims of democratic communication. It is not a question of instantaneity or easiness but a question of mutual recognition (Coleman & Blumler, 2009, p. 167). In this sense, we would call for accountability of city governance when it comes to citizen engagement and democratic interaction. We believe that this accountability is better achieved when interaction between different actors is increased, for example, by the three mechanisms of translation we have introduced.

REFERENCES


Facilitating Knowledge Sharing in E-Governance


**ADDITIONAL READING**


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**KEY TERMS AND DEFINITIONS**

**Complexity**: Found in systems having emergent properties that are productions of the interactions between its parts. Accordingly, these systems are more than the sum of their parts.

**Governance**: The activity of governing through various forms of formal and informal co-ordination of interaction between private and public actors.

**Local Knowledge**: Knowledge that is generated mostly through experiences and is made possible because of knowers’ close exposure to context.

**Neighborhood Participation**: Various practices that include continuous but fluctuating interaction and collaboration between institutional and neighborhood actors.

**Online Spatial Displays**: Multimodal means of representing, generating, and transforming spatial information on the Internet; for example interactive maps.

**System of Fragmented Knowledge**: Heterogeneous settings that consist of people, symbols, and technologies. These settings enable learning through interaction between the parts of the system.
Translating Device: Means that facilitate interaction and translation of information between different actors.

ENDNOTES

1 For the purpose of this study, a general definition from Wikipedia is sufficient: Geographical information system “is a set of tools that captures, stores, analyzes, manages, and presents data that are linked to location(s).” Retrieved November 15, 2010, from http://en.wikipedia.org/wiki/Geographic_information_system

2 The concept of social world has been developed by Strauss (1993). A concise definition would be: “In each social world, at least one primary activity (along with related clusters of related activity) is strikingly evident; such as climbing mountains, researching, collecting. There are sites where activities occur; hence space and a shaped landscape are relevant. Technology (inherited or innovative modes of carrying out the social world’s activities) is always involved.” (Strauss, 1993, pp. 212–213.)

3 Laboratory Life from Latour & Woolgar (1979) is a seminal early work.

4 See also Flyvbjerg’s (2001) discussion on how Galileo’s experiment from the leaning tower of Pisa can be taken as a single case study that is able to reject Aristotle’s law of gravity.

5 The city of Tampere, with a population of c. 210,000, is among the biggest cities in Finland. The town is located in southern Finland approximately 200 kilometers north of the country’s capital, Helsinki. The neighborhood of Tesoma stands 8–10 kilometers from the city center and has a population of c. 15,000 residents.

6 The project was active in 2002–2003.

7 For instance, in Cumbria, North England, drawing on scientific knowledge after the nuclear explosion in Chernobyl caused an economical crisis for local sheep farmers. Instead of acquiring knowledge that would consider local practices, government in Cumbria leaned on rational, scientific knowledge at the expense of knowledge of farmers that knew the situation through practical work in local circumstances (Irwin & Wynne, 1996).

8 The panel consisted of female and male participants whose age varied from 35 to 65 years. Their educational background was diverse. To name a few, the panel had a driving school teacher, maintenance man of public facilities, a photographer, an office worker, a priest, and an electrical engineer.

9 One of the central means for the action of the citizen panel was the Internet. The panel had a website at the local civic portal called Mansetori, which aimed at creating public discussion and communication between city government and residents of Tampere. The panel’s website was designed to help in making citizens’ intentions public and to communicate its activities to city residents. The Internet also functioned as a site for collective memory building of the citizen panel as its actions were archived in a process-like manner at the website. The panel’s modes of public action have been analyzed previously elsewhere, see Heikkilä & Lehtonen (2003).

10 Invitations were delivered to 2662 local households of Tesoma. Approximately thirty residents were keen on joining the citizen panel but only twelve actually showed up when the panel started two months later.

11 In addition, the panel had various meeting places, such as the university and the office of the project partner, that is, the regional development unit of the City Tampere. One of the more peculiar places for meetings was the Tampere City Library’s Internet-Bus called Netti-Nysse (see Harju, 2004).
Different settings were provided to evoke discussion from new aspects and to build trust between actors.

In Finnish land use planning, the general development plan gives guidelines for future development and land-use of specific areas, such as neighborhoods.

Traditionally, the GIS data has been accessible solely by experts. Recently, the potential of spatial information combined with the power to visualise that information on maps has been acknowledged in developing dialogical means of participation (see Sieber, 2006).

Four useful questions guided the formulation of the requirements specification: 1) Who are the users of these online participatory tools? 2) What kind of functions would people need or require? 3) What would be the value of the proposed functions? And 4) what would help in illustrating or presenting information? At the time of conducting the study, the authors knew that these questions were used in usability design. However, they were not aware that the questions are actually outlined in the ISO 13407 Standard, *Human-centred design processes for interactive systems*.

There are also other examples, e.g., http://www.planningalerts.org.au/, http://www.planningalerts.com/, and http://www.twitterplan.co.uk/. Retrieved November 3, 2010. Similar service has been designed in Manchester where Environment-on-Call (EoC) system lets users to inform the local government of defects in the neighborhood (see Kingston, 2007).

For example, there is an online interactive map of insecurity (http://www.mapadelinseguridad.com/, retrieved November 15, 2010) representing locations of criminal action in the City of Buenos Aires, Argentina. This web application lets users mark on a map locations where they have witnessed for instance armed robberies or sexual abuse. It seems obvious that this kind of information should be available. However, this may increase the fear and feeling of insecurity among residents.
Ambiguities in knowledge production: multimodal analysis of discourse and dramaturgy in public participation GIS experiments

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Abstract. A web-based collaborative-argumentation mapping experiment, which was used as part of a planning process in the city of Tampere, Finland, revealed a need for analytical tools to interpret the users’ meaning making with this particular public participation GIS instrument. The main reason for this was the complexity of mediated interaction between different actors in and by means of the application: written comments, graphic symbols, and aerial photographs were combined to make meaning in particular context-specific situations. An analytical framework is discussed; it is shown to have the potential to grasp this type of signification process by studying the dynamics of different semiotic means and the production of discourse and settings in practice.

Introduction
Public participation which uses technology to represent spatial information—and where this spatial information is at issue—has received wide attention from different angles, both theoretically and practically (for an overview, see Sieber, 2006). GIS has been described as a powerful technology which can persuasively convey spatial matters, particularly by means of visualisation. The utilisation of the Internet in conjunction with GIS has been experimented with because it has potential for engaging different stakeholders including the public (Kingston, 2007; Peng, 2001). In this way, there is also potential for including lay knowledge in planning processes and combining it with expert knowledge, hence widening the knowledge base behind decisions (Jankowski, 2009; Rantanen and Kahila, 2009). A growing literature suggests that everyday knowledge can be incorporated into policy making and planning by means of spatial annotation tools (Al-Kodmany, 2000; Hopfer and MacEachren, 2007; Kingston, 2002; 2007; Rantanen and Kahila, 2009; Rinner, 2001; 2006; Rinner and Bird, 2009; Sidlar and Rinner, 2009; Simaœ et al, 2009). The basic idea behind these tools is that, when stakeholders discuss public matters, they often refer to geographical entities and therefore collaboration is facilitated by a spatial representation, such as a map, which provides the means for referring to the spatial matters that are discussed (Rinner, 2001).

However, it has been recognised that local contextual factors have a major impact on how these and other types of public participation GIS (PPGIS) tools are appropriated in practice (Ghose and Elwood, 2003). It has also been revealed recently that knowledge production with PPGIS instruments relies on the everyday practices and negotiations in which they are used, leading some forms of knowledge to be prioritised over others (Elwood, 2006). New geovisualisation technologies have raised the question of how to handle qualitative forms of spatial knowledge and everyday human expressions of spatial relationships (Elwood, 2009). Accordingly we should not take applications of PPGIS as neutral conveyors of information or, put differently, interfaces that simply transfer local spatial knowledge for planners (depending on access to information and other local contextual factors). From this viewpoint, PPGIS
experiments should be taken as forms that obtain their shape only through practices that are dependent on local contextual factors. This is justified by recent research about public participation, which has shown that indeterminacy is a crucial feature in working deliberative settings (Wagenaar, 2007).

The analysis of knowledge production in PPGIS experiments, from the vantage point that they are knowledge (co)production facilities that obtain form only through practices and situations which they part of, should take into account the situational dynamics of experiments on a case-by-case basis and this requires analytical tools capable of attending to the specificities of situations. The aim of the article is to introduce a conceptual–methodological framework that is alert to these situational particularities and to the ambiguities of knowledge production, and furthermore considers the framework’s potential for analysing PPGIS experiments.

To illustrate the approach, I use findings from an extensive case study conducted during an experiment using web-based argumentation mapping within a land-use planning process. This experiment took place in the city of Tampere, Finland, where a web application was developed to initiate public discussion about an area called Nurmi–Sorila, which was about to be planned to accommodate several thousand new residents. The paper begins with an outline of the conceptual framework and then moves on to describe the case study. The framework will be discussed using empirical examples from the case study. These will be used to consider the potential for multimodal analysis.

Multimodal analysis of PPGIS experiments in urban planning

Discourse and dramaturgy in public participation

Policy analyst and political scientist Hajer has, over the years, developed a particular kind of argumentative and performative discourse analysis for analysing policy-making practices and political processes. He takes discourse to mean a “specific ensemble of notions, ideas, concepts, and categorizations through which meaning is ascribed to social and physical phenomena, and that is produced in and reproduces in turn an identifiable set of practices” (Hajer, 2009, page 60). From this perspective, discourse is taken as internally connected with the social practices that created it. Discourse analysis examines how a certain framing of discussion appears as appropriate (Hajer, 2009, page 60). Therefore, by analysing discourse one can contemplate why a particular understanding of issues gains dominance while others are left unrecognised or discredited. This is very useful if we acknowledge that politics of meaning is a crucial dimension in knowledge production for policy processes (Fischer, 2003). This is clear because we draw on distinct systems of signification as we are constantly trying to make sense of what happens, in order to signify the flow of events that we meet. These systems of signification are divergent and hence the meanings themselves are at stake and need to be negotiated in policy processes. Hajer maintains that it is possible to grasp the symbolic dimension “in the language being spoken, in the objects being used and in rituals being performed” (2006, page 42). What is more, this symbolic order is performative; it needs to be enacted constantly and iteratively by reproducing meanings. From this point of view, policy making is dependent on speech acts in which people intersubjectively negotiate the situation (Hajer, 2005a). The signification must be enacted, and this happens in particular settings. Thus, the political process can be analysed as a multiplicity of staged performances.

Consequently there is a dramaturgical aspect present, meaning the diverse arrangements of the staged performances of policy making, which can be studied through the setting, staging, and scripting of policy processes (Hajer, 2005a; 2005b; 2006). Scripting refers to efforts to provide cues for appropriate behaviour which affects the setting by determining the characters in the play. Staging means the deliberate organisation of
interaction, drawing on existing symbols and the invention of new ones, as well as the distinction between active players and (presumably) passive audiences. **Setting** is the physical situation in which interaction takes place, including the artefacts that are brought to the situation. According to Hajer (2005b, page 630), dramaturgical analysis “draws out the way in which scenes are scripted and staged as well as how the multi-fold players then subsequently act within and upon those scripts and stagings.”

