Bees, drones and other *Things* in public space: Strategizing in the city

Abelhas, drones e outras *Coisas* no espaço público: fazendo estratégias na cidade

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Abstract

In this article we explore some emerging strategizing practices that citizens use for the development of their immediate urban fabric. We make use of our experiences and engagements with two citizen-driven initiatives in Helsinki, the capital of Finland. The first case attempts to rethink uses and actors of public space by creating viable conditions for the emergence of urban gardening in public spaces. The second initiative is engaged in a political discussion of the boundaries of participation, cultural appropriation and ownership of city space. We discuss and reflectively analyze some of their strategizing practices, as forms of *infrastructuring*, *commoning* and *patchworking*. The cases shed light on forms of designing that are enacted collectively through mobilizing particular concerns and caring approaches. We conclude by highlighting aspects made visible in the cases that can give a sense of direction for exercising forms of continuous, open-ended design that are attentive to the collective construction of *Things*.

Keywords: city-making, citizen participation, infrastructuring, patchworking, commoning.

Resumo

Neste artigo, exploramos algumas práticas estratégicas emergentes que os cidadãos utilizam para o desenvolvimento do tecido urbano ao seu redor. Usamos nossas experiências e engajamento em duas iniciativas lideradas pelos cidadãos em Helsinki, capital da Finlândia. O primeiro caso é relativo às tentativas de repensar os usos e os atores do espaço público através da criação das condições de viabilidade para o surgimento de jardinagem urbana em espaços públicos. A segunda iniciativa faz parte de uma discussão política dos limites de participação, apropriação cultural e do espaço da cidade. Discutimos e analisamos algumas de suas práticas estratégicas, como formas de infraestrutura, *commoning* e *patchworking*. Os casos lançam luz sobre as formas de fazer design que são realizadas coletivamente através da mobilização em torno de preocupações específicas e por meio de abordagens de cuidado. Concluímos destacando aspectos tornados visíveis nos casos que podem indicar um caminho para desenvolver processos de design contínuos, *open-ended* que focam na construção coletiva das Coisas.

Palavras-chave: *city-making*, participação cidadã, infraestruturação, *patchworking*, *commoning*.

Introduction

How a city comes to be has been a question occupying the efforts of many citizens, practitioners, designers, planners, administrators and researchers alike. A common thread in many recent studies and practical accounts has been to put emphasis on the variety and richness of processes that contribute to city-making, notably what citizens themselves aim to affect. This interest in bottom-up processes is visible in discussions ranging from public ad-

ministration (Pestoff, 2009) to urban planning (Lydon *et al*., 2015) as well as design in urban settings (e.g., Björgvinsson *et al*., 2012; Saad-Sulonen, 2014).

This article makes use of our experiences and engagements with two citizen-driven initiatives in Helsinki, the capital of Finland. The first case attempts to rethink uses and actors of public space by creating viable conditions for the emergence of urban gardening in public spaces in Helsinki. The second initiative is engaged in a political discussion of the boundaries of participation,

cultural appropriation and ownership of city spaces. The cases are situated in broader discussions that point to the role of civic engagement in local city-making efforts (Brumann and Schulz, 2012) through creative life projects (e.g., Hernberg, 2012), low-budget actions (Bialski *et al.*, 2015), reconfigurations of public spaces (Berglund, 2015) and services (Botero *et al.*, 2012).

As interesting developments in our immediate urban fabric are happening through bottom-up civic processes in many different parts of the world, documenting and learning from them seems an urgent thing to do. On the other hand, and perhaps more importantly, these civic endeavors can inform broader efforts to account for and support ongoing design processes, with a more informed and nuanced understanding of the tactics and strategies developed and implemented every day. Appreciation of people's grassroots and self-organized activities can also give a sense of direction for exercising forms of continuous and open-ended design that are attentive to the collective construction of *Things* we are or should be *concerned* about (Latour, 2005) and *care* about (Puig de la Bellacasa, 2011).

Things are here understood not only as artifacts or objects but rather as assemblages of humans, non-humans and objects that help to articulate and gather an issue. Things provoke ideas of what type of worlds (in our case, a particular city) we should be concerned with and care about and how we can contribute to their remaking. The background for the capital T in *Things* and the interest in *concerns* and *care* are borrowed from discussions in Science and Technology Studies (STS), which we next introduce briefly.

Bruno Latour and his collaborators have referred to the importance of elaborating Dingpolitik (or Thing politics) (Latour, 2005; Latour and Weibel, 2005). This term is a provocative contraposition to the concept of Realpolitik, a term used to describe modest, no-nonsense (realistic) politics that are said to be based on "matters of fact," that is, collections of (supposedly) objective evidence, i.e., the politics of naked power relationships. In contrast, Latour and his collaborators proposed that STS scholars and designers should be more preoccupied with staging those "matters of fact" as actual "matters of concern." Dingpolitik then thickens the composition of those objective facts with the variety of concerns (worries, troubles, interests) that animate and mobilize things and people on their behalf. The approach emphasizes that it is not only people but also non-humans and things who are participants in public life (Latour, 2004) The concept of Dingpolitik has resonated in recent conceptualizations of design as Design Things, studying matters of concern (see, e.g., Ehn, 2008; Binder *et al.*, 2011) or how design can contribute to expressing matters of concern (DiSalvo, 2009). Building on similar insights, and on work from feminist technoscience, Maria Puig de la Bellacasa proposes that in the same ways as concerns have been added to facts, we "should be adding care to our concerns" (Puig de la Bellacasa, 2011, p. 89) in order to also trace the affective, ethical and critical dimensions of staging Things. To do that, she draws on the feminist concept of care, in particular its verb form *caring*. As something we do, this sense extends a vision of care as an ethically and politically charged practice concerned with often invisible and devalued labors, attachments and commitments that keep the world livable. The concept of care has also resonated with some recent conceptualizations of participatory design (see, e.g., Light and Akama, 2014; Pérez-Bustos and Franco-Avellaneda, 2014).

