An Eco-Logic of Change: the need for an Affective Revaluation of Urban Space

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Abstract

This paper attempts to make a contribution to the growing awareness put forward in this special issue that we need to cultivate new ways of bringing the lived, felt qualities and atmosphere of urban spaces into city planning.

The paper proposes thinking with the entanglements, atmospheric politics and qualities of this critical zone and its *throwntogetherness* of space through an exploration of how *affective data* might become instrumental in revaluing urban space attuned to an ecologic of change.

In the paper, we will present a conceptual foundation for the work in relation to an ongoing collaboration with Byhaven på Sundholm (the City Garden in Sundholm). We will focus on the production of different forms of affective data and how it might influence urban planning and technology design, and reflect on the methodological implications this has for our respective fields of inquiry; evental urbanism and affective interaction design.

1 | Introduction

In recent years, it has become increasingly clear that the world is reaching a number of far-from-equilibrium tipping points related to recent developments in major environmental and societal crises facing us (Stengers 2013, Tsing 2015, Latour 2017, Fritsch 2018). In many ways, the city, and urban planning, policy-making and environments, become the battleground for a variety of responses to these challenges. Urban development and processes of urbanization are today key drivers in the so-called Anthropocene (Crutzen & Stoermer 2000). With urbanization comes higher consumption, destruction of biodiversity and the removal of socio-cultural environments, local communities and cultural heritage. To take the city of Copenhagen as an example, vast areas in the old industrial harbour are redeveloped into real estate development with mixed use architectural typologies as the new imposed diversity. Stejlepladsen and its surrounding areas of self-built architecture will be transformed into new developments. Lærkesletten at Amager Fælled (Amager Commons), a nature resort known for its remarkable biodiversity and its proximity to Copenhagen city centre, is turned into development as well. Historically valuable sites such as the staples (Staldhusene) and the courtyards in the Copenhagen neighborhoods Vesterbro and Nørrebro are demolished to accommodate modern housing. Entire social housing blocks are torn down as part of the Ghetto Plan as certain inhabitants are unwanted and make a bad figure on the infamous "ghetto list".

What happens to the liveability of the city when the existing urban diversity is replaced by built and modernized architecture and design sharing the same qualities? While urban development is a way

to often legitimize through a standardized claim that urban diversity can be built and designed, it is more likely that diversity is increasingly lost and destroyed. In most urban development cases socio-economic factors play the primary role: Urban renewal and development is claimed to be necessary to densify and accommodate a growing urban middle-class sharing the same values. However, this claim to diversity is ignorant of the much more complex experience of diversity at stake which leads to an irrevocable environmental, social and cultural loss. Current urban developments might be seen as one of the key reasons to cultural loss of urban values relating to the mix and diversity of people, to aesthetic and spatial qualities and to what the geographer, Doreen Massey so beautifully has termed, the *throwntogetherness* of space (Massey 2005). Such throwntogetherness of any kind is exactly a value when we talk about urban planning and design because it addresses our health not only for the citizens but for the biosphere and what Bruno Latour has designated "the critical zone" Latour 2014). Scaling planetary concerns down to a concern for the critical zone – the layer between atmosphere and the rocky grounds – entails in Latour's view a concern for the politics of soil and biodiversity in which the human is one of many entangled actors. The critical zone is not concerned with the lives of the few, but a livability for a diversity of people and other species.

This paper attempts to make a contribution to the growing awareness put forward in this special issue that we need to cultivate new ways of bringing the lived, felt qualities and atmosphere of urban spaces into city planning. While cities compete to figure on the livability indexes, the definition of livability must be broadened to welcome multispecies livability and co-existence among citizens and species alike, to potentially create more liveable and vitalist cities (Fjalland & Samson 2019). To this, the paper proposes thinking with the entanglements, atmospheric politics and qualities of this critical zone and its throwntogetherness of space through an exploration of *how affective data* might become instrumental in revaluing urban space attuned to an eco-logic of change. Here, we tentatively define affective data as data that deals with people's feelings e.g. of being in a particular place, or data that directly influences people's well-being and life quality related to this place. In the paper we will present a conceptual foundation for the work in relation to an ongoing collaboration with Byhaven på Sundholm (the City Garden in Sundholm). We will focus on the production of different forms of affective data and how it might influence urban planning and technology design, and reflect on the methodological implications this has for our respective fields of inquiry; evental urbanism and affective interaction design.

