Co-creative partnerships as catalysts for social change

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ABSTRACT

Mundane cities are challenged to design for unpredictable and rapidly changing futures. In the current work, we refer to these challenges as a collaborative design challenge and explore how co-creative partnerships can enable a participatory turn by establishing a new social infrastructure. The corresponding citizen-centred design approach offers a variety of design opportunities to engage with citizens, to empower all involvement, and enabling a social fabric to be increasingly reflexive and responsive. Through the illustration of three collaborative design studies in the public realm, we explore how design can act as a strategy towards a transforming society. It shows that participatory designing enabled empowerment across the co-creative partnership, though it also calls for strategic guidance in order to sustain transformational change. We end with an elaborate discussion on the role of strategic design in facilitating the interplay among new coalitions of city makers towards a transforming society that embraces sustainable social innovation. It can be concluded that co-creative partnerships can act as network designers, capacity builders, and enablers of transformational change, and have the potential to act as change makers, driving sustainable social innovation.

Keywords: co-creative partnerships, diffuse design, participation, social innovation, transitions

Introduction

Today's societal challenges demand for a deep socio-ecological transition; they ask for changes in urban infrastructures and governmental structures, but also in our personal lifestyles and daily lives. Even though, contemporary cityscape is increasingly laced with an omnipresent smart city infrastructure, smart solutions are only part of the answer (Mulder, 2015b). Living labs or public-private-people partnerships are another solution, oftentimes embraced by policies, stressing that innovative and smart solutions only work when they fit in with and arise from people's daily practices (Mulder, 2015c). Living labs can be defined as "an experiential environment where users are immersed in a creative social space for designing and experiencing their own future. Policy makers and citizens can use living labs to design, explore, experience, and refine new policies and regulations in real-life scenarios before they are implemented" (McPhee *et al.*, 2012, p. 3-4). What makes a living lab approach unique over traditional user-centric methodologies and other cross-disciplinary approaches on innovation, is its multi-contextual sphere in which co-creation with users takes place. It is the living part of a living lab, a living network of real people with everyday experiences, allowing partners to co-create in context

(Mulder and Stappers, 2009), that enables us to reshape "society in the direction of a more participative arena where people are empowered" (BEPA, 2010, p. 42).

Years ago, Jane Jacobs has opened up many eyes with her seminal book entitled *The Death and Life of Great American Cities* (1961, p. 238): "Cities have the capability of providing something for everybody, only because, and only when, they are created by everybody", even though, we have not managed to put these properly in practice. As envisioned earlier (Mulder, 2015b), the biggest challenge cities face may not be solved by policies and innovative technology, cities require the capability to design for unpredictable and rapidly changing futures, in a citizen-centred way. In other words, citizens are at the heart of our cities, and need to be at the heart of social change as well. This does not imply that societal challenges are just citizens' issues. Instead, these are a collaborative societal effort of releasing existing paradigms, changing perspectives and doing things differently (Mulder, 2014). Similarly, in the current work, we refer to these challenges as a collaborative design challenge, and view empowerment of all involved as crucial to drive social change. Empowerment is a crucial construct in connecting individual wellbeing with a larger environment, it links individual capabilities, competences, and proactive behaviours to social policy and social change (Rappaport, 1987).

Co-creative partnerships

The concept of *co-creative partnerships* (Mulder, 2014) is based in participatory action research and aims to contribute to capacity building and catalyse social change (McTaggart, 1991; Dickens and Watkins, 1999). The concept goes hand in hand with the introduced living network of people, and elaborates upon the increasingly accepted public-private-people partnerships approach (McQuaid, 2000) through emphasising the foundations of participatory design, i.e., people participating in the design process as co-designers (Schuler and Namioka, 1993; Ehn, 2008). Adding a fourth helix to the often-referred triple helix (university-government-industry) policy model, Carayannis and Campbell (2012) bring knowledge of culture, values and life styles, multi-culturalism, creativity, and media, into the innovation process. In this way, the human scale is emphasised in a shared process of knowledge production in which they collaboratively envision desired futures (Brodersen *et al.*, 2008; Brown, 1999; Carayannis and Campbell, 2012). In practice, however, such development is often pursued building upon the existing: improving existing urban landscapes to work towards sustainability leaving the quadruple helix only as a policy model rather than a model for co-creation. Deliberately referring to co-creative partnerships, we stretch participatory design principles in a co-creative fashion and aim to apply these throughout city making practices. Next to that the heterogeneous stakeholders (helixes) are welcomed as partners, demonstrating a sustainable relationship to make a transforming society happen.

