CITIZENS, TECHNOLOGIES & POWER – A UNIQUE PARTICIPATORY DESIGN CHALLENGE

RELATIONS

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ABSTRACT

This paper discusses power relations (Arendt 1970) between citizens and technologies induced by new communication structures for self-organization within a participatory design project: the "Mit-Mach-Stadt Brandis" ("Participatory City"). It questions how citizens use and adapt new digital means that have the potential to strengthen local and social structures. Referring to Latour's actor network theory (ANT) and the equation of power between human and non-human actors, the current inquiry addresses the impact of digital technologies on citizens. According to Latour, citizens, categorized as human actors, lose power in a digitized and connected urban environment. To counter this tendency, we develop socio-material infrastructures (Star, Ruhleder 1996; Ehn 2008) with and for citizens. Thereby, an empowered position for dealing with increasing digitization should come within the citizens' reach. We analyze the relation between citizens and technologies *before, during,* and *after the project duration* (cf. Ehn 2009: 55). This paper is aimed at supporting design researchers in tackling the challenges of increased digitization and the possibilities of civic empowerment in participatory design work.

INTRODUCTION – THINKING ABOUT "RELATIONS" AND "IDENTITIES"

When doing participatory design projects, in which designers and laypersons work together on iterative processes, our research is tied to different levels of involvement, collective action, and the co-creation of knowledge. There are different roles to take on for the various actors and stakeholders involved. Participants are at the same time citizens, residents, and, in the most cases, members of already existing initiatives, with their own interests, political affiliations, and social bonds. We as design researchers also take on different roles at different stages in the process. During fieldwork we are facilitators, translators, conductors, evaluators, organizers, motivators, and designers. We gather local knowledge, observe social interactions, we listen, intervene, and guide. Simultaneously, we have to take a step back in order to reflect our research role and develop theories. We also disseminate the project in varying contexts: political agendas and recommendations for action, guides and manuals for civic engagement, and academia. Therefore, we are challenged to follow the respective "languages," logics, and discourses. Additionally, we are citizens, too, with specific political attitudes.

In this mesh of roles and interests, the balance of power within a group (cf. Arendt 1970) is complex and even impenetrable. Beyond that, the influences of digital technologies challenge the power structure within the very negotiation processes, as technologies entail new communication and organization practices. This is especially true when projects explicitly address issues of interpersonal and digital communication. People and digital means are embedded in a dense network of actions, operations, effects, and activities that shape the role of technology in the distribution of power.

In the project described here, the infrastructure and tools we design, are meant to bridge differences, open avenues for debate and negotiations, bring together individuals from different backgrounds, and create *publics* (Dewey 1927). We consider a socio-material

infrastructure in terms of enabling "power" generation in a collective sense (Arendt 1970: 44). The infrastructure in question is a communications network that we analyzed and extended to empower citizens and improve relations with a local municipality.

TRANSFORMATION OF OUR EVERYDAY LIFE THROUGH DIGITIZATION

With the increasing digitization of our everyday life, the role of citizens is challenged, especially with regards to societal and political decision-making processes that are increasingly becoming digitized: We face in- or exclusion in and from information flows ever more, depending on which technologies we are willing or able to use. In addressing questions of the role of digital technologies for social development or, in a normative way, what role technology should have in building a more democratic and just society, the various discourses mostly refer to opportunities and challenges but also high risks of digitization. As the black box principle, an "internal mechanism [which is] usually hidden from or mysterious to the user" (Webster's Dictionary 2014:100) still dominates our digital behavior, the price for using digital technologies by implication might be very high indeed: The possible consequences include a loss of privacy, deficit of control through interconnection of our data (big data) or an increasing digital divide (cf. Schenk et al. 2013). Against this backdrop, the power relation between technologies and citizens is unbalanced already. We human actors are still convinced that we maintain the control, but, when thinking about artificial intelligence (AI) or massive algorithms, it seems that technology has gained long-lasting power.

SMART VS. SOCIAL CITY APPROACHES

Most smart city paradigms (cf. Ryser 2014, Laimer 2014) include predetermined and prefixed technologies. Either citizens must be willing to appropriate and use it – and thereby include themselves in the information flow – or deny it and thereby exclude themselves. By that, citizens get pushed into the role of consumers instead of producers, not being involved in the decision making process but getting ignored and oppressed in their "urban competence" (Laimer 2014).