We acknowledge doubts relating to whether affective qualities can indeed be registered, measured or turned into data. However, we also see a need for this kind of data including felt qualities and experiences of liveability to become a part of existing decision-making processes in urban planning. Further, we are interested in suggesting the experimental use of the performative qualities of digital and interactive technologies to create situations of affective entanglement and engagement for researchers and citizens alike through art and design. In particular, we would like to point to the often forgotten potentials in combining said technologies under the Smart City heading, which has played a prominent role in providing potential solutions to the evaluation of urban space, not least in areas concerned with urban governance and participation based on big data streams in real-time (see e.g. Krivy 2018). To a large extent, we see how these visions and narratives seem to refuel the capitalist focus on growth and production of surplus-value, which has been argued to be the root of many of the challenges we are facing today. Diversity and environmental, social and cultural qualities are lost because we lack information about the sustainable impact of the sensory and affective qualities of urban space. We therefore see a great potential in – and even a need for – combining existing technologies with more affective, sensory and embodied forms of experiencing the city. In addition, we also propose that reshaping digital and other technologies can offer aug-

mented capacities for thinking-feeling the city differently through the creative production of affective data, and we show how we have worked with this. We expect the paper to raise more questions than it answers, and to inventively problematize the notion of data in urban design and planning towards better valorizing the affective qualities of urban space.

2 | Atmospheres, affects and intensities

The presented paper builds on an evolving conceptual foundation, which has provided an exploratory frame holding contrasting perspectives as a transdisciplinary starting point for the work carried out as part of the research project *Affects, Interface, Events*[1]. So far, this has led to an important move away from a top-down approach to urban environments, welcoming emergent, situated and affective encounters (Fritsch & Thomsen 2014, Samson 2013, 2014). From this initial perspective, we have identified the cracks/openings for proposing eco-logical designs for re-articulating and revaluing the urban refrains and environments that surround us. Our main argument is that to start thinking about revaluing urban environments, we must engage with precisely affect. Following Spinoza, we understand affect as the mutual and relational capacity of a body to affect and to be affected (1678). To be affected by urban atmospheres or companion species for instance holds a capacity for change. An underlying premise for our design practice that the affective atmospheric intensities inherent to urban spaces must be brought forth and revalued as most current design and urban planning tends to discard affects, atmospheres and the found fabrics of space, often because it is seen as ephemeral and too difficult to work with in an actionable format – which, arguably, is also very often the case. This should not, however, restrain us from attempting to do so. By elaborating and interacting with affective qualities of urban space we argue that we can change the refrains of the current urbanism, by bringing forth affects that differentiates space from its conditioning factors of for instance urban economic development capital investments, and will always be immanent as a field force of indeterminate potential and tendency in the contexts we are working with.

3 | Revaluation and the eco-logics of space

In his recent book, *99 theses on the revaluation of value: a post-capitalist manifesto*, Canadian philosopher Brian Massumi calls for the necessity to "take value back" from a monetary/capitalist capture. He states that a path for the revaluation of value must move through the path of a processual ethics – which is both relational and ecological. For this revaluation of value to take place, affective and relational ethics can be a point of departure because affects can negotiate other ways of engaging with the world. Affective relations are typically situated in embodied experiences. Experiences of spatial qualities in which we relate to other bodies and our surrounding environment. While affective relations take their point of departure in our everyday spaces, they also hold the capacity to shake the habitual by modulating our current habits and use of space. Affective relations may at the same time be defined as an *art of noticing* - a term coined by the anthropologist Anna Tsing to describe the live-giving potentials in mushroom picking (2015). In the arts of noticing the body and our senses are attuned to other values than the habitual. This can further be expanded into media and technologies and how they can enhance and intensify certain spatial values and bodily sensations and leave others behind. Going back to Massumi and his idea of revaluation we can say that a revaluation starts in the moment we engage and relate to urban spaces in new and experimental ways. In other words, revaluating the refrains of current urbanism needs alternative

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affective relations to produce other forms of subjectivity and thereby revaluate the qualities defining the city. Sensorial, embodied and affective modes of engaging can for instance be brought to the fore re-imagining how we value, take part in and share urban spaces.