In the current work, we explore how co-creative partnerships can use participatory design principles in enabling a participatory turn in the public domain, leading to a new social infrastructure, a participatory domain. In participatory design, end-users have influence and control of the design of artefacts that suits their goals and activities at best (Sanders and Stappers, 2014). Although participatory design has its roots in the Scandinavian democratic movements, viewing participants as equal, as partner, unequal relationships are still too often commonplace in todays' participatory design practices; role patterns are confirmed by the government that wants citizens to participate, or designers who want users to participate. Participatory design is often associated with giving voices to people and the inclusion of citizens in political debates. The current work, however, seeks to emphasize the value of empowerment and constructive collaboration through respecting differences in order to move along with the proposed transition over power, influence and autonomy which are often central in activists' approaches that seek to fight against the system logic (DiSalvo, 2010). In order to enable co-creative partnerships to give voice – and hands to be able to act upon – in drive bottom-up social innovation, the corresponding research aim is to stretch current models on citizen participation (Arnstein, 1969) or user involvement (Ives and Olson, 1984) towards a broader set of design skills which seem to be increasingly essential for successful participation in society. For instance, the Maker Movement enables that everybody can be a designer, by providing tools and infrastructures to unleash their intrinsic ability to create, make, and innovate (Walter-Herrmann and Büching, 2013). Digital fabrication brings digital literacy and creative skills with expressive tools, and contributes to empowerment through a broader diffusion of design skills. This so-called diffuse design (i.e., design as human capability) as introduced by Manzini (2014) can be distinguished from expert design (i.e., design performed by those who have been trained as designers).

Co-creative partnerships obviously can benefit from this changing design landscape. In the first place, the move from the workplace towards the public space. Likewise, user concerns in product design have moved to the fuzzy front end, it is also important that citizens are involved in earlier phases of city making to ensure that developed policies and services fit into people's daily lives. Next, the design field is also moving from "designing for consumers" via "designing with users" towards "designing by people" (Sanders and Stappers, 2014). The latter refers to networks of diverse teams and individuals. Although different co-creative partners share mutual interests, they also have their particular needs and desires. Co-creative partnerships in terms of a quadruple helix are a specific kind of network, a coalition of expert designers and diffuse designers aiming to join forces in collaboratively making the city. In keeping with Brynskov *et al.* (2014) such a new city making process is not only about bringing various disciplines together that address urban developments, but foremost to establish a collaborative effort of defining a new way of collaborative working between professional designers, academics, policy makers and citizens. It can be seen as a necessary shift from "city management" to "participatory city making". Such a participatory city making process envisioning liveable and sustainable urban environments goes far beyond simple, or even complex, product-service design; it has political, organizational, and even cultural implications. It interestingly offers a variety of design opportunities to engage with citizens, to empower them, and enabling a social fabric to be increasingly reflexive and responsive. In the next section, the context of the current work is introduced, which is a program on the role of citizen-centred design in transforming society. The third section explains the corresponding research-through-design approach, and the selected "design cases" are presented afterwards. We end with an elaborate discussion on the role of strategic design in facilitating the interplay among new coalitions of city makers towards a transforming society that embraces sustainable social innovation.

Meaningful design in a connected city

The context of the current work has been shaped by the ongoing research program Meaningful Design in a Connected City (Mulder, 2015a, 2015c). This program investigates the role of citizen-centred design in a transforming society and takes stock of a vast amount of living lab experiences and a unique combination of research strands rooted in arts, design, science, and technology. The program explores the dynamics in the city by using the urban space as a living lab and the co-creative partnerships as a knowledge ecology (e.g., Brown, 1999). The respective lab

connects *education* and *research* with the city in order to design in a meaningful way for a smart and inclusive society. The emerging design practices address social issues such as air quality, mobility, social inclusion, and liveability.