Our interest in elaborating these matters is to inquire and probe into some of the contemporary strategies found useful for situated and participatory perspectives on design. We follow recent developments within design research that aim to develop and understand strategies of participation for mundane contexts that extend beyond and around workplaces and organizations into everyday life (Bødker, 2009; Hagen and Robertson, 2010), public spheres (Botero and Saad-Sulonen, 2010; Björgvinsson *et al.*, 2012), the emergence of publics (Lindström and Ståhl, 2014), the weaving of communities and publics (Meroni, 2007; DiSalvo *et al.*, 2012), and commons (Marttila *et al.*, 2014; Teli, 2015). In order to continue developing this research path and agenda, we want to pay particular attention to contemporary strategizing practices that are used in citizens' initiatives to articulate their concerns and what they care about.

The cases of *Kallio Urban Gardeners* (1) and *DroneArt Helsinki* (2) are part of the fieldwork and design interventions of the authors (case 1 and 2: author 1, and case 1: author 2). Therefore, we use the lenses of personal engagement and action research. Empirical materials have been collected through collaborative note-taking and audiovisual documentation mostly over the course of 2015, in the case of DroneArt Helsinki focusing on the period of two months: May-June. In both initiatives, online resources (e.g., participants' Facebook discussions, collaborative written documents) form an important part of our research data. We make use of the dialogues and relationships with other participants, and, in the case of Kallio Urban Gardeners, semi-structured interviews with some of our fellow gardeners. Even if the initiatives and interventions did not start as a design project, we ascribe our research approach to the field of Participatory Design and make use of its practices and principles.

Our article is structured as follows: First, we identify in more detail three conceptual resources – *infrastructuring*, *patchworking* and *commoning* – that shed light on forms of designing that are enacted collectively through particular concerns and caring approaches. Secondly, we will describe the two cases and thereafter introduce some of the insights obtained from these citizen engagements and city-making. In the discussion of the initiatives' practices and strategies, we consider ways in which they are maintained and organized between people and Things. In particular, we explore how initiatives link to and build upon existing infrastructures, fragments and common resources in both the digital and physical spaces and how these fluid intertwined assemblages support the initiatives and their matters of concern and care. We conclude by reflecting on what professional designers could learn from these citizen-driven initiatives, asking in what ways we could better contribute to city-making and creation of commons culture.

From nouns to verbs in participation and strategy

In his definition of strategic design, Ikeda (2008) points out how strategy used to refer to the art of winning a battle

and how it has come to mean any long-term guideline, tool or plan intended to accomplish a competitive task. To link our present discussion to a strategic orientation, we follow an understanding of strategy that does not treat strategy as an activity dominated only by an analytical approach to situations, preoccupied to turn situations into targets and competitions, as commercial actors usually do.

Instead, we find useful an understanding on strategy put forward by De Certeau (1984). He recognizes that having a strategy presupposes a place that can be circumscribed as one's own and that this place serves as a base from which to establish relations with an exteriority. Such a place does not necessarily need to refer to a competitive task (as claimed by, e.g., Ikeda); a strategy can also help in gathering concerns and caring dispositions. To complement this view, in her definition of strategic design, Meroni (2008) reminds us that the guidelines and tools of a design strategy can also provide a place of advantage, not only for commercial actors but also increasingly for other types of collectives. To build a more fruitful proposition for the role of a strategic orientation for the purposes of this article, and for participation in city-making in general, we also build on research strands on management studies (e.g., Stacey, 1993; Whittington *et al.*, 2006) that consider strategy as an embedded process. In this view, the verb form *strategizing* becomes more interesting, seen as a set of creative, artful and adaptive practices aimed at change. Strategizing thus values more a discussion on skills, crafts and artifacts that are mobilized to create change. Such change can then also emerge while accomplishing practical doings by skillful performance (Whittington *et al.*, 2006) and in the process of making public and staging matters of concern (Latour, 2005) and matters of care (Puig de la Bellacasa, 2011), as we introduced earlier. However, it is good to bear in mind that caring in one place could also mean destruction in some other place, as noted by Puig de la Bellacasa (2011).

In the following, we will take stock of three recent moves that can help us sketch a direction from within design. These moves have placed an emphasis on verb-active forms of participation and on the entanglements of artifacts, people and social processes, via an interest in *infrastructuring*, *patchworking* and *commoning*. Our intention is to use these theoretical resources as lenses to look at the practices of two citizen-driven activities, to see if we can identify similar elements in their doings, the *Things* they bring forward and the resources they mobilize.

Infrastructuring

Infrastructures are often referred to as common purpose structures that are designed and built to support human action. Because most of the time infrastructures are ready for use and practically invisible (Star and Ruhleder, 1996 [1994]), their design process requires a critical look that questions what we take for granted in human action. Building on STS, and tangentially on Participatory Design (Star and Ruhleder, 1996; Neumann and Star, 1996; Star and Bowker, 2002; Karasti, 2014), an argument has been built to consider infrastructure more in ongoing relational terms, not as some substrate that disappears – something that is built and left behind – but as something that only makes

sense and is meaningful for someone within a particular practice. For doing that, Star and Bowker (2002) suggested that it is more interesting to ask *when* something is being perceived as an infrastructure by its users than *what* an infrastructure is, starting a thread of inquiry on the conditions for participation required to build infrastructures.

This relational, long-term preoccupation has then turned to the verb form "infrastructuring" (Karasti and Syrjänen, 2004) in the search for a useful framework for design activities focusing on issues of long-term participation and collaboration. While most design approaches tend to focus on particular artifacts, neglecting – more or less – the surroundings in which the artifacts are placed, it is precisely these surroundings that become a concern when approaching design as infrastructuring (Pipek and Wulf, 2009). Accordingly, when doing infrastructuring, a lot of design work turns toward creating continuous alignment between contexts and stakeholders (Björgvinsson *et al.*, 2010, 2012) and engagements in experimenting with ways of achieving this alignment (Hillgren *et al.*, 2011; Pipek and Wulf, 2009) while accounting for the creative "design" activities of professional designers and users across the divide and beyond technology (Karasti and Syrjänen, 2004; Pipek and Syrjänen, 2006) without necessarily privileging either view. In contemporary design practices, infrastructuring attempts thus to create conditions for future design and creativity to emerge (Le Dantec and DiSalvo, 2013) among participants engaged with a collective issue; they themselves need to negotiate, not always in terms of consensus. When talking about acting within cities, it is obvious to see the relevance that *infrastructuring* activities acquire when cities are full of infrastructures and are themselves infrastructures for various socio-technical issues.