The discourse analytical framework that pays attention both to the symbolic dimension of policy processes and to the different forms of deliberation is a useful platform from which to start dealing with the ambiguities related to knowledge production in the PPGIS experiments that are used in actual planning processes. However, the empirical material from the case study alluded to a need for additional analytical tools to interpret the symbolic politics in play. In what follows I will propose that extending the dramaturgical analysis with a **multimodal account** furthers its analytical potential by including in the analysis different **modes** and **media** of communication and the materiality of meaning-making processes. Basically, this approach will also take into account modes of signification other than language, which is crucial for understanding any practice and, in this particular case, the participatory practice in which the setting for deliberation is infused with technology.

**Multimodality, mediated action, and communicative acts**

In the simplest sense, **multimodality** refers to semiotics, which also employ semiotic resources other than language-in-use, such as image, gesture, and sound. This is justified by the fundamentally multimodal nature of communication, stemming from the materiality of the meaning-making process, which means that meaning making cannot be plausibly understood in terms of any one semiotic modality such as language (Kress and Leeuwen, 2001; Lemke, 1998). Hence, a pragmatic conception of language needs to be widened to one which takes into account all the modes and media of signification. Accordingly, it is important that the multimodal account should not privilege any one semiotic over another. This does not mean that in practice one semiotic can prove to be more powerful (Iedema, 2003, page 40). In such situations, it is common for other semiotic resources that are deployed to become naturalised as if they were nonexistent or invisible. Multimodal discourse analysis tries to avoid such naturalisations and to render them visible. People not only do things with words but with different semiotic resources, with different modes and media of communication. Van Leeuwen (2004) has proposed that speech acts should be renamed as **communicative acts**. This makes the performative dimension, which has thus far been confined to language, comply with other semiotic resources.

In addition, communicative acts do not happen irrespective of their contexts; the settings do things with these as well. Here the concept of **mediated action** is helpful. It refers to the dialectic between action and semiotic resources by which actions are accomplished (Scollon, 2001). Thus, mediated action is social action taken with or through **semiotic resources**. According to Scollon (2001), semiotic resources are semiotic – material means of communicating action. These resources do not have existence irrespective of social actors, but at the same time social actors depend on them. This dialectic will dispose what types of communicative acts are played out and how they are performed in particular situations.

Studying mediated action as multimodal communicative acts will have an influence depending on the type of discourse analysis conducted. In addition to Hajer’s elaboration of discourse analysis, where “ordering works through linguistic systems, through ‘vocabularies’ or ‘repertoires’ that shape the way in which people perceive and judge situations” (Hajer and Laws, 2006, page 261), we need to extend this to the various
repertoires in modes other than language and also to repertoires for various interplays between different semiotic resources in situations which take place in particular settings. In what follows I show how this became necessary in a particular case; namely, in the interpretation of the argumentation mapping experiment conducted in the city of Tampere. I will then describe what type of design decisions were made during the design process of this particular web application for public participation. This will bring out what was expected from the new instrument, or in terms of dramaturgical analysis, how the initial staging and scripting was arranged. Examples from the actual output of the application will be provided to show how it was used multimodally. Drawing on this evidence, I argue that by paying attention to the *semiotic-material specificities of situations* the multimodal approach shows potential for shedding light on ambiguities of knowledge production within PPGIS experiments.

The case study

**Collaborative-argumentation mapping experiment within a land-use-planning process**

The 17 km² planning area of Nurmi–Sorila is approximately 12 km northeast of the city of Tampere (see figure 1). The area has developed around two villages called Nurmi and Sorila. The region has firm roots in agriculture, and a mixture of domestic animals, pastures, fields, forests, and old farmhouses still have a strong effect on how the place is perceived and habited; the landscape is typical of continental Finnish countryside. At the moment, there are about 700 inhabitants with seasonal changes due to summer residents. A significant reason for this is found to the west of the area where Nurmi–Sorila borders on Lake Näsijärvi, where the waterfront provides locations for lakeside summerhouses.

Administratively, Nurmi–Sorila has been part of the city of Tampere since 1966. From that time on the planning of the area has occasionally provoked public discussion. In 2005 the process took off with surveys that focused, among other things, on nature, transportation, cultural history, landscape, and certain species in the area. This is a

![Figure 1](http:// example.com/figure1.png)

**Figure 1.** The location of (a) the municipality of Tampere in Finland, and (b) the planning area of Nurmi–Sorila within the city of Tampere (modified from sources: [http://fi.wikipedia.org/wiki/Tampere](http://fi.wikipedia.org/wiki/Tampere) and [http://www.tampere.fi/](http://www.tampere.fi/)).
legitimate part of current planning practice in Finland. These scientific–technical documents play a powerful role in the subsequent planning process. In addition to these, this early stage also introduced something new to the planning practice of Tampere. A policy instrument called kehityskuva, which could be translated as ‘the development image’, took place for the first time in the planning history of Tampere. According to the Tampere city authorities, the purpose of the instrument was to enable target-oriented discussion about the prospects for the neighbourhood and the participation of different interest groups at an early stage of planning.

The development image provided the grounds on which new participation practices facilitated by information and communication technology could be used and experimented, and an argumentation mapping application called Nurmi–Sorilan Plusat ja Miinukset (The pros and cons of Nurmi–Sorila) (NSPM) was designed for this purpose. Generally, this tool for participation consists of aerial photographs that are displayed on the Internet (see figure 2). Functionality for users is provided through movable and attachable graphic icons and with the possibility for conjoined written argumentation through icons that are entered into aerial photographs. What is more, other users could retrieve earlier comments and express their opinions and counterarguments to form threads of public discussion. In figure 2 the web application is in use in the following situation: a user has chosen to check one of the aerial photographs for comments from other users, and consequently graphic icons are displayed on the photograph. The user has clicked on one of these icons and hence another window is open, which includes the written comments regarding that particular symbol.

I took part in designing the actual application with a group which consisted of practitioners from the city’s planning office and a software designer from the University of Tampere. Our goal was to provide an arena or forum in which residents

Figure 2. [In colour online, see http://dx.doi.org/10.1068/b36002] The Internet application for deliberation in use.
and other stakeholders could share their views regarding the area of Nurmi–Sorila in illustrative ways. The experiment was promising in terms of numbers; there were 170 user-inputted graphic icons with over 470 written comments that formed the textual basis of the discussion within the application. First reactions were of excitement: “It worked! People actually used the application!” This was my reaction as a researcher and this was also expressed by the practitioner from the planning office in charge of the analysis of the experiment, as she said: “How could we have obtained this much information otherwise?” After our initial reactions, the information actually needed to be analysed. This proved to be challenging. Again, both the researcher and the practitioner were surprised and along the same lines asked: “what was actually going on in there?” It seemed we were short of analytical tools to handle the situation. The reason was that people used the combination of aerial photographs, graphic icons, and written argumentation together to produce context-specific multimodal arguments, which had some unexpected features that were not anticipated during the design process of the PPGIS application.

The design process and features of the collaborative-argumentation mapping instrument

The geographer Sieber (2006) argues that GIS have gained prominence in this area for three main reasons: first, the information used in policy making usually carries spatial elements; second, it is presumed that extending the use of spatial information to all relevant stakeholders will contribute to better policy making; and third, the spatial policy-related information can be analysed and represented by visual means such as maps that can persuasively convey ideas. These three reasons were also the driving force in the Nurmi–Sorila case.

The application uses the Internet as a platform for representation and communication. The utilisation of the Internet and GIS for public participation regarding local matters is not a new idea; the argument for it has been presented by Shiffer (1995). Traditional means of public participation, such as town-hall meetings, have not succeeded in involving the public in discussing their preferences at the beginning of planning processes (Jankowski, 2009). Constant twenty-four-hour access to the Internet enables us to reach a much wider public and allows public participation at the very early stages of planning and decision-making processes (Carver et al, 2001; Peng, 2001). Of course we should not take this naively, adopting some technodeterministic stance; instead, it should be taken as potential that may be enacted in practice. In the Nurmi–Sorila case, the possibility for participation at an early stage of the planning process was taken seriously. At the same time, this created a new question: how could it be used at this stage of planning, when no plans actually existed?

More often than not, GIS applications for public participation employ some kind of thematic map (Sieber, 2004), but for us it was not clear at all what would be appropriate themes at such an early stage in the planning process. The design group discussed in meetings what would evoke debate about the character of Nurmi–Sorila and what type of knowledge planners would need from citizens at this early stage in the planning process. The group came up with the conclusion that at this stage it would be important to find out about citizens’ local experiences of their lived environment. This type of knowledge is much needed in planning but often ignored or taken as mere beliefs or opinions (Rantanen and Kahila, 2009). Planners from Tampere city acknowledged that this is the type of knowledge to which they would otherwise have only very restricted access. In policy analyst Hendrik Wagenaar’s (2007, page 28) words, it was an attempt to give “room to the local knowledge that is embedded in the experiences and practices of ordinary people, in this way collapsing the demarcation
between the process of political decision making and the social system on which these decisions operate.”

The Nurmi–Sorila application most closely resembles argumentation maps, a concept which has been elaborated by geographer Rinner (2001; 2006; Rinner and Bird, 2008; Sidlar and Rinner, 2007; 2009). One of the main ideas behind argumentation mapping is to let users make the geographic reference for discussion contributions explicit by selecting one or more objects on a map. Rinner has proposed that it could be done with a cooperative hypermap in which maps are utilised to set messages into a discussion forum. Annotation symbols could then be used to visualise the existence of discussion messages related to map locations. Rinner (2006) argues that argumentation maps in terms of providing visual access to georeferenced debates support discursive elements in geographic decision making. The possibility for spatially referenced discussion was one of the core principles that guided the application design process of the Nurmi–Sorila experiment.

An early example of argumentation mapping used in the context of town planning is the ‘Virtual Sliaithwaite’ that was produced in the Planning for Real initiative in 1998 (Carver et al, 2001; Kingston, 2002; Kingston et al, 2000). In this experiment, users were able to give input on specific features on a map and all the input was stored for future analysis. A comparable type of argumentation mapping providing interaction between residents and planners was experimented with in efforts of neighbourhood revitalisation (Al-Kodmany, 2000). In contrast with this and ‘Virtual Sliaithwaite’, in which other people’s comments were not shown, in NSPM individual comments were retrievable to other users. This was done to provoke interaction between users and discussion among the public; the aim was to provide a forum for collaborative knowledge production. Related to this, another design choice was made; the users’ comments were published anonymously. The reason for this was to avoid preestablished power positions of participants and give room for the argumentative force of the comments. Elsewhere there have been efforts with similar kinds of collaborative-argumentation mapping in policy making and environmental planning. In Espoo, Finland, a development forum which is based on georeferenced discussion was designed to bring together different types of knowledge, both formal expert knowledge and informal experiential knowledge (Rantanen and Kahila, 2009). Another example is a wind-farm-siting experiment, which was conducted with a collaborative-argumentation mapping tool in Norfolk, England, with the aim of exposing feasible sites for wind farms (Simão et al, 2009).

We thought about how the Nurmi–Sorila area should be presented for this particular purpose of georeferenced discussion. Maps are often used for this, and a map of the area was one option, but it would have been a cartographer’s rendering of the environment and thus already reduced to drawn shapes and symbols, which are always generalised representations of complex reality. Furthermore, studies have pointed out that maps are easy to misinterpret without proper education (see, for example, Monmonier, 1996). It would have been a far from ideal situation if one had to represent one’s own experiences of the lived environment on the basis of somebody else’s interpretation of it. We decided to use aerial photographs covering the area (see figure 3).