A pedagogical framework

The educational programme (Mulder, 2015a, 2015c) aims to prepare upcoming designers in the field of arts, communication, creative technology, interactive media and game design, and computer science for the changing participatory design landscape. Participatory design is moving out of the workplace towards the public realm. Design 1.0 has moved towards design 4.0, where the latter refers to a transforming society (Jones and Van-Patter, 2009). The design discipline, has moved from the designing of things to interactions to systems, and from designing for people to designing with people and by people (Sanders and Stappers, 2014). Or from another perspective, product design has turned into product service systems design and becomes more and more intangible, ubiquitous computing goes into the city, and people have multiple devices, which are increasingly connected. Well-positioned within the emerging field of *Urban Interaction Design* (Brynskov *et al.*, 2014) guiding questions are: If interaction goes urban, and interactions are everywhere, how to design for these interactions? How to design social fabrics in the urban environment?

Similarly, the concept of co-creative partnerships is key to the meaningful design in a connected city program and requires a strong interaction between urban partners and student teams with diverse backgrounds in design expertise. Students are connected to partners (not clients), mimicking the eventual role they will play as upcoming design professionals. Collaboration with local creative industry (expert designers) is a crucial element in the co-creative partnership, highlighting expertise in agile development and entrepreneurial skills, as is the explicit focus in the educational program on understanding the context and value experimentation (Mulder and Stappers, 2009). In short, context, value-sensitive design, design thinking, digital fabrication, big data, Internet of Things, as well as human-centred design and urban interaction design are the core constructs of the pedagogical framework, which has anticipated Norman's plea stressing the need for change in design education (Norman, 2010). The successful implementation of the pedagogical framework into the university's curriculum seemingly fit into the current discussions on transdisciplinary design - how design transcends disciplinary boundaries – in keeping with the fourth paradigm of interaction design (Blevis *et al.,* 2014; Blevis *et al.*, 2015).

Resilient solutions only work when they fit and arise from the everyday settings people live in. Therefore, students go to the real context as soon as possible to get in contact with real people (and learning them to step out their comfort zone). Throughout their projects, students explore the interplay between people and things: the abilities, concerns, and practices of people, as well as the properties and behaviour of products, within a specified situation or location. Students learn to explore the effects of their design interventions iteratively, evaluating how they affect the

personal and social context in which their design is used. For most students, thinking in terms of human values and urban interactions rather than of solutions is a mind-shifting experience. Students learn to take a human-centred and value-oriented design perspective in small-scale experiments, and learn to design for liveable and sustainable urban environments, embracing the human scale, and they learn to collaborate with urban stakeholders, among other through participatory prototyping and participating in pressure-cookers, hackathons, service design jams, and other co-creative events. Van Waart *et al.* (2016) found indications that gained insights and skills were transferred to daily work practices of civil servants participating in the participatory prototyping activities.

Labs as co-creative places

Citylab is the corresponding co-creative place where research and education meet, in the first place motivated from educational needs to give design students the opportunity to work with digital fabrication techniques and Internet of Things (see Mulder, 2015c, for details). Citylab has been designed as a FabLab+ with a strong emphasis on electronic and sensor devices, Internet of Things, and Open Data (Applab). But the lab is much more than a prototyping workshop for students; it is also an interface to the city; a creative hotspot open to citizens enabling smart urban governance and co-production as smart citizens. It is an active learning environment for practicing making, co-creation, and participatory design skills, or differently put, for doing design as a collaborative process.