An opposing perspective is provided by the "social city" (De Waal 2014) or "smart citizen" (Hill 2013) view. Here, citizens are at the center of attention.
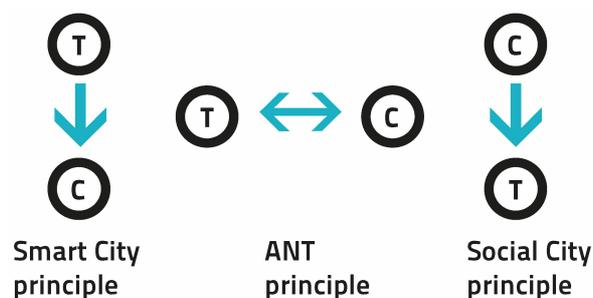

Figure 1: Comparing the principles regarding the power relation between technology (T) and citizen (C)

Technologies and the urban environment get considered from their perspective (see figure 1) – and not the other way around.

Comparing the smart city technologies' scope and range of functions to those of the social city, the technological developments of open source technologies for the social city approach are still lagging behind (e.g. Fair Phone, Open Street Maps, Linux).

In Latour's actor network theory, citizens and technologies are at least on the same level, with regards to power relation (cf. Nigten 2016). Now we need to ask ourselves which consequences this perspective has for our participatory design approaches within the citizens' perspective in urban space.

OUR APPROACH: SHARED, SOCIO-MATERIAL INFRASTRUCTURES & OPEN SOURCE TECHNOLOGIES

We have to ask ourselves how to strengthen the position of citizens in such a complex network. Or rather, how do we make the position of citizens more informed and sovereign in comparison to digital technologies? We are talking about the expansion, adaption and "reassembling" (Latour 2005) of the citizens' infrastructure vis-à-vis both the local municipality and their fellow citizens, as well as those responsible for urban issues. This is done through technologies and face-to-face communication.

Our approach is to develop socio-material infrastructures that build on and extend already existing local structures. After identifying specific gaps within the structure, new "fillers" are developed in a participatory manner. Those fillers can be human actors or non-human actors, social or material. Through developing those missing parts, a more connected and empowered situation for the citizens might come about.

Such infrastructures are a result of a long-lasting and intense collaboration with the citizens in a specific local environment. After the project, the goal is to hand over the infrastructure to the citizens. The position of the participants should thereby be strengthened vis-à-vis the technology. It is still based on mutual reliance, but now the dependency is structured in such a way that citizens can take on the active role and be able to react to the functionalities they need. In order to enlarge their scope of action, we are convinced that open source technologies offer the flexibility, openness, and adaptability citizens require. Citizens would become more independent from external constraints – so that within the network they are less dependent on other actors. It is an opportunity to give back "digital sovereignty" (Lepping, Palzkill 2017:17) to citizens.

APPLYING OUR APPROACH

We would like to illustrate how we implement this approach in our empirical research with one of our research projects called "Mit-Mach-Stadt Brandis" (drlab.org/projects/mit-mach-stadt; mit-mach-stadt.de), a colloquial German expression that invokes the idea of "Participatory City". It is an one-year project and part of the "Innovative Municipality" award of the Saxon Ministry of the Interior (SMI).

This award was bestowed upon Brandis, a town of 10,000 inhabitants, in 2014. It is situated close to the city of Leipzig, where it benefits from younger families relocating out of the city to the rural and green area of Brandis. The goal of our activities was to implement new avenues for civic participation as well as improve communication and exchange between the municipality and the citizens within a co-design process.

Our first methodological decision was to install a socially oriented "living lab" (Franz 2015) at a local cultural center. We understand social living labs to be central hubs for meetings during the overall research process. They are continuously available for implementing a set of participatory design methods that suit both the research and the local requirements. The tangible space allows for mutual trust to be built up and questions to be addressed: The research becomes visible and locatable – also for passersby and non-active citizens.

Every three months, a series of intensive workshops with residents were planned and conducted in the living lab. In the mean time, public interventions, extensive conversations, informal and half structured interviews, municipality meetings, as well as public project presentations were conducted.