Commoning

The concept of commons has been linked to resources or resource systems that are shared by a group of people. Because such resources are vulnerable to social dilemmas, to sustain them, a community must develop various mechanisms and rules to guide their actions (Ostrom, 1990; Hess and Ostrom, 2011). Successful commons types of arrangements have indeed been devised by communities around the world to manage existing resources but also to create new ones, challenging the basic assumption that private property or centralized control are the only options to protect and/or warrant access and sharing. Instead, the existence of these commons-based forms demonstrates that communication, awareness and self-regulation among contributors can be achieved and that people and their environment can thrive together.

In an attempt to portray aspects of the commons that are linked with activities, not just with the more widespread understanding that sees the commons as resources, the term *commoning* was coined (Linebaugh, 2009). Later on, researchers and activists developed the concept as a way of providing a new and needed vocabulary to make visible both "the social practices and traditions that enable people to discover, innovate and negotiate new ways of doing things for themselves" (Bollier and Helfrich, 2012). These current discussions on *commons* and *commoning* resonate well with expanded notions of design

(e.g., Binder *et al.*, 2011; Manzini, 2015) and of user participation (e.g., Meta-Design, see Fischer and Ostwald, 2002). Commons and, in particular, the idea of *commoning* and their related arrangements speak to forms of collective action that rely on interesting motivation mechanisms for contribution, voluntary work, new forms of membership and collective ideas of ownership, all which potentially reframe what counts as participation and who should participate (Marttila and Botero, 2013).

There is a small but growing body of research on participation and collaboration in design elaborating now on these ideas. From a design perspective, drawing attention to the specificities of designing new commons or contributing to existing ones requires new understanding of the materialities of collaborative production (Seravalli, 2014), engaging with the implications of such intangibles as intellectual property rights (Marttila and Hyyppä, 2014), reframing the roles of users and designers in terms of commoners (Marttila *et al.*, 2014b) and developing sensitivities to long-term social processes of maintenance and governance (Marttila *et al.*, 2014a) *Commoning* then could also entail an explicit political engagement to strengthening not just any social practices and social groups, but those that in particular nourish *the common* (Teli, 2015; Teli *et al.*, 2015). In terms of acting within the city, there is an increasing recognition of the need to rethink urgently many of its spaces in terms of urban commons that could be co-designed (e.g., Seravalli *et al.*, 2015).

Patchworking

The word patch is used to denote a small piece of material that is used to mend a tear or break, to cover a hole or to strengthen a weak place; it can also be used to denote a scrap or area of anything. Turning again to the active verb form, *patchworking* refers in general to acts of making or building something out of joining together a variety of pieces or parts. A most specific reference is a particular form of needlework that involves sewing together different pieces of fabric into a larger design. Compared to infrastructuring or commoning propositions, *patchworking* is a more recent proposal, emerging from both an analytical and a designerly practice. The first use of the term in the context of collaborative forms of design was made by Lindström and Ståhl (2014) when reporting on the design and deployments of mobile sewing circle practices and technologies. In their work, Lindström and Ståhl draw attention to the entanglement of multiple collectives across time and space that they consider an inevitable part of most contemporary collaborative design. *Patchworking* then is a figuration (Lindström and Ståhl, 2015) that traces the traveling of designs – in this case, the sewing circle concept and its practices – across different spaces, pointing at the myriad partial – but crucial – contributions made by participants, by different organizations and by the technologies themselves when articulating a variety of issues.

Patchworking activities are collective kinds of making (Lindström and Ståhl, 2014) that draw attention to the processes not of one collective that participates in making one shared future, but of multiple ones. That collective also includes the technologies, artifacts and other things themselves. *Patchworking* is attentive not so much to cre-

ating conditions for creativity as it is to making them with a view to supporting recombination and resourcefulness, a type of collaboration across people and things. Through combination and reflexivity, things, people and practices mix and match in creative but critical ways. A *patchworking* approach, Lindström and Ståhl propose, helps those involved to negotiate the *not yet existing* through what is at hand and at the same time also through challenging what is at hand through reconfiguration (Lindström and Ståhl, 2014). We venture to propose that *patchworking*, if recognized explicitly, is a fundamental process of the engagement of disparate actors when city-making.

Two tales of citizen-driven initiatives

In the following sections, we will describe and provide the contexts of the two citizen-driven initiatives we followed. They aim to demonstrate the flexible ways in which people take part in the processes of city-making and participate in societal debates, and more importantly how they rethink and reimagine alternative futures together.

Public urban gardening: Kallio Urban Gardeners

Helsinki, as well as other cities worldwide, seems to be witnessing a rising interest in citizen-driven urban gardening activities in public spaces. These initiatives include activist guerrilla gardening interventions, projects to create window and balcony farms as well as more formalized attempts to influence city policies to support the use of vacant public spaces for community gardening and small-scale agriculture (Mougeot, 2005). Gardening in general, and urban gardening in particular, has been associated with a variety of progressive and radical, but also reactionary, interventions in the politics of public space (McKay, 2011; Nilsson and Wiman, 2015). At the same time, research has also linked urban gardening with a positive intervention that addresses problems associated with urban decay and an activity that provides a variety of social benefits for the communities involved (Schukoske, 2000; Scheromm, 2015).

Urban gardening activities have longstanding roots in Helsinki. Since urbanization in the country has been a relatively recent phenomenon, some infrastructure, in the form of, e.g., allotment gardens, already exists from the early 1900s and is linked to the wider cultural attachment to food and culture that is particular to Finnish society (Albov, 2015). However, allotment gardens have never covered the demand, and while they are located inside the perimeter of the city, they are more or less special sites that can only be accessed by members.