The Citylab concept has been promoted by one of the aldermen to enable active citizenship, and is currently established in new democracy policies, stimulating citizen participation. While the Fablab and Sensorlab are strongly linked to the physical Citylab, Applab is an open creative multidisciplinary learning environment, where students, teachers, and researchers together with local stakeholders collaboratively design for societal challenges (see for details on Applab, Mulder, 2015a). Applab activities demonstrate that a human-centred focus is vital for engaging stakeholders from public sector, industry, education and research as well as citizens in a shared process of knowledge production in which they collaboratively envision desired future cities (Brodersen *et al.*, 2008; Carayannis and Campbell, 2012). The labs function as collaborative learning and future-making environments, enabling organizational and disciplinary boundary crossing (Binder *et al.*, 2011).

Transdisciplinary design and collaborative learning

The program offers an inspiring environment in which students are given space to learn by experimenting in multidisciplinary teams (Mulder, 2015a, 2015c). Learning through collaborative experimentation, or better: learning through *design doing* has proved to have a positive effect on the students (Mulder, 2015a). Students easily moved out of their comfort zone. Space, both in the sense of freedom and creative environment, enhanced students' ambitions. The effect was not only evidenced in the quality of

their work and their time investments, but also in the level of collaborative reflections, both in action and on action (Schön, 1983). Moreover, the designed artefacts leveraged the discussions among all participants, and encouraged the co-construction of transdisciplinary knowledge. The co-creative process and the resulting artefacts contributed to the debate on meaningful design and the transformative role of design for a smart and inclusive society.

Approach

Contemporary city making asks to go beyond disciplines, leveraging spatial, technical, and social disciplines through a trans-disciplinary approach, anticipating the unpredictable and rapidly changing futures and dealing with societal challenges (Mulder, 2015b). What if we elaborate upon these collaborative "future-making" practices enabling co-creative partnerships to drive social change? Can we use the artefacts and prototypes made in educational context as an insight-giving tool (Suchman *et al.*, 2002; Junginger, 2008) that also enables co-creative partnerships. Although, design artefacts remain largely on a conceptual level, they can be seen as prompts, proposals, or prototypes demonstrating the potential of design for social innovation (Murray *et al.*, 2010), such co-created artefacts are promising to collaboratively explore alternatives and to articulate their different viewpoints (Mulder, 2015b). In this, the role of the objects (prototypes) would move from the object of design (elements of the hard city, such as buildings) towards facilitating values-oriented trans-disciplinary and participatory city making. The object of design is, consequently not the main focus anymore, the collaborative framing through participatory prototyping of what (object) to design has all eyes focused upon to develop more complete and integral viewpoints stimulating participatory city making in order to transform society (Mulder, 2015b). In keeping with Manzini and Rizzo (2011), who demonstrated how "large scale sustainable changes" could be achieved by participatory design when citizens and designers work together, co-creative partnerships can be seen as a crucial asset to enable the collaborative activity of prototyping and scale these activities towards participatory city making. Co-creative partnerships, then play a crucial role in enabling transformational change.

Constructivist research through collaborative designing

Rather than theorizing such values-oriented trans-disciplinary and participatory city making, the current work aims to gain insight in the value of co-creative partnerships for emerging design disciplines and how these could contribute to such social change. We envision a comprehensive participatory approach, where a collective of heterogeneous urban partners acts as co-designers along the participatory city-making process. In keeping with emerging design paradigms, the proposed design approach embraces complexity and heterogeneity, and is grounded in a constructivist research paradigm, as it builds upon the assumption that reality is determined by (networks of) people, and thus is socially constructed. Moreover, it ideally enables

the collaborative construction of a future path towards transformational change with societal impact. It might be clear that it does require some orchestration, however what design skills and strategies co-creative partnerships need in bringing the transformational change further is not straightforward. In the remainder, research through collaboratively design(ing) is used to explore what role (the object of) design as well as (the collaborative process of) designing can play in empowering the co-creative participants to enable a broader transformational (societal) change.

A patchwork of small-scale design initiatives

The earlier introduced program Meaningful design in a connected city can be seen as a patchwork of design initiatives, seen from different perspectives, addressing different levels. As an educational program, the focus was on upcoming designers and their design outcomes in the first place, but even then, the design projects can easily be visualised as a patchwork of initiatives. For example, individual students could participate as part of a design course, or join as a group, their projects could vary in time, while multiple student teams contributed to same design project over time. Different co-creative partnerships could take part. Clearly, each student made a final design, and oftentimes has used artefacts and prototypes to inform that final design. Not all students have used a research through design approach, though most researchers in the program did.