The aerial photographs were not orthorectified, that is, the views were not topographically corrected to fit any map projection. We could have also used orthographic imagery, but we decided intuitively to use aerial views, which represent the area from a diagonal angle, not from straight above. It has also been pointed out by some authors that even if this is not a natural view of the world, it seems to be a quite natural view of interpretation (Tuan, 2003 [1977]). It is close to a view of what we might see from the window of a tall building or a lookout point on hiking trail. The type of photography
we chose has some design limitations. Because of the lack of orthorectification, the separate photographs could not be attached to each other to make a composite image covering the whole area of Nurmi–Sorila. This meant that each aerial photograph was shown separately on the web application. A small map which covered the Nurmi–Sorila region was put on the website to show the locations displayed as aerial photographs. This map provided a navigation tool for users who could click on the small spots on the map to move on to discuss a corresponding aerial photograph.

Each aerial photograph also had a title, which broadly described some central features such as names of roads or services. We consulted a resident of Nurmi–Sorila in order to ascertain the most appropriate titles. The application consisted of fourteen aerial photographs. This covered the central planning area of Nurmi–Sorila. It did not cover the outskirts of the planning area, which was another design decision which we had to make; to cover the whole area, more than forty photographs would have been needed. We, particularly the application programmer, considered that it would become overly complex for users and a heavy application (for slower Internet connections, which was still an issue in 2005) if done this way.

Furthermore, we had to decide what symbols would best serve to enable discussion based on experiences. This also led to speculation about the number of symbols. How many would be appropriate? Too many, and it would make the application confusing to use. The usability of the interface is of great importance in web-based PPGIS (Haklay and Tobón, 2003; Kingston et al, 2000). Maybe it would be restrictive as well, because introducing too many categories could cause people to label their thoughts with symbols that would not ‘fit’ with the thought. In order to evoke vivid debate, to give room for potential surprises, the proper way is to think of the function of symbols or predetermined themes to stimulate discussion, not to categorise it exhaustively. We ended up using three symbols, which we called ‘important place’, ‘development place’, and ‘problematic place’ (see table 1).
Table 1. Description of each of the graphic icons in the Nurmi–Sorilan Plussat ja Miinukset [Pros and Cons of Nurmi–Sorila] web application.

<table>
<thead>
<tr>
<th>Name of the symbol</th>
<th>Description for use of the symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Important place</td>
<td>These places have a special meaning for you and consider them worth conserving. An important place can be a beautiful natural place or a building. It can be, for example, a beautiful view, a place of tranquillity, or it can be a place with good recreational possibilities.</td>
</tr>
<tr>
<td>Development place</td>
<td>These are places in the area that you would like to be developed further. What should be changed in the area? Could the place be better utilised? How should it be developed in the future?</td>
</tr>
<tr>
<td>Problematic place</td>
<td>These places are uncomfortable and you think something needs to be done with them. Problematic place can be, for example, a dangerous street crossing or it may have noise pollution or other detriments in the environment or landscape.</td>
</tr>
</tbody>
</table>

We considered that these three symbols would bring up diverse views. The application programmer chose the visual appearance of the graphic icons. A green circle with a plus sign in it represented ‘important place’. A yellow circle with an exclamation mark in the middle of it was chosen for ‘development place’. A red circle with a minus sign in it was devoted to ‘problematic place’. Each of the symbols had a description, the purpose of which was to inform the user what the symbol depicts and hence give guidance for its use. Let us now see how the design efforts were appropriated in practice.

The collaborative mapping application in use

Basically, there are three different sources for semiotic resources in the application: the aerial photographs, graphic icons, and textual comments. They all have some specific functional tasks, but in practice they are used as one unit, as communicative acts that multimodally use aerial photographs, icons, and text comments together to form arguments. While, in the communicative acts, they are fabricated into a semiotic package that works as a unit, it makes sense to divide them for analysis as each of them has some specific functional properties. I will start by discussing what type of function the aerial photographs had in practice and then move on to examine how the graphic icons were used in conjunction with textual comments and aerial photographs.

Figure 3 shows one of the aerial photographs that was used in the application. In the photograph the centre of the village of Nurmi is shown and accordingly on the website it was titled Nurmin keskusta (Centre of Nurmi). On the image there are symbols which users have entered during the experiment. Further features are white boxes with numbers in them which are placed next to graphic icons. The users of the application did not see these; they were attached later for the purpose of analysis. Each number is an annotation to a specific discussion thread, which was seen in the web application on a separate window (as in figure 2). Adding numbers later was done in order to allow linking of the specific icons to conjoined written argumentation after printing out the discussions.

The aerial photographs in the application have an orientating function. They aim to create the setting, saying: “this is what we look at”, or, “this is what we talk about”, but they do this in a very specific way. As we see from figure 3, certain distinct features of the area are present, such as roads, strips of forest, and fields. But some other features cannot be seen. For example, I cannot see what animal species live in the area.
However, some people, having some background knowledge and proper training in ecology, can ‘see’ that certain species probably live in the area because seeing is a thoroughly situated activity (Goodwin and Goodwin, 1996). This means that, for them, these aerial photographs in fact offer different semiotic resources for meaning making than those that are available to lay people, or put differently, the communicative affordances depend on the practices and habitus of actors (Hutchby, 2001). This is not to say that lay people would have less capacity to make meaning in regard to the aerial photographs. Their capacities just lean less on training and learned practices and more on experiential knowledge from the lived environment. In the NSPM the aerial photographs added a variable to semiotic resources; this variable could be appropriated in many ways depending on users’ systems of signification. The aerial photographs afforded different things for users, as is clarified by the following discussion from the application.

Comment A1. “Shore and forest stand. The area should be left alone from construction.”
Comment A2. “Yep, I agree. Nature should be left to this region and this place is such a stand of forest that I would like it to stay for public use.”
Comment A3. “The picture lies. There is only a little strip of forest left on the shoreline. There has been a vast felling this winter. The noise from the road passes to the area without a hitch. The area would be fit for living only if massive noise barriers were built. That’s it for the continuous forest area …”

The third comment tellingly shows how the experiential knowledge of the area afforded the user a completely different means to discuss the area. On the basis of their prior knowledge and experiences, the users designed and produced communicative acts drawing on various discourses.

Some of these discourses were more expected than others before the application was put to use. Let us take another example from the application and have a look at one of the discussion threads. On the top-left part of the aerial photograph of figure 3 there is a symbol for ‘important place’ annotated with the number 5. This symbol had the following discussion.

Comment B1. (1 June 2005) “This place here has glamour and municipal engineering is ready even for apartment-house construction.”
Comment B2. (6 June 2005) “Apartment blocks are not needed here and generally they are not needed in the area of Nurmi as a whole.”
Comment B3. (8 June 2005) “In the whole area of Nurmi–Sorila, it is important to preserve first of all its countryside-like look and the possibility to live close to nature. This is a NO to apartment blocks.”
Comment B4. (15 June 2005) “One-family houses over here. No apartment blocks. Here, next to the centre of Nurmi would be a good space for a one-family house neighbourhood.”

If we compare this discussion with the description for the symbol that was meant to guide its use, it is difficult to find any linkage at all. As can be seen, it is a public-policy-related discourse framed around planning. This was actually the most common framing of the situation; in other words the answer to the question ‘what is it that we are talking about here?’ This is interesting as we, who designed the application, were expecting experiential knowledge and perceptions of the lived environment before the actual planning process. All in all, there were only a few written comments that pointed out and explained purely descriptively, for example, personally important places. The users of the application actively challenged the role, the initial scripting, which was originally reserved for them in this setting. This was possible because the
users were able to use semiotic resources to their liking. There can be a multitude of reasons for this reappropriation of the setting, such as users may not have read the description for the symbols or they may have been knowingly challenging it, but in this case the reason is not that important. Instead, importance comes from the fact that the repurposing of the graphic icons for producing meaning was possible for them and this often happened.

What is more, the various configurations between different semiotic resources in communicative acts add another layer of complexity of the interpretation. A couple of examples will clarify how the interplay between aerial photograph, graphic icon, and written comment was organised for communicative acts. To show some of the combinatorial potential of semiotic resources, I will take the example of what types of functions were given to graphic icons in relation to aerial photographs and written comments. In line with previous examples, I will use the graphic icon for ‘important place’ to reveal the potential of the setting of NSPM afforded to users. In general, the function of graphic icons consisted of two properties which could be named demonstrative and thematic. Together, they added an ingredient to mediated actions.

The demonstrative function of the graphic icons was to point at a certain location on the aerial photograph. It was given the task of being a finger to point out a place in a situation where a finger effectively could not be used. But it is not the same as pointing with a finger in front of a paper map for instance; in a situation where people are gathered around a map, one can move a finger on the map surface to show boundaries or border certain regions with a circular motion. These could not be done with graphic icons that have a fixed place on the photograph once they have been placed; it seemed that they pointed to an exact place. Yet the demonstrative function escaped this simple interpretation. Written comments reveal there is more complexity involved regarding what the graphic icons actually point at. Let us have a look once more at the discussion on symbol 5, figure 3. The starter of the discussion thread (comment B1) says “This place here has glamour and municipal engineering is ready even for apartment-house construction.” How should the word ‘here’ be interpreted? It is a link to the graphic icon but what does the word ‘here’ include from the area? It is almost certain that it refers to an area which is inside the particular aerial photograph on which the graphic icon resides, but it is not that clear how broad an area is included in the meaning of ‘here’. The first reply (comment B2) in written comments on the thread attaches its written comment to the graphic icon and discourse of the thread starter but makes a move to another scale: “Apartment blocks are not needed here and generally they are not needed in the area of Nurmi as a whole.” Commentator number B2 uses the graphic icon to point out an example but the comment is not restricted to the area around the graphic icon. In written comment number B3, the original coupling of the graphic icon is not present. Instead the concern is spatially broader, the planning of Nurmi–Sorila in general: “In the whole area of Nurmi–Sorila, it is important to preserve first of all its countryside-like look and the possibility to live close to nature. This is a NO to apartment blocks.” But, interestingly, the last commentator (B4) of the thread returns to use the icon demonstratively and specifies it further to concern ‘next to the centre of Nurmi’: “One-family houses over here. No apartment blocks. Here, next to the centre of Nurmi would be a good space for a one-family house neighbourhood.”

The discussion thread shows that there are a variety of scales to which the graphic icon can point in its demonstrative function. This makes interpretation more complex. Although there are geospatial elements in discussion, there is no definitive georeference with annotation symbols that could fix the discussion to particular locations on the aerial photographs. This is in contrast to the original formulation of the argumentation
mapping concept, in which definitive geographical references are assumed (Sidlar and Rinner, 2007). Instead, in the examples, the reference to spatial objects is vague and ambiguous (see Dilo et al, 2007). This means that practitioners who need to analyse the outcome of this type of deliberative practice for planning purposes cannot easily form a general picture from the locations of the symbols, since they may refer to much wider contexts and issues than the exact locations in the aerial photograph or map. This is not a minor caveat, because planners usually see their task exactly as conveying a general picture.