COMMUNICATION NETWORK *BEFORE* THE PROJECT

The analysis of the already existing communication structures and tools made clear that the newly revised municipalities website (stadt-brandis.de) gave access to specific local information. The e-participation platform (stadt-brandis.de/de/beteiligungsportal), implemented by the Saxon Ministry of the Interior (SMI), was used for surveys, e.g. about the future development of the inner city. In fact, this purely digital tool was badly adopted by the citizens, as a result of the one-dimensional communication channel: only the municipality could raise questions, and the tool hindered a broader usage.

The municipality also launched a city application (app.brandis.eu), offering local news, citizen services and "defect reporting" that gives a direct feedback about the reparation progress of public space.

COMMUNICATIONS NETWORK *DURING* THE PROJECT

By analyzing the existing socio-material infrastructure, we identified the necessity to interweave digital and analog avenues of communication. The central, physical platform – the social living lab – meanwhile served as a space for encounters.

One key outcome was the demand for an independent digital platform with low-threshold access and means for self-organization in different areas of urban social life. In a co-design process, we developed a platform with basic functionalities (see figure 2): No registration is necessary but, if interested, you get topic

notifications. It has two local administrators – one of the city council, one citizen – in order to control misuse and adapt it with more functionalities, if necessary. By the two admins the information flow should get extended to the citizens as well as the city council. The platform aims to make the getting-to-know-each-other and
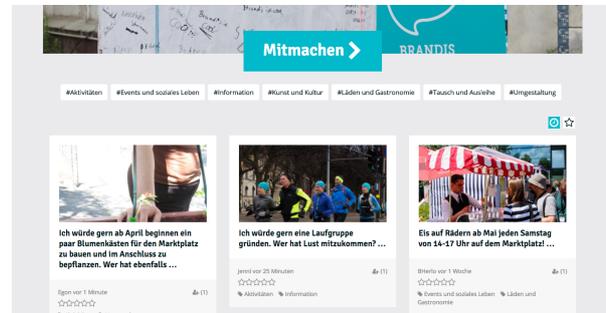
Figure 2: The citizens platform "mitmachen.mit-mach-stadt.de" supporting self-organization

meeting-up process as easy as possible, and lead to face-to-face actions. It provides a continuous space for participation and discussion at local scale. The resulting ideas get bundled and communicated to the municipality.

In order to open up to digitally illiterate people, several additional communication channels are being offered: The public column in the center of the market square (see figure 3) allows citizens to intervene in the public space (agora-like).

Figure 3: Public intervention "Dear Market Square" integrating the public column and the Hybrid Letterbox, June 2016