In the remainder, we view these small-scale design experiments as ways of triggering a process of broader change and transformation, and refer to these design experiments as the designs to explore what role design and designing can play in empowering the respective target user to act as a change maker. The next section presents three collaborative design cases in the public realm that developed a digital social innovation platform aiming to connect and empower people in a sustainable way.

Collaborative design cases

Table 1 shows an overview of three collaborative design cases. The focus of each design case is on exploring *what* to design to address as wicked problem and aimed to connect and empower users to (co-)design themselves (e.g., Sanders and Stappers, 2014). The empowered target users or diffuse designers in the selected collaborative design cases are respectively: (1) civil servants in opening public sector information for reuse, (2) inactive citizens joining (assertive) citizens in community participation, and (3) dropped out young adults to participate in society.

Opening up public sector information

The "Open Data initiative" was born as a bottom-up initiative, though strategically supported by the alderman of participation and innovation as well as the Chief Information Officer of the Municipality. These latter support activities appeared to be key. The manifesto and initiators explicitly addressed the citizens' voice, which is vital for engaging stakeholders from public sector, industry, education, and

Table 1. Overview and comparison of the selected collaborative design cases.

Public realm	Opening up public sector information	Design for liveability in neighbourhoods	Empowerment of drop-outs through digital fabrication
Empowered target user	civil servants	inactive citizens	young adults (dropouts)
Co-creative partners involved	municipality (policy and management/ CTO office/ civil servants from various departments)/ SMEs (social entrepreneurs and design agencies)/ university (researchers, designers, and students)	municipality/ social entrepreneurs/ urban planners/ citizens/ university	research/ university/ schools/ dropouts/ local initiatives
Project duration	24 months (2 years)	6 months	6 months
Lead design researcher(s)	2 fte designers (MSc)	1 fte designer (MSc)	1 fte designer (MSc)
Approach	research through Design	research through Design	research through Design
Final design	open data platform and toolkit	online initiative building platform and toolkit	a peer-to-peer talent development platform and toolkit
Artefacts and prototypes	boundary objects, artefacts (lead designers); prototypes of digital public services (various student teams supported by lead designer)	artefacts and prototypes used in co-design workshops (lead designer)	artefacts to encourage participation (lead designer); designs (diffuse designers)
Outcomes	empowered civil servants open data movement, open mind-set, transparent government, transforming governance	empowered citizens, broadened citizen participation, new citizens' initiatives	empowered youngsters, school certificates, enrolment in higher education, jobs

research as well as citizens in a shared process of knowledge production in which they collaboratively envision desired future cities. Unique to the Open Data movement is the collaborative approach connecting crucial partners that created a sustainable infrastructure to opening up data and still fosters further social innovation. A community-driven approach as opposed to a city-led innovation eco-system convincingly contributed to the debate on new governance models for smart cities. Interestingly, the release of Public Sector Information (PSI) through co-creation resulted in a fully adopted municipal policy to opening up public sector data. The open(ed) mindset clearly has impacted the local municipality, in terms of being open to empowering, open to share, and being open to change. Not only did the co-created concepts serve as boundary objects, animating public servants to free up more PSI for re-use and giving them potential fuel for other service design applications, but also the collaboration itself enhanced by design interventions have boosted in transforming towards a more transparent city, resulted in a transformed government and explicit mentions in the Council's program. Differently put, the local Open Data movement is not seen as an end unto itself, but as a means to co-create meaningful applications that enrich people's lives. More details on the design case can be found in Conradie *et al.* (2012) and Mulder (2015c).