The second function assigned to the icons was the task of thematic organiser. Again, in this function, they were used jointly with written comments to formulate the argumentation. In this function, the ‘important place’ icon was used in the above discussion thread by the thread starter (comment B1) to show that the area under the icon is important, but for him or her it is important in the sense of the possibility of constructing houses. Obviously the next two comments (B2 and B3) reverse the meaning of this, and comment number B3 uses the graphic icon only to take part in the discussion thread. In itself, comment B3 does not make explicit reference to the icon. The thematic and demonstrative functions work together, and when the scale of the issue is broadened from the strictly local matter of ‘here’ to the general planning of the area, the connection between the icon and written comment fades.

In addition to using the ‘important place’ icon to show good locations for construction, it was used for thematic organising in other ways. For instance, it was used for pointing out places where houses should not be built. The same graphic icon was thus used for opposite purposes, which makes interpretation precarious. Curiously, the comments proved that our initial thematic organisation of important, development, and problematic places was not sufficiently clear as a categorisation. The comments proved that the same place can be at the same time important and problematic, as was the case in one communicative act in which the ‘important place’ icon was used to show an important place, but one which had a problem to which the commentator had a solution and thus the problem could be taken care of. Again, if one had tried to capture the general picture only looking at how the graphic icons were scattered on aerial photographs the interpretation would have been misleading, since in practice the graphic icons were used in so many ways to articulate communicative acts.

The potential of multimodal analysis
Looking at the NSPM examples with a multimodal discourse analytical lens, the ambiguities of knowledge production become evident. All the choices made when designing the Nurmi–Sorila policy experiment can be taken as attempts at staging and scripting on-coming events for its use: the use of aerial photographs instead of topographical maps; the choice of certain symbols over others to produce certain types of thematic information; the possibility for public discussion instead of collecting information individually. These all favour some styles of expression over others and some forms of knowledge production over others. Such dramaturgy, by way of staging and scripting, is ever present in situations in which politics is performed (Hajer, 2005a; 2005b).

Often the efforts to script and to stage policy-making settings are intentional, but the acts of staging may have unintentional consequences because the diverse actors in the setting rely on distinct systems of signification. The choices made between different semiotic resources available may for some others give different, perhaps unexpected, means of signification and thus they can be used to reframe the whole situation. With these choices, the NSPM was, to a certain extent, staged and scripted with roles for users, and with certain uses for users. Nevertheless, this was not and
never will be complete, because user and use are mutually constituted in practice in specific semiotic-material settings when mediated actions are performed; initial scripting and staging is constantly under iterative interpretation and prone to transformations. Hence, a multimodal framework helps to examine how the materiality and discourse coemerge (Jedema, 2007) and in this way the approach supports analysis of the collaborative-mapping experiments not as preexisting entities but as forms in the making, which obtain some stability only through the practices of which they are a part. The empirical examples from the NSPM show that this facilitates particularly the analysis of knowledge production in PPGIS practice by shedding light on the dynamics of performative and multimodal meaning-making processes. This helps in understanding how spatial issues are formulated and articulated in practice.

The framework also tries to grasp the dimension that human actors are not the only actors who shape the settings; in these technological settings, there are various ‘human-machine configurations’ (Suchman, 2006), which perform staging and scripting that continuously affect the setting. Consequently, by taking into account this coconstitution of the settings and the symbolic, the multimodal approach points at how PPGIS applications take part in defining what issues gain dominance in these particular settings and, ultimately, what type of knowledge is produced in PPGIS practice. This is useful for considerations regarding PPGIS application design.

The analysis of NSPM shows that when a PPGIS application is used as a discussion forum for public debate the outcome escapes any simple codification of information. The variations in thematic functions of the graphic icons show that PPGIS experiments do not work as transparent interfaces that simply transfer spatial information from one source to the other. The issues are formulated and articulated by defining the situation, a process in which the PPGIS instruments take part. The performative and multimodal approach presented here attempts to include in the horizon of interpretation not only how the local contextual factors affect the appreciation of PPGIS experiments but also how the PPGIS applications have an influence on these factors. This implies that these experiments, and particularly their outcomes, have to be studied in real-life settings such as actual environmental planning processes.

The NSPM case study shows how participants diligently make use of semiotic resources that become available to them in the staged performances of policy making, and hence what discourses are enacted in these performances. There is more than a hint of indeterminateness in such processes, as the initial scripting and staging is appropriated in various ways. Extending the analysis to a multimodal approach opens up a way to study the division of labour between semiotic resources (Jedema, 2003) and thus how and which issues are brought up in PPGIS practice, what evokes certain issues in a particular setting, and how the issues are articulated. There were surprises regarding the response from the Nurmi–Sorila experiment, as the people used the semiotic resources creatively in their communicative acts and in this way challenged the original (partly intentional, partly unintentional) staging and scripting of the situation.

The multimodal approach to analysing PPGIS experiments presented here has room for surprises as the focus is on specific situations. To focus on communicative acts as mediated action is to delve deeply into the dynamics of situations and into how people make sense of them with diverse systems of signification that are not restricted to language. No doubt this is not going to make interpretation any easier; in fact quite the opposite is true. However the attention given to the complexity of meaning-making processes can foresee aspects that would otherwise go unnoticed and this furthers the framework’s potential for studying the everyday negotiations of what matters, what is useful knowledge—in other words the questions of inclusion and exclusion in PPGIS experiments (see Elwood, 2006).
Furthermore, the approach seems to provide means for facilitating interaction at different levels of analysis, from the minute articulatory practices where signification is enacted, for instance in the use of the web application in the Nurmi–Sorila case, to broader phenomena such as policy making in urban planning in this particular case. In this way the approach can be useful in the study of the politics of scale, which has been found to be an important dimension in PPGIS practice (Ghose, 2007). The NSPM examples show how the scale is constructed through framing both the situation and the issue at hand and how these are brought into being in the performance of communicative acts.

Conclusions
Questions have been asked about interpretation and ambiguities in the knowledge production practices of PPGIS with empirical examples from a case study of collaborative-argumentation mapping. A conceptual-methodological framework—consisting of argumentative and performative discourse analysis extended with concepts of multimodality, mediated action, and communicative acts—has been introduced to give attention to the intricacies of signification processes within PPGIS experiments. The framework provides a vantage point, which is sensitive to the richness of the semiotic landscape that is evidently multimodal in applications of argumentation mapping. Therefore, a multimodal account shows potential for the analysis of the type of knowledge produced in practice by users of particular PPGIS applications by focusing on the articulation of issues and particularly by bringing forth the situational dynamics of discourse and settings in practice.

It needs to be mentioned that the type of action-oriented case-study approach to studying policy in practice (that is, a study in which I took part in designing the application and motivated the planners to take this instrument of participation into policy making and in this way had a role in the initial staging and scripting of this particular setting) is particularly apt for the comparison of scripting and staging and their appropriation or counterscripting and counterstaging in a policy-making process. It provides a vantage point for looking at micropractices in which issues are articulated and significant takes place. Nevertheless, an approach which leans empirically less on experiential material, such as participatory observation, and more on collecting data from documents and interviews, can also make use of the multimodal approach in understanding the meaning making and ambiguity of knowledge production in PPGIS practice.

To conclude, a reference to Wittgenstein’s (1958) notion of language game is reasonable. The multimodal communication in technological settings of policy making is a language game to be learned in practice, a language game that cannot be reduced to linguistics but has to pay attention to the multiple ways that mediated action takes place in specific situations. Learning the game must be understood as open-ended, that is, learning should not seek to evade possibilities of surprise and improvisation. Remember that Wittgenstein viewed language games as constantly changing: “new language games, as we may say, come into existence and others become obsolete and get forgotten” (Wittgenstein, 1958, page 23).

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Geo-referenced discussion around planning: Generation and Transformation of public knowledge

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Introduction

“Only supermen could understand a great city as a total, or as a group of districts, in the detail that is needed for guiding constructive actions and for avoiding unwitting, gratuitious, destructive actions.”

- Jane Jacobs

The inclusion of nonprofessional first-hand knowledge regarding the qualities, the processes and the values of places has been a concern of urban planning at least since Jacobs (1961) published her influential book. Recently, the internet and geo-visualisation technologies\(^1\) have been considered as facilitators of this endeavour. Over the last two decades, numerous experiments have been conducted that use Geographic Information Systems (GIS) to facilitate public participation (see Jankowski, 2009; Sieber, 2006; Craig et al., 2002). Additionally, the internet has been increasingly harnessed in conjunction with these geo-spatial technologies and visualisations to engage the public (Carver et al., 2001; Kingston et al., 2000; Peng, 2001). Whereas these initiatives have relied upon various presumptions and intentions, a common driving factor has been to improve communication, design and analysis in place-

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\(^1\) By invoking this term, I want to speak of various types of technologies that are used to represent, illustrate, and organize geographical matters. These technologies include both more traditional GIS and such technologies that have been described by Elwood (2009) as ‘not-quite GIS’ assemblages of hardware, software and functionalities.
making (Kingston, 2007) and widen the knowledge base that informs planning decisions (Jankowski, 2009).

One prominent idea has been to combine the online discussion with some type of geo-spatial visualisation, such as a map, to provide the means for a geographically referenced discussion (Carver et. al., 2001; Rinner, 2001; Rinner, 2006; Hopfer & MacEachren, 2007). It has been argued that geo-spatial annotations can play an important role in collaborative spatial planning discussions by capturing attention and contextualising discussion (Hopfer & MacEachren, 2007). According to Rinner (2006), a geo-referenced discussion supports discursive elements in geographic decision-making by providing visual access to debates.

In principle, these types of arguments concerning a geo-referenced discussion are logical, but they require an empirical investigation in a practical planning situation. How does a geo-referenced discussion actually contextualise a discussion in practice? What discursive elements exist in the initial public discussion and later in the working knowledge of the planners? This article addresses these questions by examining a case in which a geo-referenced public discussion was initiated in an urban planning process that aimed to accommodate several thousand new residents in an area on the rural-urban fringe of the city of Tampere, Finland. A web-based forum was designed to engage the public in a discussion about the qualities of place in the planning process of an area called Nurmi-Sorila. I took part in the design of the web application with a group of practitioners from the city's planning office and a software designer from the University of Tampere. The goal was to create a forum in which residents and other stakeholders could share in illustrative ways their views concerning Nurmi-Sorila.

There are a number of empirical case studies that have evaluated the potential of a geo-referenced discussion for public participation in the context of spatial planning and decision-making. However, many of these studies have been technology-driven accounts focusing on the technical features and design parameters of particular technologies and applications without paying sufficient attention to the contingencies of their use in practice. In practical situations,
people may use the semiotic resources of geo-referenced discussion, such as graphic icons, written comments, and maps, in unexpected ways to communicate meaning (Bamberg, 2010). More attention should be paid to factors that play a part in practical situations, including the following: the socio-cultural setting in which these technologies are used, the local procedures and practices of spatial planning and policy-making, the decisions and formulation of planning issues that these technologies are intended to facilitate, and the people engaged in the planning process. In other words, an empirical understanding of how these methods work when implemented in the practice of planning has been missing. As Rinner and Bird (2008) suggest, there is a need for more case studies to be examined in real-life settings.