Our point of departure is the box gardening experiences and practices of what we will refer to as the Kallio Urban Gardeners (KUG). The KUG comprises 40 garden boxes distributed evenly in two public parks within the Kallio district of Helsinki. Approximately 30–50 gardeners (this number depends on whether the counting includes family members or the extended network of helpers of some gardeners) take care of and cultivate things in their individual boxes. In both of the parks there is a sign displaying the name of the KUG and a common mobile phone

number for a contact person in each park (following the guidelines given by the city). In addition, some members have chosen to display their first name(s) on a sign in their individual boxes. The gardens mainly function during the summer months, as it is too cold to grow anything during winter in Finland.

To understand the KUG's activities, it is important to note that the group is a spin-off initiative of one of the most well-known informal resident networks of Helsinki, called the Kallio Movement (in Finnish, Kallio-liike). Kallio is one of the most densely populated areas in Finland; it is known for its edgy and sometimes rough working-class tradition that faces challenges associated with gentrification. The movement has been active since 2012 as a key player in maintaining and also repositioning the face of the Kallio district as a diverse neighborhood where there is tolerance. The Kallio Movement acts as an informal network. Its members do not want to organize as a residents association and prefer to work in flexible, decentralized and self-organizing ways by coordinating their actions mostly through social media, notably a Facebook (FB) group and a FB page. By organizing block parties, collective cooking evenings for homeless people, festivals and other action-oriented projects, for example, the Kallio Movement has contributed to keeping up the open spirit of the neighborhood and strengthening its social fabric (Rissanen, 2012).

The initiators of the urban gardening activities belonged to the Kallio Movement or met because of the activities they organized. They were interested in connecting with the larger urban agriculture and gardening initiatives that exist worldwide, and they see gardening in public spaces as a good occasion to build and contribute to a sense of community in the neighborhood and as a vehicle to intervene with dysfunctional food production systems. At the same time some also wanted to raise a discussion about the environmental sustainability of some of the other activities of the larger Kallio Movement (e.g., block parties).

The urban gardens in Kallio concretized in 2014 when the city authorities made available the first official inventory of public spaces suitable for urban gardening (outside of the traditional community allotment gardens in Helsinki). The inventory was aimed at encouraging citizens to set up their own gardens and thus formally recognized an activity some had already been doing without permission (aka guerilla gardening). This city initiative has received background lobbying and the legwork of several local grassroots initiatives in the city, notably those of an environmental citizen's association called Dodo (Dodo, 2010), which had devoted years of advocacy and activist work to influence city policies in this regard (Jyrkäs, 2012). Through its activities, Dodo had already experimented with urban gardening, appropriated designs for gardening boxes and sacks, and gathered knowledge on appropriate crops and plants for Nordic latitudes. In doing so, the association carved a space in the collective imaginary regarding the viability of edgier forms of urban gardening beyond the ones afforded by allotment gardens. In pair with the inventory of places suitable for urban gardening, and in collaboration with Dodo, the city sponsored and co-produced a manual for Helsinki urban gardeners. The manual (Sipari and Lehtonen, 2014) provides basic guidance on how to practice urban gardening in Helsinki, builds strongly on

Dodo's earlier experiences with urban gardening initiatives in other vacant or underused spaces in the city and documents the new procedures being endorsed by the city. In the spring of 2015, Dodo also organized informal urban farming school events for anyone who was interested in gardening in a box. The initial members of KUG met for the first time face-to-face at one of these events and consolidated the core working group.

The Kallio gardeners were the first independent group of local citizens to navigate the bureaucracy of following the official guidelines that were still in the making. The initial core active group ensured land permits and made the first acquisitions of infrastructure (soil, water tanks, garden boxes and so on), thus creating a blueprint for the basic logistics to start growing food in two of the neighborhood's public parks – the Alli Trygg park and the Pengerpuisto park. The latter is a very popular meeting point for people during the summer for various activities, such as picnics under the trees and other get-togethers involving games, sports and drinking alcohol. The former park is in less use, as it is not a green area and has only a few benches; it is occasionally used for playing games like petanque. The park is surrounded by a green fence that offers sight protection, so it is occasionally also used as a site for injecting drugs.

The initial core members mostly came from the tight social networks of the Kallio Movement. Later, the KUG gained some diversity through a general FB announcement on the Kallio Movement's FB page that invited other people interested in gardening to join a planning meeting. Other members joined the initiative later via serendipitous encounters at the parks when the urban gardeners were setting up the boxes. Most of the current members are young adults in their 30s; however, there are also gardeners in their 20s and 50s, and some have families with children. According to our interviews, at least half of the gardeners had never before participated in organizing the Kallio Movement activities, although all of them knew something about the movement and had participated in some of its activities in the neighborhood. While the core group was aware of and shared the Kallio Movement's mission, aims and practices, not all of the newcomers to KUG necessarily shared or were aware of the larger goals or ways of working of the Kallio Movement. For the same reason, sometimes the members' motivations for urban gardening vary. Some people share the ambition to conduct an everyday intervention to relocate food production systems in times of ecological and social crisis, while others were simply curious and wanted to practice gardening in an urban setting, where they would otherwise not have the possibility to do so. Some members saw urban gardening as a way to create new social connections and new relationships in the neighborhood by caring for parts of public spaces. Others did not necessarily consider the implications of gardening in a public place from the start.

Activities related to and in the two gardens follow the temporal cycle: preparing the garden boxes with soil, seeding, weeding, watering and harvesting. To realize them, the KUG works in a self-organized form; coordination mostly happens through a closed FB group where turns to fill the water tanks, pictures of the crops and other matters related to the KUG are discussed and docu-

Figure 1. Top: The KUG garden in Pengerpuisto (photo by Andrea Botero, CC BY-SA 3.0). Down left: Screenshot of the image archive of the KUG's FB group. Down middle: Planting. Down right: An image on a mobile phone of the Alli Tryg park garden (photo by Sanna Marttila, CC BY-SA 3.0).

mented. Sometimes, this is complemented by online polls (Doodle) or some shared spreadsheets and documents. The use of these tools largely follows the previous practices of the Kallio Movement. Everybody contributes a yearly participation fee that covers the rent for the land, the first batch of soil and the price of the wooden boxes and some commonly bought tools and other equipment (e.g., water tanks and toolboxes).