Design for liveability in the neighbourhood

As made explicit in the previous design case, the municipal democratic innovation strategies such as City Initiative and the Right to Challenge manifest new ways of co-creation. However, having it on the local political agenda does not guarantee that citizens participate. The Design for Liveability project (Hepworth *et al.*, 2016) aimed to enhanced community participation by strengthening social ties among local stakeholders through the service design of an initiative building kit. Interestingly, through participating in the co-creative sessions organised for collaborative design of the platform, social capital in the neighbourhood increased, and has contributed to joining forces in proposing citizen initiatives to the Citylab. The strengthened local capacity resulted in high quality proposals challenging the local municipality that struck the heart of the municipal program. Although it is an evidence of achieving higher levels of citizen participation, the fact that citizens' ambitions addressed structural improvements that collided with municipal plans, also had as a consequence that the realisation of these proposals takes time. The absence of visible short term results and the lacking sense of urgency might have demotivated participants again, resulting in less activity within the initiative. An important lesson learnt is to keep the momentum active for sustaining initiative building processes.

Empowerment of dropouts through digital fabrication

A six-step workshop series has been co-designed to activate dropouts' hidden talents through the transformational role of digital fabrication (Pucci and Mulder, 2015). The division in six steps was meant to empower the students gradually and from within their own interests and qualities. The resulting workshop platform serves as a best practice in learning 21st century skills, lowering the

threshold of access to digital fabrication in education. The students were active co-creators and obviously learnt new skills. Some students even had a mind-shifting experience, and demonstrated that it is indeed possible to transform dropouts into engaged and successful individuals, who are role models for their peers: "stars shining bright in their local community". It appeared, however, hard to sustain and scale these best practices. School management and social innovation partners were not involved early on in the project. The project, however, gained attention on national level. Consequently, the management of a library in a nearby city contacted us to elaborate upon the talent empowerment model regarding the development of a technological laboratory. The empowerment model has elaborated upon in the participatory design of a tech-lab in a local library in different district with similar societal challenges. The laboratory in the library has been set up with and for the youth of the neighbourhood. The local youngsters have unlocked themselves and develop their skills. The continuous participation encouraged ownership, ultimately leading to ambassadorship and recruitment of new members. The lab currently explores how to run self-sustainingly by co-creative local partners, who were involved early on in the project.

Discussion and conclusions

In the current section, we elaborate upon how the presented small-scale collaborative design initiatives can bring forward a further path of change and discuss what design skills and strategies can enable co-creative partnerships to act as change makers in driving sustainable social innovation and transformational change.

Empowerment and diffuse design

All three cases have demonstrated empowerment of the respective target users, and did trigger a further process of social change. In particular, the cases show how the opportunity space has been collaborative explored and the respective civic agency in terms of increased opportunity to choose, and the actual use as well as an achievement. In the first case, civil servants were empowered to open up public sector information and to explore opportunities for further reuse. Several artefacts and prototypes of public services acted as boundary objects, enabling civil servants to envisage future use, to communicate about open data among colleagues, and to contribute to the process of opening up public sector information. In the second case, the number of citizens that involved in initiative building increased as well as a larger participation in the neighbourhood was achieved. Also, the usual (active) suspects gained a more collaborative attitude towards other citizens and their initiatives, resulting in an impressive increase in the quality of initiatives. In the third exemplary case, the young adults made various prototypes using digital fabrication; they also initiated and designed the particular concepts themselves. Not only were they quickly applying their design skills, these artefacts also proved to be helpful in articulating their hidden talents and ambitions enabling the diffuse design to make their own transformational change. Students managed to receive their school certificates, and

some even enrolled in higher education, or started their own business. The latter are clear proofs of participation in society, which were not straightforward expectations beforehand. In parallel, a comprehensive program initiated by the national government, the municipality, and local education and care institutions, housing corporations, and local business has tried to implement several social policies to get these young adults back in society, and to bring the outliner scores on education, work participation and social safety of these neighbourhoods to a level that is much more comparable to other cities in The Netherlands. The young adults that participated in the current study, attempted to participate in the co-design activities, succeed in making their own design, and took the opportunity to explore new paths and took action to make it happen, and enabled their own transformation. It can be concluded that the talent development platform enabled the young adults to meet the ambitions defined in the national inclusive social program. However, the platform did not support the empowerment of the teaching staff to initiate the next action of change in the eco-system, changing the education system avoiding students to dropout. The designed artefacts and prototypes, as well as the tools and methods made for the facilitation of co-design workshops worked well as diffuse design upgrading strategies (Manzini, 2015, p. 158). The design activities and the resulting platforms also aimed to "design the designer out" of the designed intervention. Although along the co-design process, participants increasingly matured in their role as co-designers leaving the lead designers as just an initiator of the event. The current design practices, show that the role of triggering is to be crucial for maintaining the momentum. Having somebody available for initiating events and meet-up seem to be an indispensable asset.