This article approaches the question using an epistemic focus. Given the aim of using a geo-referenced discussion to widen the knowledge base used in planning, it seems plausible to examine how knowledge is generated when this type of technology is put into practice in the political process of planning. Two conditions deserve consideration given the aim of bringing citizens’ knowledge into the domain of planning by use of information technologies. First, we should not reify any form of knowledge beforehand. Second, we should not reify the types of technology with which we are experimenting. This article starts from a viewpoint that we cannot assume the types of information and knowledge that will be generated by these technologies because knowledge production is a situated practice (Haraway, 1991; Latour, 1987). This supposition makes the form of knowledge and the role of technology in the production of that knowledge a question for empirical research.

The article places an emphasis on knowledge-in-practice, more specifically, on how knowledge and meaning about place are generated and transformed by introducing a geo-referenced discussion forum into a real-life planning process. Although the motive of the georeferenced public discussion in Tampere was to extract knowledge about local matters and conditions, there is a need to critically examine the type of knowledge that was generated and the method through which it was achieved. As Van Herzele and Van Woerkum (2008) argued,
visualisation tools may have both an enabling and a constraining effect on the types of knowledge that residents bring to planning discussions. Hence, the present study follows the entire episode of governance in which geo-referenced discussion played a part by asking the following empirical research questions. What issues were discussed by means of the geo-referenced discussion? What information was considered meaningful by planners in the context of their work? How did the planners assimilate the information provided by the instrument?

These questions imply that attention is focused on two distinct phases of the consultation process, both of which greatly influenced the knowledge garnered by the geo-referenced discussion. First, the article discusses the type of knowledge generated by the participants of the geo-referenced discussion. The focus is directed on three elements of discussion: the style, scale, and scope of issues. The style of discussion gives insight into the ways in which issues were discussed. This aspect will illustrate the ways in which people framed the situation and used particular repertoires of expression that were suitable for that situation. The scope reveals the types of matters, problems, and concerns brought up through the geo-referenced discussion. Finally, the scale of the discussion is an important element because one of the main arguments for a geo-referenced discussion is that matters in spatial planning are geographically referential and can be organised spatially. These three elements allow us to discover both how issues become contextualised in a geo-referenced discussion and the types of discursive elements that the discussion supports in a practical planning situation.

The article moves on to scrutinise the ways in which planners assimilated information from the geo-referenced discussion into the subsequent planning work and the types of material outcomes produced by this participatory exercise. How does the knowledge generated by citizens fit into the planning discourse and how do the planners adapt, filter, and transform this knowledge to make it relevant to planning in practice? How do the style, scale and scope of issues produced by the public fit into the planning practice? Previous accounts have not studied
how planners use information and garner knowledge from these tools to broaden the knowledge base.

Although both of these phases deserve attention independently, assessing them in concert permits analysis of the dynamics of knowledge production in socio-material practices. In addition, this analysis allows for investigation of the way in which knowledge and meanings are transformed as they shift from one site of knowledge production to another during the planning process.

**Knowledge in environmental planning**

Knowledge is important when different actors, including residents, are engaged in negotiation and decision-making strategies to develop the qualities of places. Traditionally, powerful actors in these political struggles, such as city government and planners, have represented themselves as experts. These experts have justified their views by relying upon technical-rational knowledge, from which the environment is generally seen from a distant viewpoint or 'objectively' (Scott, 1998). Citizens more often base their views on their experiences, that is, a practical sense-making of the world. These different viewpoints assign divergent meanings and values to the environment and place and result in different methods of knowledge acquisition. If technical rationality is not seen as the only possible starting point for discussion, expertise should be redefined to include views that are based on different types of knowledge (Fischer, 2000). It is widely acknowledged that contemporary planning functions at the intersection of multiple knowledge bases (Madanipour et al., 2001; Rydin, 2007).

Non-professional knowledge relies more directly on cultural rationality, which can be understood as rationality built on social experiences. Fischer (2000) has stated that “it is concerned with the impacts, intrusions, and implications of a particular event or phenomenon on the social relations that constitute that world. (p.133)” In other words, non-professional
knowledge about place is produced through experiences, in which the informal ‘instruments’ of knowledge production are the practices that people take part in to make sense of everyday life. Hence the generated knowledge is often more a by-product than an objective of their effort. Therefore, the methods of production and the knowledge itself are often tacit and not usually articulated. This type of knowledge is made credible by experience, whereas professional knowledge gains credibility by instrument-mediated assessment.

Corburn (2003) identifies three different types of relationships that exist between professional, formalised knowledge and non-professional, local knowledge. The traditional expert-based view has emphasised that local actors have a deficit of technical knowledge with the effect that local knowledge is discounted. A second view stresses that the two forms of knowledge can be complementary. Experiential, non-formalised knowledge can enrich scientific findings, but it cannot contradict them. A third point of view approaches the process as co-production, in which both professionals and local actors need each other to support sense-making and produce accountable knowledge.

Krimsky (1984) distinguishes different forms of non-professional knowledge that can complement technical decision-making. Three categories are relevant for the case at hand. First, people are well equipped to identify problems in their environment and seek causal explanations for these problems. Second, people can evaluate the meaning and value of places and urban form through inductive thinking and understanding of their particular qualities (see also Jacobs, 1961). Third, people may have an intuitive and tacit understanding of local conditions. For example, farmers have learned about their environment through years of intimate association with local natural processes.

Contrasting professional knowledge with non-professional knowledge does not mean that professional technical-rational knowledge is objective and impartial. All knowledge is situated and locally produced in specific socio-cultural and material circumstances and depends on certain tools and methods of analysis that are culturally bound (Latour, 1987; Haraway, 1991).
Additionally, all types of knowledge consist of three dimensions: they all have matters of fact, something that is known; they all rely on a system or method to invoke matters of fact; and they all have a normative framework because both systems of knowledge and matters of fact rely upon social interpretation (Haila, 2008).

I find it crucial that we do not reify non-professional, experiential and professional, formalised knowledge as monolithic entities, “but rather as useful frames for capturing different approaches to knowledge production” (Corburn, 2005, p.51). As Van Herzele and Van Woerkum (2008, p.6) suggest, in actual situations in which people express knowledge and feeling about matters, it is difficult to distinguish which knowledge is acquired locally and which is not. We all are part of various relational networks, through our families, occupations, hobbies, and so forth, each of which possibly shapes the epistemic frame of reference that conditions our understanding of ‘what is this’ and ‘how do we know what this is’ (Healey, 1997).

In effect, new socio-material practices of public participation introduce emergent forms of knowledge. Importantly, it is public knowledge that is generated. Here, it is helpful to think of the public in terms of how Dewey described it: consisting of “all those who are affected by the indirect consequences of transactions to such an extent that it is deemed necessary to have those consequences systematically cared for” (Dewey, 1927, pp.15-16). In other words, issues that cannot be governed by technocratic politics alone are so engaging that a new public is formed (Marres, 2007; see also Leino & Laine, 2011). Because this collective consists of people with a variety of backgrounds, it necessarily blurs the boundaries between different forms of knowledge (Irwin and Michael, 2003).

This article suggests that the methods and technologies of public participation create a type of public knowledge that results from the interplay between (1) the site of knowledge production that is the arena of public discussion, (2) the issues that are deemed necessary to be cared for publicly, and (3) the people who are willing and able to enter the public arena and
address issues in the way that the public arena affords. Therefore, this type of public knowledge is a product of the webs of relations that intermingle when people enter this particular public arena. In addition, knowledge is shaped by the discourses and styles of argumentation that these people consider suitable for the situation, which is public speaking in this case (cf. Callon & Rbabelarisoa, 2004; Dahlgren, 2009).

**Methodological lens: language-in-use and knowing-in-practice**

The emergent nature of public knowledge raises a problem: How do we address knowledge that comes from participatory practices, such as a geo-referenced discussion?

To answer this question, it is important to acknowledge that knowledge is not a stable entity in planning and policy-making, but it is instead generated in practice and directed towards action. Hajer and Wagenaar (2003) argue that the concept of practice is useful as it conveys the sense of how knowing and doing are tied together, “It suggests that people negotiate the world (both social and physical) by acting upon it. Also, the concept of practice presupposes the social. It implies that in negotiating a particular situation the actor is always aware of his or her position in a larger network of relations and obligations.” (ibid. p.20).

This stance implies that people produce meaning in interaction (Hajer, 2006). When they speak, they expect someone to listen and respond. The way in which they speak depends on where and in what situation they speak and with whom they interact. In consequence, the focus is on language-in-use and practice. Therefore, one should pay attention to both the content of argumentation and the practical performance of it (Fischer & Forester, 1993).

It has been convincingly argued that communication, whatever form it takes, is not free of power (Foucault, 1984; Flyvbjerg, 1998). Hence, it is important to critically examine ways in which issues are addressed, the specific language and manner in which the language is used,
and the settings where issues are articulated. As Hajer (2006) has suggested, the analysis of discourse is particularly powerful if done in conjunction with the analysis of socio-political practices in which the actors are engaged and from which different ways of expression emerge. In this article, I will examine the language-in-use in a specific episode of governance in which the geo-referenced discussion was initiated and follow the change in meaning during the episode. I take as a general guideline the questions asked by argumentative discourse analysis (Hajer, 2006): How something is said, to whom, in what context, and with what effect.

In addition, the concepts of knowing-in-practice and practical reasoning are helpful for analysing how planners assimilate information from the geo-referenced discussion. Both of these concepts imply an understanding of planning as practical work (see Wagenaar, 2004). Knowing-in-practice was captured by Schön in *The Reflective Practitioner*, “The problem he sets, the strategies he employs, the facts he treats as relevant, and his interpersonal theories of action are bound up with his way of framing his role.” (Schön, 1983, p.210). This framing of one’s role is not static; it is dependent on the context and the specific situation. In any particular activity, the actors mutually produce the proper activity through an emerging understanding of what fits with that specific situation. Wagenaar (2004, p.644) suggests that “this sense of rightness is not given in toto and a priori, but is collectively produced or reproduced in a dialectical interaction with the particulars of the situation at hand as it is embedded in its wider organisational, social, and cultural context”. Hajer and Wagenaar (2003) suggest that the obligation to act upon the situation at hand is the centrepiece of the work of policy-makers and public administrators. When practitioners do their job, “solutions are not so much formulated as arrived at, haltingly, tentatively, through acting upon situation at hand and through application of practical wisdom in negotiating concrete situations” (ibid., p.19).
The case

The planning area of Nurmi-Sorila covers 17 km$^2$ around the villages of Nurmi and Sorila and is located approximately 12 km northeast of the city of Tampere. The landscape is a typical inland Finnish countryside where patches of forests, lakes, pastures, fields, old farm houses, and domestic animals influence the perception of the place. There are currently approximately 700 inhabitants. The aim of Tampere city planning is to accommodate several thousand new residents along with the appropriate services for them. When the planning process began in 2005, a policy instrument called ‘the development image’ (‘kehityskuva’ in Finnish), consisting of a type of visioning process, was used at this level of planning for the first time in Tampere. According to the planning office, the purpose of the instrument was to enable target-oriented discussions and the participation of different interest groups in an early stage of planning.

This new policy instrument provided a platform for the geo-referenced discussion forum called “The Pros and Cons of Nurmi-Sorila”\(^2\) (hereafter PCNS). The application was used to discover the character of the neighbourhood and the citizens’ local experiences in their environment. City officials acknowledged that they generally have very restricted access to this type of knowledge. Generally, the PCNS consisted of aerial photographs upon which users could insert graphic icons to make spatial reference to written statements. Three graphic icons provided the thematic categorisation of discussion topics. A red circle with a minus sign represented a problematic place, a yellow circle with an exclamation mark represented a place of development, and a green circle with a plus sign indicated an important place. Importantly, users could articulate their opinions and counter arguments in threads of public discussion\(^3\).