Appropriating public art: DroneArt Helsinki

Our second case illustrates a concrete intervention called DroneArt Helsinki (May–June 2015), a setup to explore the potential of appropriating and producing data (e.g., images, 3D-models, geo-location) of art in public spaces through some controversial means. In contrast to the urban gardening initiative, this is more of an event-based intervention than a continued initiative. It was purposefully devised for discussing the boundaries of participation and ownership in the city space more generally, albeit through other specific questions: Who has a right to the public art in Helsinki? What are the boundaries of participation and exploration in the city space? What rules, restrictions, policies and laws are set for citizens, both in physical spaces and in digital realms?

Before describing the intervention, it is useful to position the two main background issues that DroneArt Helsinki aimed to bring to the foreground. The first concern to be raised was the recent discussion and political debate in

Europe around threats to a copyright exception referred to as freedom of panorama. In European copyright law, a piece of original work (e.g., a book, film or sculpture) is protected through copyright for up to 70 years after the death of the author. Copies, such as pictures and reproductions, of a protected work cannot be made without consent from the author. However, the freedom of panorama clause gives people permission to publish and use – without restrictions – photographs, audio-visual media and other works that depict public places. But this freedom of panorama is treated differently in some EU member states; for example, in Finland, it is allowed to publish and use depictions, photographs and reproductions of buildings commercially, but reproductions and documentation of public artworks for commercial use require permission from the copyright holder.

Prior to the DroneArt Helsinki events, some members of the European Parliament had suggested adopting a more restrictive model of freedom of panorama. In this harmonized model, only the non-commercial use of depictions of public art and public buildings would be allowed in all EU member states. A non-commercial restriction for copies of works in public spaces is not only problematic for commercial actors. For example, resources and projects like Wikipedia license their content under very permissive Creative Commons licenses (which allow commercial use). In Wikipedia's case, the more restrictive freedom of panorama will mean that it could not include images of buildings or public art to illustrate, e.g., an ency-

clopedia article. Some experts[1] also point out that these types of restrictions have potentially negative implications for citizens and their media practices. For instance, people uploading their photographs (containing public art or buildings) on commercial social media platforms such as Facebook and Twitter could end up in a situation where their everyday practices have become illegal due the unavoidable violation of copyrights they could incur.

The second concern to be raised refers to a discussion on the growing popularity of the use of drones equipped with cameras (aka unmanned aerial vehicles or UAVs) in the city area. This trend has created concerns around privacy issues in public spaces among citizens, which has resulted in many cities worldwide considering restrictions and regulations on their use. In addition to privacy and safety issues, cities are worried about liability issues and possible material damages that can occur when drones are flying around, especially when the laws and regulations are still in the making. Settling these controversies is far from simple, as drones have also been advocated as important resources for civic uses that can support important causes like human rights (see, e.g., Kakaes, 2015). Furthermore, drones are in wide use by various industries, such as to deliver supplies and packages to remote or inaccessible places, and increasingly to make companies more effective and lucrative (e.g., Google and Amazon have reported using drones to deliver their goods). How does the adoption of a technology – earlier used only by military or public operations – change and shape the city space? What kind of regulations and rules should be enforced, and who should take part in the discussion and in the decision-making (cf. Asaro, 2014)? So far, the policy discussion seems to be tilted toward the interests of certain actors and particular uses (Boucher, 2015).

The DroneArt Helsinki event was organized, then, as a way to participate in the wider public discussion through a very concrete act that could make visible some of the conflicting implications of those two interrelated matters of concern and of care for the public space. Is it possible to go out on the street in Helsinki with a drone equipped with a camera and produce reproductions and record data of public artworks for public use?

DroneArt Helsinki's activities were planned in collaboration with people linked to Wikimedia Finland, Maptime Helsinki and Open Knowledge Finland/AvoinGLAM (Open Galleries, Libraries, Archives and Museums). These citizen-driven initiatives are all non-profit organizations that rely heavily on volunteer work, collaboration and shared open resources on the Internet. The event was organized in the end of May and the beginning of June 2015, in conjunction with the Nordic Open Data Week. It was advertised in that context as well as through the institutions' own channels. The participants were mainly adults who had some earlier connection to the organizing institutions; also, invited experts on 3D modeling and image capturing were invited to guide the process.

In order to have several entry points to these matters of concern, the organizers planned the DroneArt Helsinki intervention through three interrelated actions. The first

one was a one-day seminar focusing on the relevance and challenges of making public art available in digital forms on the Internet, especially in shared repositories like Wikipedia and Wikimedia Commons. During the seminar, the participants shared their experiences and projects related to the subject matter and discussed the current obstacles. Another important objective was to document, for future and common use, the successful projects and good practices that existed by writing collaborative public notes online (using Hackpad) to facilitate the replication of existing experiences in other contexts. This online pad was used as a constant documentation strategy during the whole event, and the aim was for the participants to continue to update it as the intervention unfolded. The seminar and collective documentation practice worked as a space for reflection, sharing and discussion of some of the background problematics, and as the place where participants negotiated what was done, with what resources and whose tools.

The second action was the actual hands-on intervention in the city, which involved enlisting a drone equipped with a camera and other recording devices. The participants set to explore the boundaries and invisible infrastructure of the city space, in practice, through everyday resistance (Scott, 1985) and a rule-breaking schema, as flying a drone in public space in Helsinki is indeed not allowed. The aim of the intervention was to walk around the city to document public art with videos and photographs and to collect geo-location information of some public art works in the city. Later, this documentation and data would be made available and accessible online, hence contributing to the open and common repositories.

During the event, the participants made recordings of two public artworks. The selection was guided through a catalogue on Wikipedia of the public art in Helsinki. The first statue was *Kotkia* (1913) by Bertel Nilsson (1887-1937), which was already under the public domain, as 70 years had passed from the death of the author. The second statue documented – *Convolvulus* (1931) by Viktor Jansson (1886-1958) – on the other hand, is still protected by copyright law. Both of the statues were captured as images in 360 degrees to create 3D models of them. In this situation, we found that it was relatively difficult to capture enough good-quality pictures with a drone to generate a 3D model. Therefore, we decided to do the documentation with a camera and tripod, and remote control via iPad. The invited expert configured this equipment and set-up, and he also guided us through the process.