Strategic design and infrastructuring

The question remains whether such an available trigger is enough to sustain the social innovation initiatives. Current insights motivate that the trigger needs to be a co-creative partnership as well, willing to continue with "their collaboration design challenge". In the current collaborative cases, the designed platforms eased the self-organisations of the initiatives, and physical co-creative spaces were at hand. In fact, the explicit focus on co-creative partnerships is in itself a strategic design activity, aiming to guarantee a continued design process and collaborative ownership with corresponding responsibilities, although the cases originated as design-driven interventions. The concept of infrastructuring has been used increasingly across the participatory design domain (Karasti, 2014). In the current work, infrastructuring elements played a crucial role to steer the co-creative partnership towards transformation. For example, in the open data project, a huge variety of artefacts were designed enabling tangible and valuable results. However, in achieving a next step, such as for example to turn an agreed-upon idea into a new public service, additional social infrastructuring was needed, beyond expertise and guiding in design and implementation of the services. The iterative design and implementation of transformational public services requires both expert design expertise and governmental sponsors. Here, co-creative

partners also enabled strategic support. Support of the alderman and the chief information have been key to open innovation, a transparent government, and last but not least to have the open data policy at the strategic agenda: having all public-sector information open, unless (as one of the first European cities). Strategic dialogue enhanced the space for experimentation within the governmental structures as well as the application in the outcomes in the public realm. Even though, strategic dialogue was well embedded in the governmental infrastructures and policies, stretching the achieved social innovation at a multiplicity of organisational and systemic levels appeared not straightforward. In particular, when active co-creative partners changed position, or moved to a job elsewhere, the invisible social fabric was made apparent by delaying or even stopping the designed transformation. In the liveability case, similar observations were found. The co-created citizen initiatives touched upon this multiplicity of systemic complexity related to urban developments, when their ambitious co-created plans struck the heart of long-term governmental plans, stressing the complexity of systemic innovation, as well as the need of empowering partners in this changed context. In the next section, we elaborate on what is needed to have co-creative partnerships act as co-designers in the design after the design, to enable progressing towards systemic social innovation?

In conclusion: Co-creative partnerships as change-makers

In the current work, we have introduced the concept of co-creative partnerships with the aim to strengthen the debate on how design could contribute to transformational change. In keeping with Le Dantec and Di Salvo (2013) we have moved from users to stakeholders, but stretched the co-creation even further by having the stakeholders aligned in a partnership, acting as co-designers. The necessary infrastructure at hand needs both to empower a collective of heterogonous partners and to strengthen their relation into a social infrastructure.

Indeed, co-creative partnerships can play a crucial role in societal change, and can act as "network designers" infrastructuring social change. In particular, when such a core group is shaped from a bottom-up initiative, has strategic support included, and remains representative for the community at large, co-creative partnerships benefit from strategic embeddedness and enhanced social learning through role-modelling which again enables a more powerful interplay between the bottom-up and top-down. In practice, co-creative partners oftentimes participate in multiple initiatives, which allows them to act as connectors and cross-different levels in the eco-system. Moreover, it obviously strengthens the social fabric, and enables capacity building.

The presented patchwork interestingly combined strategic and diffuse design strategies and aims to bring a vital contribution to the debate on designing for next society. The trans-disciplinary design approach nicely fits Sanders and Stappers' vision of the design field in 2044 (Sanders and Stappers, 2014), which refers design for transformation as an emerging design discipline. It can be concluded that co-creative partnerships can act as network designers,

capacity builders, and enablers of transformational change, and have the potential to act as change makers driving sustainable social innovation.

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