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\(^2\) Translation from the original Finnish title “Nurmi-Sorilan plussat ja miinukset”

\(^3\) See Bamberg (2010) about design choices that were made.
The PCNS was open to the public. The users were not recruited; all who noticed the existence of PCNS and felt comfortable in this type of forum to express their opinions and matters of concern were able to participate. This framework was a deliberate element of the design process of the application. We considered that, in addition to residents, other individuals might be interested in matters of Nurmi-Sorila, such as landowners and recreational users. The background information of the participants reflected this assumption. Many of the discussants were not residents of Nurmi-Sorila, as they lived elsewhere in Tampere.

I draw on a wide variety of materials collected and experiences gained from this participatory exercise. I took part in the design process of the NSPC. The deliberations about the application design provide an understanding of what we tried to achieve with the instrument and why it was used in the planning process. The geo-referenced discussion itself is an important source of data. The discussion took place in 14 aerial photographs to which 170 graphic icons were attached to geographically reference 470 written commentaries. In addition, I draw on background information of the users of the NSPC.

After the NSPC was used in the planning process, conversational in-depth interviews were conducted with the planners and the practitioners working in the planning office of Tampere City. Interviews with planners revealed their expectations of public participation through the geo-referenced discussions, the type of information that they considered useful and the obstacles that exist in using geo-referenced discussion. The interviewees had a role either in the design process of the application or in the planning process of Nurmi-Sorila. Three planners who had central roles in the planning process were interviewed. A practitioner who was in charge of the development image policy instrument was interviewed. This practitioner also took part in the design of the web application and was responsible for the analysis of the NSPC. Another practitioner who took part in the design phase of the application was interviewed as well. Her job consisted of producing policy documents and technical reports to support the planning process. I performed participant observation in public meetings that were
conducted during and after the geo-referenced discussion. In addition, I reviewed policy documents that were produced as a result of the geo-referenced discussion.

The style, scale, and scope of the discussion in Nurmi-Sorila

Some issues were brought up more frequently and debated more vigorously than others. Let us begin with an example of marginal commentary. In one of the aerial photos, a comment geographically referenced with a green circle containing a plus sign (denoting an important place) stated the following: “Gorgeous old community hall, good sauna and beach. Welcoming farmyard.” This commentary shows a simple, descriptive comment that assigns qualities and value to a particular place. In a sense, it is the type of information that we aimed to attain. Importantly, it did not engender any replies; it was a singular statement, with no exchanged opinions.

Alternatively, another example shows the diverse aspects of discussion and a dominant discourse in the Nurmi-Sorila application. The discussion thread is related to symbol number 37 in Figure 1 and reads as follows:

A. June 2, 10:53: “The countryside landscape has to be preserved - the pasture of cows and horses.”
B. June 2, 10:53: “Tampere desperately needs construction lots for one-family houses or else all the families with children will move to the neighbouring municipalities. Finland is full of rural landscape even if houses would be constructed here.”
C. June 3, 15:34: “First one wants to move to the countryside - like Nurmi-Sorila and next one wants to fill fields with houses...one cannot get all at the same time!”
E. August 10, 20:11: “Discussion about families moving to neighbouring municipalities is superfluous. The Tampere region should not be developed on the basis of municipal borders but as a unified area. Municipal borders are from the times when people travelled with horses, so one can give up on them.”
First, this discussion thread presents the most common issue discussed while using the application, namely where and what type of housing should be built in Nurmi-Sorila and what areas should be preserved. Such framing of this situation was prevalent, and most discourses were organised around the issue of how the area of Nurmi-Sorila should be planned. Although this finding may seem obvious, other issues may have been addressed if the geo-referenced discussion was used in a different context and situation. A common argument that illustrates sense-making of the situation is seen in the commentary of the person who started the discussion thread (37A). In commentaries such as this, the value of Nurmi-Sorila is highlighted as a cultural and historical countryside landscape. Countryside landscape or cultural landscape were clearly ordering concepts for ‘keep the Nurmi-Sorila as it is’ discourse. The first reply (37B) brings up an equally common argument that brings attention to the lack of housing lots for single-family houses within the municipality of Tampere. The second reply (37C) shows something that is not often present in the discussion threads of this Nurmi-Sorila case; the
commentary brings up the contradictory nature of previous claims of the thread: “one cannot get it all at the same time!”

The prevalence of ‘shortage of single-family houses’ discourse can be understood better against the background information of the users of the NSPC. Many of them did not live in the area and were adult individuals who had families with children. This group prefers to live in single-family houses more than other groups. In addition, there has been a lack of new lots for the construction of such houses. Nurmi-Sorila, as a tranquil area, was a potential place for them to live in the future and, as such, the geo-referenced discussion venue drew comments from people who wanted to move to Nurmi-Sorila. Such opinions were also garnered because NSPC was open to the public and received media attention.

Commentary 37D represents a type of ironic and sarcastic rhetoric that was occasionally found. Teisko is the name of a village to the north of Tampere. How should we relate to this style of argumentation? Should this type of comment be dismissed as irrelevant? In the comment “Fields suit Teisko”, the commentator may be trying to convey that one can put new housing in Nurmi-Sorila because it is not as rural as Teisko. Although the comment certainly cannot be described as a rational argumentation, the utterance includes reasoning. The reasoning is concealed behind the rhetoric style that the commentator has chosen. The argument presented in 37E continues with a sarcastic tone, but it reveals how the scale of the discussion is not pre-determined and that it may change in dialogue, ending as something different than the scale that started the discussion thread (see also Bamberg 2010). Moreover, this sarcastic statement indicates that the contemporary procedures of planning do not fit with the situation at hand and suggests an innovative view (in the Finnish context) of the way in which planning should proceed, based on regional co-operation.

The regional scale is at one end of the spectrum, and this scale of framing the discussion was mostly found on discourses about spatial planning of Nurmi-Sorila in general. At the other
end of the spectrum, issues of a smaller scale that relied on different discourses were found, such as in the following discussion thread relating to symbol number 74 in Figure 1:

A. June 3, 18:24: “The buses that wait at the bus stop (the ones heading from town towards Teisko) completely block the visibility when coming from Viitapohja. There are even two buses at the same time waiting at the bus stop for long time.”

B. June 8, 18:14: “When one turns towards the town from Viitapohja, the parapet next to the road also impedes visibility of cars coming from Teisko. Visibility is hindered to the left by buses and to the right by the parapet… Dangerous especially with slippery roads!”

C. June 9, 15:55: “Looking from Aitoniementie Road, a visual obstruction is formed by the parapet on the left side, which prevents one from seeing cars sufficiently in time.”

In this thread, the spatial scale is bordered by the exact location of the symbol in the aerial photograph. The discussion thread develops with very detailed descriptions of the issue with this road crossing. It exemplifies the detailed geographical scale at which some of the discussions took place. The problem is framed as being relevant to everyday life. In addition to pointing out one end of geographical scale, the above ‘visibility discourse’ shows an experiential account of an issue found to be problematic in daily routines. This issue of safety provides a fine example of local experiential knowledge that is gained through taking part in socio-material practices and that constitutes the Nurmi-Sorila as they know it. They know the nature of the problem because they have been there and experienced it first hand. The scale of issues at the detailed level in conjunction with experiential knowledge of the situation, such as in the above discussion thread, was particularly present in discourses that express the troubles of everyday life.

The discussion thread around the visibility of the road crossing reveals as well how knowledge is generated through a dialogue between discussants. Here, the individual who began the discussion thread (74A) relies upon local knowledge based on experiences of buses routinely staying at a bus stop and thus hindering visibility. The reply (74B) carries on from there and brings up new aspects of the experience. Importantly, the reply introduces new
evidence for the claim. First, it brings up another hindrance of visibility (the parapet). Second, it expresses a perception that because of the lack of visibility, the crossing is especially dangerous when slippery. The last commentator supports the previous commentator and brings in a new experiential viewpoint, “Looking from Aitoniementie Road…” to back up and develop the argument. This thread shows how meanings develop through dialogue and interaction, in which different discussants bring up various aspects of different issues. One user may start a thread with a claim and another may carry on by disagreement or by provided new evidence for the thread starter’s claim, such as in the aforementioned example.

In addition to knowledge about present conditions in the area, there was also local knowledge that had accumulated over a longer timeframe. This knowledge consists of experiences about the past conditions in the area and changes that have occurred over time. In addition to first-hand experience, this knowledge is generated through narratives told about the situation in the past and what has happened in the neighbourhood, as in the following discussion thread:

A. June 3, 16:05: “From here, one could travel by boat at least until the 1950s. Then, a fixed connection was built, and the canal was blocked. The canal should be reopened because the increase in current would better the quality of water in the Gulf of Juoponlahti and it would decrease eutrophication. Maybe the gulf should be dredged a little as well because the lack of current has caused sludge to accumulate, and the gulf has become shallower. This would increase the possibilities for fishing there as well.”
B. June 14, 08:38: “This would naturally better the water quality in the Gulf of Mäntylahti but not that in the Gulf of Juoponlahti, which can be seen farther behind in the picture.”
C. July 7, 11:20: “At the same time, a beach and boat harbour could be built around here.”
D. October 11, 10:11: “Because the city acts so slowly, the church could consider organising a bee in order to handle the situation.

However, not all information is based on local knowledge produced through experiences in the area. There is knowledge gained through education, the media, or through one’s profession, which is generated through these different relational networks that people bring
with them to the forum of public discussion and guide the issues and ways of discussing them in the application. The following example involves the symbol number 59 of Figure 1: “A rare butterfly species (the False Heath Fritillary) lives in the area. This endangered species lives, in addition to the Pirkanmaa region, only in the city of Kristiinankaupunki. We need to be proud of our own nature and preserve it untouched.” Here, the knowledge that a certain butterfly species is endangered is joined with the knowledge that it is found in that particular location. Given that the False Heath Fritillary is an emblem animal of Tampere, people may have learned about it from media, and they may not necessarily need to be a biologist or nature enthusiast to provide this knowledge. However, this item is derived from information disseminated through the media and through educational institutions; it is not contextual local knowledge. In many cases, it is very difficult to separate local experiential knowledge from other types of knowledge. Information acquired from different sources is generally assembled into our system of knowledge; hence, it seems unnecessary to search for pure local knowledge that would need to be accessed for planning purposes.

To conclude, we provide another example of commentary that may be formulated by an amateur naturalist showing how people often approach issues holistically:

“The Sorilan Lammi pond as well as the surroundings around the end of the Sorilan joki River are a grovelike tangled thicket. Several rivers and brooks, along which one can find lovely patches of fauna and animals, run to the end of the riverbed. In addition to more common birds (which abound), I can mention at least the thrush nightingale, corncrake, snipe, woodcock, cuckoo and kestrel. Also butterflies are numerous. These kinds of lush bordering fields are becoming rare in Finland and particularly in Tampere, and because of that, it would be important to preserve them as they are, or join them to some larger green area. Interesting mammals live in these lands as well. It would be nice to have, for example, walking/skiing paths in this landscape, although one can walk over there without marked paths. Apparently a private bird-watching/hunting tower has been built to the edge of the field of junipers that is next to the Sorilan Lammi pond, although one cannot yet see the tower in the photo.”