The third action was to feed and seed the collected and captured data into online repositories aimed for public use to enhance their future re-use. The participants also experimented with some of those re-using possibilities, e.g., by collaboratively learning how to create 3D models. Together, with the help of existing open-source software, they turned the images of the statues that had been captured into converted 3D point clouds. To close the circle, the 3D models produced were also used to recreate physical objects in a small-scale prototyping and digital fabrication lab (Aalto FabLab) in connection with another event,

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[1] For example Julia Reda (member of the EU parliament) has advocated that freedom of panorama should become a rule, instead of voluntary clause, in the entire European Union. See https://juliareda.eu/2015/06/fop-under-threat/

Culture Jam Helsinki, which was scheduled to be paired with DroneArt Helsinki during the Nordic Open Data Week. These creative re-use actions brought the collected resources, discussed themes and actions into a conversation with other initiatives and actors that the organizers thought could benefit from participating in the discussions. The police even showed up for the intervention in the park when the participants where capturing the *Convolvulus* statue and flying the drone, but chose not to interfere with the activity and just observed for some time from the distance.

One of the aims of the DroneArt Helsinki intervention was to stage interactions with different actors within the public space of the city, and to create an arena for discussion and for making some invisible infrastructures (e.g., legal, social, technological) public. Even if the intervention was a single event in time, the digital space claimed by the participants has continued to evolve through, e.g., collective resources online; thus, the participants are optimistic that spaces for discussion can be opened up. It is debatable whether this initiative could be recognized as a democratic space or a public democratic intervention. Even if information on the event was publicly available beforehand and participation was open for all without fees or prerequisites, it should be noted that the event participants were a very homogeneous group of people and represented mostly similar views on the matter. This meant that democratic aspects, e.g., of inclusion and polyphonic voices of citizens, were not achieved and would need to be worked out through better strategies in the future.

Strategizing with bees and other things

When looking at the conditions for urban gardening in Kallio, Helsinki, through the lens of infrastructuring, it is possible to identify many instances in which KUG members engaged in infrastructuring and how they contributed to general strategizing for urban gardening. Even if the city had published guidelines on how to establish an urban garden and specifically allocated some spots, the designated parks did not have the required infrastructure services for gardening. For example, the parks selected in Kallio did not have good access to a water supply or good provisions for gathering waste or collecting leftovers and trash that are typical of active gardening. The KUG members themselves obtained the needed materials (e.g., water tank) and created workarounds to overcome shortcomings. In a self-driven manner, the members of the KUG became connected to some of the nearby public institutions to gain access to the "services," doing both infrastructuring and patchworking. As a result, a university near one of the parks offered a possibility to use its water for free and offered the assistance of its caretaker in filling the water tank. Members of the other park tried to achieve a similar arrangement with the adjacent high school next to the park, but to no avail. Instead, after negotiations, the nearby city library offered the KUG members a possibility to use its water tap during the library's opening hours. The gardeners set up a process and turns to carry water from the library in a watering can to fill a common water tank placed in one of the corners of the park.

Figure 2. On the left: The Kotkia artwork (1913) by Bertel Nilsson from the Helsinki Public Art Catalogue on Wikipedia (photo by Heikki Kastemaa, CC BY-SA 3.0). On the right: Participants capture the statue (photo taken by the drone). On the right middle and bottom: Screen shots from the progress of creating a 3D model (by Rauno Huttunen).

The KUG initiative has also been quite resourceful in rallying many existing resources and organizations through a very sensitive patchworking of the experiences of pioneering organizations like the Dodo association, and has built upon and made use of the legacy of the Kallio Movement and the individual connections of its members to other forms of knowledge and resources. For example, since the KUG or the Kallio Movement are not registered associations, the KUG members used a third-party association (close to one of the members) to act as the legal body to sign the contract for renting the land. The informal agreements, e.g., the water and waste management, have made the urban gardens possible and give the citizen initiative an agility that is at times powerful but also makes it vulnerable. Indeed, patchworking creates interdependences that can be problematic at times, but it can also bring strategical alliances that strengthen common goals and advance the matters of concern in question.

It is also important to highlight KUG's internal infrastructuring for coordination and collaboration. The members' activities are planned and managed in the closed Facebook group set up for the community. The members decided that joining the Facebook group was obligatory and that it would serve as the community's only communication channel. Some members reported in the interviews that they had to join Facebook – a bit reluctantly – only to be able to follow and then take part in the discussion and management of the community efforts. Others described learning new social media practices and online tools when they joined the KUG, which included asynchronous collaborative document writing and scheduling events online using Doodle. As part of their gardening activities, people have documented the process via photographs, videos and notes, and have shared selections of this documentation with their immediate family and friends. Some members have also shared their personal documentation online in social media platforms. They also share good practices and online resources internally in the FB group, which can be linked to the creation of a common knowledge base and learning resources for the community.

The selection of the set of digital communication tools to use and the decision to have discussions and governance solely on FB has also led to the exclusion of others that were either not in the social networks of the members of the Kallio Movement or did not use FB. When the gardening boxes were set up at the parks, some of the elderly residents of Kallio visited the sites and said they would be eager to participate. However, as they were neither connected to FB or to people active in the Kallio Movement, they did not have the ability to even inquire. But this situation might change because the gardening activities are now visible in the physical place, and in the park a mobile phone number of the park's contact person is displayed, so that anyone who is interested in urban gardening activities can contact the KUG. In addition, photographs taken by the gardeners and their neighbors have also started to circulate in other mediums.

In general, the participants enthusiastically discussed how urban gardening, the social connections they created, and the new relations they forged with the city, the plants and the insects in their gardens encouraged them to become more active within the city space.

All gardeners tend to see their gardens as some kind of public experiment they wanted to be part of. Altogether, two common get-togethers were organized: one at the establishment of the urban gardens at the parks and a harvesting event at the end of the season. In light of the interviews with the KUG members, it can be seen that there is a great need for more collaborative activities and common meetings to increase the participants' knowledge exchange and awareness.