Another way would be using the Hybrid Letterbox (drlab.org/projects/hybrid-letter-box) – installed in the local city hall and connected to the e-participation platform from SMI. The municipality can ask specific questions, make them visible, and present the input in a playful way to residents, the digitally savvy and the technophobe alike. The box notifies citizens of a chance to participate, and do so in a way that functions beyond the merely digital world. It is a counterbalance to the digital divide afflicting many communities. To digitally iterate residents, the Hybrid Letterbox additionally draws attention to the website-based participation offer.
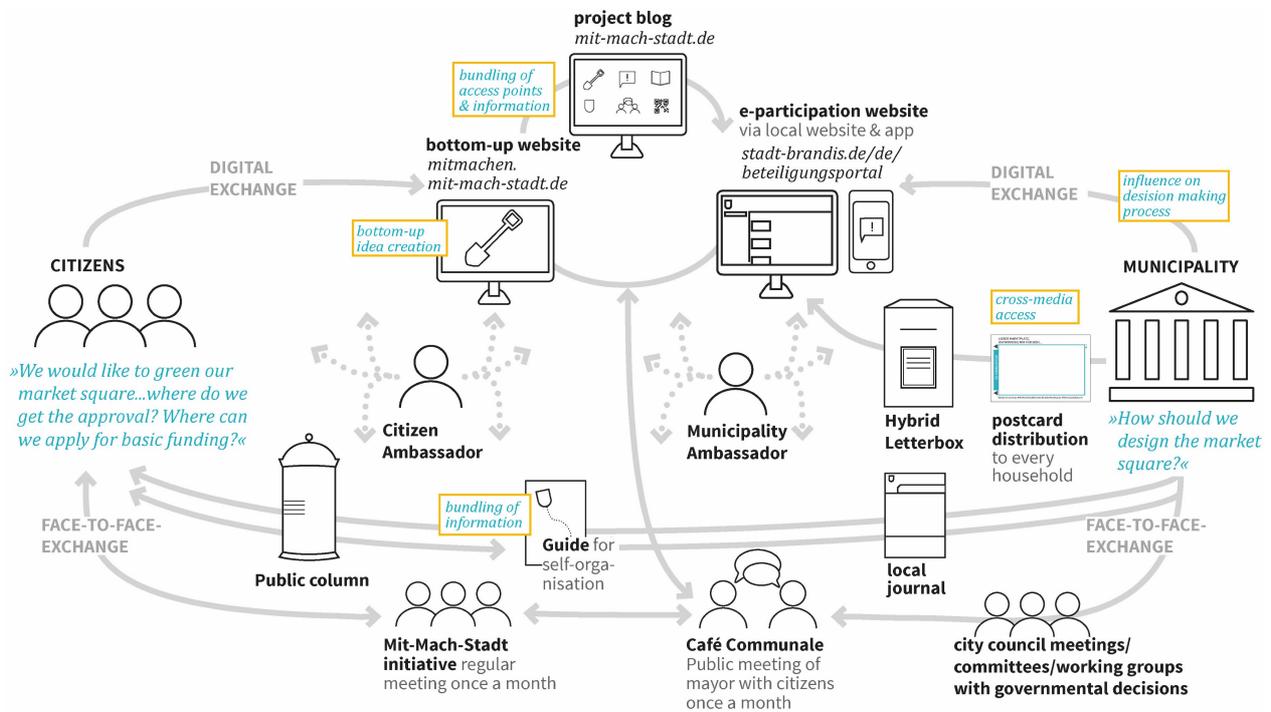
Figure 4: Implemented socio-material infrastructure *after* the "Participatory City" project duration

The infrastructure was supplemented throughout with these new elements in order to allow more holistic, diverse and open interaction (see figure 4). The low threshold, cross-media infrastructure gets additionally explained in a guide for self-organization, in print and download version (drlab.org/projects/mit-mach-handbuch). Citizens should be able to administrate, use and adapt the tools according to their changing conditions. Thereby citizens gain urban competence and are able to act in a sovereign way.

The design-after-project-duration phase was planned in detail: there was a final, concluding workshop. In preparation, we identified citizens as mentors for each new infrastructural element, informed them about the intentions of the tools and important stakeholders. Additionally, we assigned responsibilities to the municipality. The tools got developed in the beta version and released open source (on Git Hub) in order to give the Saxon municipalities and initiatives network the possibility to build on and adapt it. We also handed out instructions for each tool and asked for feedback requests.

COMMUNICATION NETWORK *AFTER* THE PROJECT DURATION

From the initial workshop onwards, the participants demanded that all explanations and controversies be discussed in "citizen language". By following this guiding principle, we built up relations to the participants with mutual trust and commitment. It worked out that citizens took over responsibility and continued the activities on their own. The owner of the living lab's donated room extended the offer. This way, we can observe and analyze future interactions.

Now we are at the stage of observing the appropriation of the communications infrastructure and reflect upon the results of the whole process. The next six months will bring insights about adoption and empowerment – through observation and investigation of people use the tools we provided.

OUTLOOK & PERSPECTIVES

Our goal is to offer socio-material infrastructures with cross-medial access points for citizens with varying levels of technological know-how. The project is still underway; therefore, the final reflection must wait. Nevertheless, we assume that taking this path is an encouraging way in times of digitization of everyday life.

From our point of view as designers, the co-designed technologies need to be simple but also offer a beneficial range of functionalities to motivate citizens to engage with the tools. So the challenge is to find the balance between simple access but also open source functionalities that are intuitive and easy to use. It is necessary that a critical mass of citizens is using the tools, so that collective power (cf. Arendt 1970) can evolve and decisions making processes can be influenced. The power to decide about the surroundings we live in should get shared between representatives and citizens. Thereby technology, which citizens can understand and adapt, can have a great impact.

Reflecting this participatory design process – and its uniqueness in turning complex power structures into enablement of citizens through technology – hopefully reaches influence in the decision making processes shaping our common lifeworld.

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