Here local experiential knowledge about the place is conjoined with scientific knowledge, and technical, moral, and aesthetic reasoning intertwines with value judgments.
The commentary illuminates the holistic way in which people approach issues and the way in which they frame their discussion. They did not want to simply describe values that they assigned to places; they generated arguments as (political/policy) problems that needed to be addressed. There are two distinct types of information: knowledge about or related to the neighbourhood of Nurmi-Sorila and conceptions of how the place should be in future. I will come back to these two items as they relate to the planning process.

The planners’ conception of useful public input

The method by which planners assimilate information from participatory exercises depends on how they view their role within policy-making and governance and alternatively how they perceive the role of the public within the domain of planning (cf. Campbell & Marshall, 2000). Interviews with the planners revealed that they see the purpose of public participation as delivering information and producing knowledge for planning. They expressed that, at least in the Finnish context of land use planning, the public is not called on to deliberate on issues in order to give them a voice in decision-making. The planners saw their own role in the planning process as collectors of information and mediators of knowledge as well as negotiators between various interests and claims to produce viable alternatives for collective action. According to them, they use their expertise to accumulate knowledge from which they produce plans. However, they did not aim to determine which plan would be implemented. In their speech, they externalised the political side of planning to the local council and politicians; the planners’ job was to use their expertise to produce plans that are decided upon by political institutions. This stance is common in Finnish planning practice. As Bäcklund & Mäntysalo (2010) have suggested, current planning procedures in Finland often rely on the tradition of comprehensive-rationalist planning ideology, even if other paradigms, such as communicative or agonistic planning, are gaining a foothold. When asked how the information gathered from
the web application was included in their later planning work, one of the interviewees answered as follows:

“Of course the task of the planner is to try to piece together all the different perceptions and viewpoints and produce that knowledge, so that decision makers then have the knowledge on the basis of which they make the possible decision.”

The planners expressed interest in many of the discussions provided by the citizens; however, they considered the geo-referenced discussion to be a consultation tool and not an arena in which they needed to participate. None of the planners who I interviewed had discussed matters in the NSPC. They did not find a reason to do so, and they did not feel that they had the time for such an activity.

Planners approach public dialogue with considerable pragmatism. As one of the interviewees said, the dialogue can take different forms. The planners used processed forms of the geo-referenced discussion in the form of summaries and thematic maps, for example, in the public meeting. These processed representations of the discussions were on display at the meeting, and people could gather around them and discuss them with planners. This form of dialogue is practically useful for planners in the course of a planning process. It is also a reminder of how the geo-referenced discussion, or any other instrument made for participation, cannot be understood when detached from the practice and process of planning. The planner sees the interaction and dialogue with residents in the context of the whole planning process and not just separately as conversation within the application. The dialogue is carried on in later public meetings by presenting the planners’ interpretation of geo-referenced discussion in the form of the material outcomes produced by the planners, such as thematic maps.

As an example of the different types of knowledge and the information that planners considered useful, it is worthy to view the following extract from an interview:

“Well, anything really, if you think about what kind of citizens there are that can provide some kind of knowledge to us. Residents probably have their own kind of knowledge and
experience from the basis of intimate knowledge of the domain of everyday life. [...] And why not consider knowledge about what are important places and what places are somehow valuable. [...] And then, there are of course citizens who are, for example, members in some association or hobbyists of some specific domain, and why not experts as well. So they may provide additional knowledge. In a way one cannot, I cannot, close off anything, any domain of knowledge. And then, of course, besides this knowledge of things and issues, there are also perceptions, conceptions, hopes, and opinions.” (Interview 2).

There are three points in this quote that need further attention. First, this planner sees that not everything can be studied by an ‘outsider’; one must live in a certain place to be able to hold specific types of knowledge about it. This facet is something that residents can deliver to strategic planning. Second, it is not just this type of local and experiential knowledge that residents can provide; the planner has a clear understanding that people may have expertise in some domain that can provide value. Third, the planner makes a clear distinction between knowledge and “perceptions, conceptions, hopes, and opinions”. This ‘non-knowledge’ may provide important information about the importance of public opinion:

Researcher: “What kind of a role did these perceptions [from the NSPC] have among other sources of information?”

Planner: “It surely is, what is always interesting, is that are there some general trends among themes. If there’s just an individual comment, which is very different than all the others, it supposedly does not carry that much weight. But then, when some common themes arise, like in Nurmi-Sorila, such common themes have arisen without question, they are really interesting and are also the kind of stuff that needs to be contemplated.” (Interview 2)

The planners assimilated information from the NSPC by searching for ‘general trends’ or ‘common themes’ among the statements. Interviews revealed that the NSPC was successful in this way because the public was given the option to participate in an early stage of planning. The geo-referenced discussion forum was thought to be successful in outlining the key points and central issues that should be taken into account in the subsequent planning process:

“Well, this was really good, this web application, because there was a written comment, and then it was tied to some specific place. For us too, that is really easy to read. So
when the discussion is somehow at a more general level, it of course demands much more effort to work out and digest. The opinions that came through the web application were about really concrete matters.” (Interview 2).

However, it became clear from the interviews that the geo-referenced discussion in the form it was available from NSPC, as a multifaceted discussion branching into many directions, was not of high utility for planners. They continuously worked with enormous amounts of information from different sources and needed a clear presentation that condenses the main points illustratively. In the case of Nurmi-Sorila, the practitioner in charge of the NSPC and the development image policy instrument began analysing the public input and produced material that could be used in the subsequent planning process. This detail was important as the planners did not have sufficient time to process the public input. Moreover, it seemed that the expertise of the planners discouraged them from performing the necessary analysis. The practitioner in charge of the analysis had a social science background, which helped her grasp the public discussion, as indicated in her interview:

“But of course, there is always the question how the results will be analysed […] You cannot give that kind of stuff [data in need of analysis] to planners. It is labourious, and then, the way they look at these things is clearly different compared to me. And they take the comments somehow differently. They react to the comments somehow as if they would be in your face.” (Interview 1)

This quotation shows the crucial importance of the interpreter. Of course, one should have sufficient time to perform the analysis. Of equal importance, the interpreters should have the ability to orient themselves to two different social worlds simultaneously, that of the public and that of the planners. The relational networks of the practitioner, particularly the educational background and the communities of practice, were significant in the conduct of the analysis. As a social scientist, she was able to process the complex discussion and bridge the planners’ needs for certain types of knowledge.
**Policy documents as material outcomes of practical work**

The need to bring information from the NSPC to the planners effectuated the process in which meanings were transformed into a more convenient form from the planners’ perspective. As a product of the practitioners’ practical reasoning, two policy documents were written that transformed information from the NSPC into planning knowledge. These two policy documents further summarised, generalised, categorised and visualised the geo-referenced public discussion. For example, the report, which summarises the outcome of the application, starts with a general introduction on the nature of the application and then presents some statistics about the users and usage of the application. The primary written section consists of a thematic categorisation summarising the geo-referenced discussion. Then, three thematic maps are shown that were produced from the geo-referenced discussion. Finally, all of the aerial photographs and graphic icons with textual commentaries are attached at the end of the report as an appendix. The thematic categorisation of the discussion consists of the following sections (headings and subheadings shown below):

**Thematic categorisation:**

‘The key topics of the discussion’
- For and against construction of Nurmi-Sorila
- Places of construction
- Future forms of housing
- Places for centre and services
- Recreational places and natural areas
- Future solutions of transport

‘The areas deemed valuable in Nurmi-Sorila and their characteristics’
- The cultural environments of Nurmi and Sorila
- The nature
- The characteristics of the surroundings

‘The problems experienced in Nurmi-Sorila’

‘Perceptions about the development of Nurmi-Sorila’
- Rural Nurmi-Sorila
- Suburban Nurmi-Sorila
- Small-town Nurmi-Sorila

**Thematic maps:**

‘The place image map’ (see Figure 2.)
‘Perceptions about areas of construction in Nurmi-Sorila’
A map showing all of the symbols that were given during the experiment

These categorisations indicate how the practitioner reformulated the public discussion into a rational-technical discourse of planners, in which the rambling public debate is categorised and generalised and then visualised with thematic maps. For example, the following text found in the ‘Places of construction’ section under the heading ‘Key topics of the discussion’ portrays how the entire public discussion regarding the location of construction is condensed into a few sentences:

“In the discussion about the construction areas, most of the respondents hoped that the most important open landscapes of pastures and fields could be preserved and also that agriculture would be visible in the future as well, even if there would be more construction in the area. On the other hand, there were opinions that the flat lands of the fields are well suited for detached house construction. Lakeside sites for construction were proposed in some of the opinions, but the most of the respondents hoped that waterfront would stay for the general public’s recreational use.”

For another example of how meanings from the geo-referenced discussion were translated for planners, we can look at the thematic map representing the ‘place image’ of Nurmi-Sorila (Figure 2.). The description below the title (Nurmi-Sorilan Mielikuvakartta) of the map reads: “The map assembles a summary of the perceptions of places that are considered valuable in Nurmi-Sorila and the perceptions that focused on the development of particular places on the area. The boundaries of the different colours are very general”. Under the description is the colour coding of the map, which reads (from up and left) as follows:

- Brown = possible area for construction
- Red = possible area for services
- Green = possible area for recreation
- Yellow = possible area for agriculture
- Diagonally lined brown = plenty of contrary opinions regarding these areas
- Thick line = area considered valuable
- Boat icon = proposed beach and shorefront for boats
The map shows how different opinions based on the public input were generalised, categorised, and visualised and thus translated for planners. Sketching and visualising the general outlines of entities (e.g., construction, services, and recreation) on the map would facilitate planning at this level. When I asked the practitioner how the map was produced from the vast amount of discussion that was composed of various words, graphic icons and aerial photographs, the practitioner had a quick laugh expressing that my question was ignorant and the answer obvious, as she replied: “well, it was all there”. I realised that it would not make sense to inquire about the specific work procedures as her practical knowledge was the basis of much of her work and was difficult to put into words. In terms of knowing-in-practice, she did not have a clear framework for doing the job of classification and generalisation, but she had arrived at feasible solutions through understanding the ‘particulars of the situation at hand’ (Wagenaar, 2004).
Nonetheless, this type of classification work cannot be neutral (Bowker & Star, 2000). Classification shapes the items so that they will work for a specific purpose. Meanwhile, other items are generally overlooked or omitted from the classification. If we look at the content of the reports, the topics that are included generally concern planning, and they are framed to facilitate this particular level of planning. The practical work of categorising these items entailed re-scaling of the issues to the appropriate level of planning. Some issues were overshadowed because they did not find their way into the scale or scope of matters that were considered suitable for practical purposes. In this sense, it was the practitioner’s understanding of the particulars of the situation at hand that lent to some discourses (with their accompanying styles of argumentation, scope, and scale of issues) to be more easily included in the planning practice than others. For instance, discourses that were centred on how Nurmi-Sorila should be planned took a dominant place in the above thematic map. In addition, practical reasoning caused the transformation of detailed accounts used by people to describe problems and places that they value into more general descriptions of common themes as interpreted by the NSPC. Finally, practical reasoning resulted in the exclusion of some issues because they did not find their way into the scale or scope of matters that were considered suitable for practical purposes in planning. For example, the perceptions in the example below, which clearly describe a stressful problem for the individuals expressing their concern and which are very much based on their experiential knowledge of the situation, were omitted from the planning documents:

A. July 5, 10:43: “The dogs in this kennel cause overwhelming harm to all residents in Nurmi by continuous barking. Action from authorities is needed as discussion will not help. Thank you.”