The gardens have become a place for many inter-species encounters. Urban gardeners reported many random encounters with animals (e.g., neighborhood cats that enjoy visiting the boxes and walking between the plants). These encounters with non-human actors have sometimes been deliberately encouraged. For example, one of the gardeners planted specific flowers in one of the boxes, so that it would attract bees to the otherwise non-green park, to aid the fertilization of the other plants and flowers in all of the boxes in the park. Many also discussed contributing to sustaining the bird population in Helsinki, or conspiring against their attempts to "steal" the crops. Other everyday patterns of the members, like cooking, have also been influenced, as some people changed their eating habits to follow more seasonal and vegetarian diets due to their involvement with gardening.

Experimenting with new practices is, of course, not always unproblematic. In the case of the KUG's experiences, it is also important to recognize that not everybody shared the same aspirations, did their share of the commonly agreed work (e.g., filling the water tank) or attended to or took care of their boxes until the end of the gardening season. Also, some neighbors encouraged their pets to make use of the boxes, visitors sometimes sat on the plants and damaged them, and there were several occasions when vegetables were harvested without permission (or people did not know that permission would have been required). The latter issue became a reflection point that the KUG members actively discussed in their FB group. Some of the community members have suggested that maybe people in the neighborhood *thought* the vegetables and other plants were for everybody to enjoy, as they were in a public park. Others noted that the Kallio Movement has, at its events, advocated for sharing, which might have led people to think that the gardens' produce was also meant for everyone. Whether harvesting without permission is a bad or good thing has not yet been settled amongst the gardeners; however, many felt this activity affected them negatively. Nevertheless, most of the participants considered their "experiment" satisfactory.

In terms of commoning, many related activities can be identified when looking at urban gardening in light of the participants' everyday social practices, arrangements and negotiations; the management of the participants' garden boxes; and the common initiative as a whole. The experiment had ramifications that were larger than a new hobby – urban gardening – or belonging to a new community. Interestingly, members reported that their walking routes in the neighborhood changed so that they could pass by the gardens more often. Other people in the neighborhood possibly did the same, as the urban gardens attracted many visitors during summer. Other residents who were not directly involved have also been following the garden-

ing with great interest, and some have even documented the processes of growing food in the public space. Most of the neighbors seem to enjoy the renewed landscape, and have used the location in the public park for various activities, e.g., for picnics, yoga and petanque. Nonetheless, not all of the members of the KUG would agree on *communing* as a primary goal of their gardening. However, their collective actions are clearly compatible with the creation of urban commons, and they have found a relatively flexible way to govern a set of resources in common, despite difficulties negotiating with the municipality, neighbors and sometimes each other. They have integrated interesting elements into the public space that speak to new forms of urban change and to the social dynamics required to create and sustain them.

Strategizing with drones and other Things

Now we turn to the DroneArt Helsinki initiative and look at its strategies of patchworking, infrastructuring and commoning. It is good to bear in mind that this initiative was one instance in time; however, the matters of concern and the infrastructures it aimed to foreground and make visible are embedded in the continuous activities of the associations and activists behind DroneArt Helsinki[2].

When looking at the DroneArt Helsinki experiences through the lenses of the activity of patchworking, the case foregrounds the advantage of embracing various kinds of contributions by participants and other actors, as well as of welcoming people with different skills to help advance the change and collective future-making. The invitation to join the seminar was open and free to all, and there were no prerequisites for participation. Even if the program of the event had been published beforehand, the event was open for changes to better accommodate the needs and wishes of the people who were present. Prior to the event, the participants were encouraged to map and collect resources online, and start the knowledge sharing via an open access hackpad created for the event. The case also highlights the importance of tapping into existing knowledge, frameworks, organizations, tools and technology, not as a predefined process or fixed entities, but more as fluid, intertwined activities and resources driven by the participants. As mentioned earlier, the event was linked to existing networking, events (Nordic Open Data Week, Culture Jam Helsinki) and resources, and therefore could gain more momentum and influence than on its own. Creatively patching these different collectives together with a relatively small initiative could create visibility for their matters of concern. In practice, patchworking and infrastructuring activities are often entangled activities, especially when the latter are seen as an ongoing and open process that contemplates and envisions possible futures and alternatives, and the alignment of heterogeneous socio-technical elements and actors (Karasti, 2014; Björgvinsson *et al.*, 2012).

Through acts of infrastructuring, the initiative also aimed to make visible issues related to power and to shed light on the invisible infrastructures we are subjected to in the physical and digital city space. The organizers of and participants in the event aimed to raise awareness and influence the legal and regulatory frameworks affecting people, both in the physical and digital realms, as well as the decision-making process and construction of these infrastructures. Both freedom of panorama and the regulations of drone use in city spaces were under review, and new legislation was being prepared. Needless to say, the issues are highly contested and debated, and various stakeholders in the field have different narratives and positions. Rather than offering a counter-narrative to the so-called master narratives, Star (1999 p. 384) argues that one can often locate a master narrative in these kinds of spaces, a voice that speaks from the presumed center of things and does not problematize the diversity of the issue), initiatives like DroneArt Helsinki instead aim to think together about alternatives and bend the boundaries of existing frameworks through temporal configurations and flexible prototyping rehearsals. This kind of demonstrative approach is also a suitable design approach for abstract issues and matters of concern such as policy papers and legal and regulatory frameworks. Engaging and experimenting in the "real world" are not done to better understand the present situation, but merely to obtain insights and experiences for the future-making and change-making interventions related to the matters of concern and matters of care. This approach resonates with the tactic of *projection*, which DiSalvo defines as the representation of a possible set of future consequences associated with an issue (DiSalvo, 2009, p. 52). However, in the case of DroneArt Helsinki, the issues were approached through improvisation rather than grounded and mapped possible future scenarios.