B. September 17, 10:20: “The continuous barking and howling of dogs especially at night time has been a really big problem for years. As the years have gone by, sheds for dogs have been built here and there. Discussion has only lead to worse direction. The end result was that we decided to give up our family summer house a few months ago. One could not say to be happy there anymore. To the contrary, one would get stressed because of continuous barking.”

C. […]
Issues such as these were not addressed in the policy documents because they did not fall into the relevant scale or scope of matters that could be handled at the particular planning level and process in which the NSPC was implemented. The omission of items from the policy documents does not indicate that planners and practitioners ignored these discourses and issues, as they might be addressed in some other way. For example, in the case of Nurmi-Sorila, there was another discussion thread concerning a missing cycleway on one of the main roads of the area. The practitioner addressed this item by informing the officials who were responsible for traffic development about the problem. This finding actually demonstrates again the importance of the practitioner having a practical understanding of the particulars of the situation at hand. She realised that this knowledge is important and that the problem could be more effectively and quickly addressed outside of the planning process.

**Conclusions: The production and transformation of public knowledge**

A central goal of participatory web-based spatial information and communication tools is to widen the knowledge base in planning. This article illustrates that implementation of such tools in planning practice leads to contingencies that impact the acquired knowledge. In particular, two distinct phases that introduce such contingencies in knowledge production were brought up. The results suggest that the potential of the geo-referenced discussion, as well as other technologies of participation, should be evaluated in practical situations. This goal may be achieved by tracing how issues are enunciated by means of a geo-referenced discussion. Understanding the dynamics between the scale, scope, and style of issues provided useful heuristics for this task. These dynamics describe the manner in which discussions become contextualised in a geo-referenced argument.

In addition, reflecting on the different levels of analysis, from the very situation-specific acts of meaning-making to the cultures of governance in which this meaning-making takes
place, is useful in scrutinising the types of knowledge production supported by the geo-referenced discussion. Accordingly, the article strongly suggests that more case studies on the methods by which geo-referenced discussion, and other such technologies that are used to support participation, function in planning practice. The case studies should account for the context and the practices in which the participatory exercises have been conducted and, if possible, follow the process from inception to completion, from the design process of the participatory instrument to the traces it leaves during the planning process.

Acknowledging the situatedness of knowledge (Haraway, 1991), that knowledge is always local and that it is always a product of practices that take place through particular sociomaterial relations, the geo-referenced discussion in Nurmi-Sorila had two roles. It was simultaneously an arena for public discussion and a consultation tool. This double role was crucial in terms of the kind of knowledge generated. The knowledge was co-produced by citizens who brought with them divergent relational networks and frames of reference. From the perspective of planners, the relationship between the knowledge generated by citizens in the geo-referenced discussion was complementary to other sources of information.

In my interpretation, the three elements of discussion, scope, scale, and style of issues, are crucial factors for the definition of the type of knowledge that is generated by means of a geo-referenced discussion. Resolution of these elements in the NSPC involved the interplay between (1) people who were engaged with matters of Nurmi-Sorila, (2) the way in which the NSPC constituted a public forum for discussion and how it afforded argumentation, and (3) the issues that were in need of public articulation in the politico-cultural situation of Tampere.

This conclusion implies that people who engage in a discussion bring their knowledge from various backgrounds backed by a wide variety of relational networks. There is no singular form of local knowledge that is transferred untouched to the domain of planning. Instead, a new type of knowledge is produced. The public arena becomes a site of public knowledge.

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4 By stressing that the instrument was both a public forum and a consultation tool, I want to convey the sense that these technologies can be, and often are, many things simultaneously (cf. Elwood 2009).
production. The analysis of the NSPC suggests that discussion in a public arena called for a holistic approach to issues in which technical reasoning, values, and moral reasoning are intertwined. Generally speaking, people were not willing to simply state matters of fact or name their favourite places because they entered a public arena and assumed that they were expected to provide arguments. They constructed their arguments in the form of a problem that needed to be addressed or to which they provided an answer.

From the planners’ perspective, the role of the geo-referenced discussion was to consult people and extract local knowledge with the help of this technology. As a result, the technology of participation took part in the process in which public knowledge was transformed into formalised, technical-rational planning knowledge. This case shows how planners differentiated between planning and politics. This widely criticised planning paradigm based on rational decisions made with the aid of technical-scientific information seems to persist in the planning practice of Tampere (see also Bäcklund and Mäntysalo, 2010). The local culture of planning provided a role for public participation by means of geo-referenced discussion. The planners found this tool to be useful for collecting information, but they did not see the geo-referenced discussion as a way to deliberate with citizens on issues within the NSPC. Although some planners said in the interviews that dialogue would be necessary to specify some issues, it seems that the timeframe and procedural steps involved in planning processes limit the ability of planners to engage in deliberation with citizens. In other words, the planning process effectively guided the practical reasoning of planners in their efforts to assimilate public knowledge.

In my interpretation, the socio-cultural context, particularly the governance culture of Tampere and the strategic planning process of Nurmi-Sorila, worked as a framework against which the planners and the practitioners made sense of the geo-referenced discussion. Through the emerging understanding of the situation, the policy documents were translated to provide the planners with the type of knowledge that they could efficiently incorporate into their work.
They needed to identify the general trends and common themes in the discussion and assimilate issues that were adaptable in the context of the planning process. The assimilation of issues was achieved by transforming issues through the lens of the planner, which allows addressing the issues as entities that have boundaries and that are spatially spread and organised over the area of the planning object (cf. Scott 1998).

As indicated by the results of the case study, some issues were omitted in this process of assimilation, and other issues lost nuances through categorisation and generalisation. This limitation raises the question: could there be other ways to assimilate information from a geo-referenced public discussion that could complement the knowledge that is generated by categorising and formalising the discussion into technical-rational forms? It could be fruitful to look back to Jane Jacobs’ comment: “To learn how things are working, we need pinpoint clues” (Jacobs, 1961, p.442). By pinpointing clues, she refers to inductive reasoning from particulars. To complement the generalisations of the discussions, it would be relevant for planners (and academics) to think of geo-referenced discussion in terms of pinpoint clues. In practice, one way of carrying this forward could be to treat geo-referenced discussion threads as multimodal narratives, in which different semiotic resources are used to communicate meaning (Bamberg, 2010). After all, making geographic references using visual means implies, ipso facto, pinpointing of matters.
References


Healey, P. (1997) *Collaborative planning: shaping places in fragmented societies* (London,
Macmillan Press).


Efforts in contemporary urban planning to include collaborative practices have often transformed into conflicts between stakeholders. We compare two planning processes that took place in Tampere, Finland (1997–2007), focusing on the role of local place images in public participation. Our study stresses the dynamics of practices, suggesting that instruments and practises of public participation should be contextual and tied to local circumstances. The analysis of the two cases, the areas of Vuores and Nurmi-Sorila, shows that planning authorities should engage the local place images as the foundation on which the public participation can be successfully constructed. Furthermore, the comparative findings suggest that local place images have to be taken comprehensively into account in order to provide a positive image of place for both current and possible future inhabitants.
Paikkamielikuvat kaupunkisuunnittelussa


Kulttuuriperintöä käytetään yhä enemmän markkamarkkinoissa. Perinnemielikuvia (heritage images) käytetään laajalti myös sellaisten paikojen markkinoinnissa, joiden historia on lyhyt ja oma vakiintumaton. Perinteen valikoima käytöstä voi kuitenkin syrjäyttää sellaisten kaupunkien maailmantausten ja markkinointia, jotka kuitenkin myös yhdistävät voin suorastaan ja tuottavat sen asukkaat ne mielikuvat, joilla aluetta markkinoidaan.

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koitetun valtaelinten etujen ajamiseen, olivatpa nämmä sitten ylikansallisia yhtööitä tai paikallisia johtavia virkamiehiä. Paikallisilla järjestöillä ja asukasryhmitymillä on vähemmän vaikutusvaltaa perinnemieliikuvien edistämisessä.

Tarinan ulottuvuksista viides kohdistaa huomion henkilökohtaisten ja juettujen paikallamieliikuvien syntyyn ajan kulussa. Kaikki edellä esiteltiin mil- likuvien ulottuvuudet syntyvätkin ajan kerrostami- na, joten tämä ulottuvuus läpäisee muut.


**Aineistot ja analyysi**


Kaupungin kaksi vaihtoehtoa: Nurmi-Sorila ja Vuores


Tampere alkoi kasvaa entistä voimakkaammin 1990-luvun lopupuolella. Kaupunki kuului kasvukeskuksiin, jonka muuttovoitto vuosikymmenen lopulla oli keskimäärin 2 000–3 000 asukasta vuodessa. Tämän seurauksena kaupunginvaltuuttajille on ollut vaikea kartalta lisää alueita, jotka soveltuisivat laajammin asuinrakentaminen (Leino 2006: 44).

Liikkeelle, niin kuin olisi pitänyt lähteä, alueella, johtuen just siitä että kaupunki ei lähtenyt ihan täsmälleen kasvatuksiltaan.


tulevaisuudessa. Kehityskuvalta pyrittiin luomaan lähtökohtia ja alustavia tavoitteita kaavoituksekstelelulle sekä osallistamaan eri eturyhmien suunnitte- luun jo osayleiskaavaatyön alkuvaiheessa.


**Paikan mane ja julkisuus**

Kirjoittaja mainitsee etelän suunnan ”luonnollisimpana” vaihtoehtona, mutta Vuoresta ei nimetä. Nurmi-Sorilasta kirjoittajalla on selkeä näkemys: se on ”maisemallisesti otollinen”. Suuri osa Aamulehden mielipiteosastoon kirjoittajista nimenomaan toivoo Nurmi-Sorilan kaavoittamistä. Kirjoittajat mielestä alueelle oli hyvät liikkeenmahdolliset ja siellä oli hieno maalais- ja kulttuurimaisema ja palveluita valmiina. Miksi siis jättää alue kaavoittamatta?


Tampereen kaupunki pyrki suunnittelun edetessä korjamaan Vuoreksesta syntyneen julkise milukuvan. Tilanne voidaan tulkita myös tie toiseksi paikka milukuvan kehittämisprojektiksi. Julkisuudessa on puhuttu muun muassa ”Ecocitys” ja ”langattomasta Vuoreksesta”. Alueen koti sivut aloitattavat esitellyn lauseella ”Uutta ihmisläheistä ja ihmisen kokoista asumista nykyajan kaupunkilaaseille” (www.tampere.fi/vuores). Suunnit telukeskus Oy:n konsultista Vuoreksen kehittä mispääliikiksi siirtynyt Pertti Tamminen ker toksi kesällä 2004 toivotusta tulevaisuuden kuvasta Markkinointi&Mainonta-lehdessä seuraavasti:


**Osallistumisen laajeneminen internettiin**


*Figure 2. The primary interest of the users of the web application (from June 1, 2005 to May 11, 2006) regarding the area of Nurmi-Sorila. Number of respondents: 216.*
Päättelmät


KIRJALLISUUS