At the core of Wikimedia Finland, Open Knowledge Finland and their international home institutions are the activity of promoting an open society and open knowledge, and the inclusion of everybody as participants in this quest. These institutions rely on volunteer work, which is often directed by value-based and intrinsic motivation. The people around these institutions and initiatives seem to have assembled around an idea or an ideal of the world to come, and how they would like to commonly tackle the issues preventing the ideal, both locally and globally. The matters of concern form the core of different pursuits, varying from ad hoc meet-ups and experiments to long-term collaborations and commitments. These organizations and people connected to the concerns form distributed commons in which people's activities are both linked and connected. In the DroneArt Helsinki case, the commoning activities were incremental, e.g., sharing knowledge about existing good practices and projects, tools and other offerings; producing new data and information (geo-location data); creating new content (videos, pictures and 3D models); contributing to software building blocks; and generating models that others could build upon.

Star and Ruhleder (1996) have defined *infrastructures* as having a certain set of properties. One of them is "learn-

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[2] Sometimes, the analysis of the case extends the temporal dimension to include other relevant activities, actors and resources in the discussion. The treatment of the case also differs from the analysis and reflection of the KUG case, as the empirical materials used as a sounding board include collaboratively produced online materials, the participatory seminar and hands-on session, the self-reflections of those who participated in and co-organized the event, as well as long-term engagement with the Open Knowledge Finland association.

ing as part of membership," which they consider a mandatory feature to becoming a member of a community and its infrastructure. Peer learning seems to be a key commoning practice for nurturing and sustaining citizen-driven initiatives. Needless to say, these initiatives face many similar social dilemmas. Issues such as free-riding and voluntary/paid efforts are recurring, especially in the context of contributions that require a long-term commitment (e.g., reports, surveys) and are considered dull and laborious.

Even if the citizen-driven initiatives have an ever-growing toolbox and strategies for tackling and taming common issues, a question that remains is how to arrange the collaboration and co-existence of human and non-human actors in socio-technical assemblies as well as in the realms of laws and policies. New technical capabilities have increasingly brought drones, robots and other machinery to public space, and we do not yet have enough experience or knowledge about issues regarding privacy in public spaces, ethical matters and the agency of machines – or their guiding algorithms.

Star (1999) points out that infrastructural changes take time and negotiation due to the complexity and size of the infrastructure, and because it can mean different things locally and in different contexts. Against this backdrop, the DroneArt Helsinki intervention – even if it did not have a major impact – gave citizens a possibility to explore and influence the infrastructures of their everyday social and cultural practices.

Conclusions

In this article, we have used the lenses of personal engagement and action research to describe some emerging strategizing practices in two cases of city-making efforts in the public space of Helsinki. We have participated in and closely followed how two different citizen-driven initiatives have used strategies both for participating in the development of their immediate urban fabric and for getting involved and negotiating with others (humans and non-humans, technologies, Things and places) in acting within the city. To aid our analysis, we made use of some recent resources on ways of describing collaborative and participatory design such as *infrastructuring*, *patchworking* and *commoning*. We propose that describing these emerging strategizing practices with this vocabulary and framing could be helpful for professional designers, planners and public officials to account for and support on-going processes in the city, sustaining a more informed understanding. In addition, it could give a sense of direction for exercising forms of continuous and more open-ended design that attend to the collective construction of *Things* that we are *concerned* and *care* about (Latour, 2005; Puig de la Bellacasa, 2011).

We would like to think that the kind of participatory strategizing approach that these citizen-driven initiatives exercise offers flexible agency and alternative ways to take part in societal debates through everyday action, in contrast to representative democracy or other democratic decision-making schemas such as voting.

We would venture to say these citizen strategies are processes akin to design and are therefore relevant to professionals interested in how design can contribute to democratic participation and debate in society. These initiatives were not themselves necessarily intended as strategic, participatory or design. However, we argue that there are valuable tactics, practices and strategies for strategic participatory designers to learn from and contribute to.

Amongst others, we found the following four especially enlightening. First is the flexible assembly and arrangement of technology, materials and community tools to best fit the needs at hand. The selection and configurations are conducted in an iterative manner, and then reviewed and negotiated between the participants. The initiatives are not bound to any technological choices or locked-in to preconfigured set-ups. A distributed approach for community infrastructure seemed to offer a good enough solution.

The second is how these self-organized initiatives creatively build upon existing social networks and resources. Issues related to ownership of ideas and copyrights of materials, or competition between similar initiatives, do not seem to be a worry for the participants – even if the communities sometimes rely on the same support mechanisms (e.g., use of spaces, funds). The sharing builds on reciprocity and public acknowledgement and attribution.

Third, the forms of participation are collaborative and framed to be flexible and fluid, supporting and building upon the various skills of the participants. Active participants and potential future collaborators are often acknowledged and supported by, e.g., producing open-access documentation that people can follow from afar synchronously or find useful later. A similar open-endedness and flat hierarchy characterize the activities of self-organizing forums, whether they are small, everyday commoning tasks or bigger endeavors. In addition, the activities linked to communities' matters of concern are rarely tackled through projects with definite starting and end points, but rather work around the matters in agile and ad-hoc manners that constantly react to the changing circumstances and changing socio-material and technical surroundings. This approach to design requires new skills and work practices, and may even require giving up professional authority and control of the overall process.

Fourth, the citizens' collective future-making is anchored in action that involves material engagement and often enacted through everyday resistance against red tape, bureaucracy and slow legislative processes. Performing, probing and prototyping possible futures through and with human and non-human actors provides a meaningful way to take part in city-making, more direct than some other predefined forms of influence (e.g., filling out a feedback form, reporting a problem to a municipality via an online tool). The challenge that remains is how these experiences can be captured and communicated to other actors, and what kind of agency and power new technological advances should have.

Infrastructural or social changes, even in local settings, take time and require constant negotiation between various actors. Sometimes, multiple takes and viewpoints on the same matter of concern can lead to a situation where caring for one viewpoint can cause harm in another context. Therefore, developing a shared and common culture-in-use is a key part of successful self-driven initiatives and commons-like frameworks (Marttila, 2016). This is also

an urgent quest for participatory designers to put more attention on how they contribute to and nurture *commons culture* (Pór, 2012), and identify how ongoing strategies, practices and city-making experiences in people's everyday lives could be translated into design language or into other needed vocabularies.

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