To effectuate this shift in thinking towards affects and sensory data, we build on the work of Félix Guattari to suggest an *eco-logic* approach to unfolding the dynamics of urban environments across environmental, mental and social ecologies (Guattari 1989, Fritsch 2019). An eco-logic focuses on movement and intensity with an interest towards developing new value systems and new productions of subjectivity. In *The Three Ecologies* from 1989, Guattari proposes an entire ecosophy and argues for a rethinking of the notion of ecology to "keep pace with the environment's reinvention in a time of widespread techno-scientific progress and crisis (Genosko 2009, p. 69). Guattari presents three intersecting ecologies — the *mental* relating to human subjectivity, the *social* relating to social relations and the *environmental* relating to the earth and the biosphere — which all related to a "common principle" concerned with the *production of subjectivity* (Genosko 2009, p. 76). The notion of ecology is of course quite prominent in a broad variety of disciplinary fields. Here, we would like to point in particular to the work of Isabelle Stengers who in *Cosmopolitics I/II* argues that an ecology is processual and relational, adding relations to a multiplicity of relations, proposing new value systems, meanings, modes of evaluation (Stengers 2010, p. 32 33). This points directly to the interweaving of ecologies and value systems. Also the common principle concerned with the production of subjectivity can be understood as a commoning bringing our economies back to life and the earth (Shivas 2015). We can understand the commons "not only the practices for sharing in an egalitarian manner the resources we produce but are also a commitment to the fostering of common interest in every aspect of our lives and political work" (Singh 2017, p. 753). Singh further argues that "a focus on affective and communicative relations among humans and between humans and more-than-humans can enrich our understanding of the practices of commoning and the processes of *becoming* a commoner" (ibid, p. 751). Affective relations between species and other life forms alike are in this sense a commoning that is valuable if we want to sustain a vibrant urban life and the livability of multiple species and cultures.

To sum up, working with an ecology of practices concerned with the environmental, mental and social production and how they intersect, can foster a revitalization of the loss of the commons we have experienced in modernised industrialised societies. An analysis of the mutual dependencies of social, mental and environmental ecologies in urban spaces gives us data on how urban spaces are coinhabited. Furthermore it addresses the multiple others that shape urban spaces – for instance more-than human actors, biodiversity, plants, insects, animals and even microbes. An eco-logic investigation potentially opens towards a plethora of practices and bio-diverse richness weaving together a multiplicity of humans and non-humans.

4 | Interactive technologies and how to qualify affective data

The eco-logic and the affective relations of spaces have been an ongoing area of interest in the ongoing research project Affects, Interfaces, Events. It has been carried out within a transdisciplinary group of researchers consisting of interaction designers, artists, urbanists, engineers and performance interventionists. In a range of workshops and other research activities we have explored the relations and affective capacities inherent in a variety of urban fabrics and layers using the body, the senses and an interactive design – *FeltRadio* – that enables people to feel WiFi and the level of CO^2 as Electric Muscle Stimulation (EMS) – and a web-based infrastructure for attuning to different urban spaces through listening and recording sound, *Sonic Contours*. What designates these interactive technologies is that they are designed as relational tools connecting the human body to the environment. They carry with them specific and situated ways of registering and augmenting data - not as a neutral beholder for data but rather as a curious, situated and qualified instrument foregrounding and constructing values, affects and sensations in the process. We again feel the need

to mention the dilemmas inherent in the concept of affective data or affect more generally speaking, namely that which Brian Massumi calls "the autonomy of affect" (2002). To a very large extent, affect resists any kind of capture; it cannot be represented in a traditional way, and attempts for formalize affect in e.g. areas such as Affective Computing (e.g. Picard 1998) has often been criticized for being reductive to the richness of emotional experience. Therefore, we are not arguing for the possibility of a "full capture", but rather a partial and potentially creative capture where technologies in themselves might add to the sensory experience of a place. FeltRadio, for instance, does not render wifi activity bodily felt, it also makes itself present as medium. Returning to Anna Tsing's notion of the art of noticing, such interactive technologies enable the body and the senses to explore, discover and qualify aspects of reality that are previously hidden or unrecognized. Also, the technologies sustain an ethic relation to the world. An embodied knowing that ethically takes part in the mapping of the environment by engaging with it. As argued by feminist thinkers such of engagement and what Karen Barad fosters a "response-ability" (2012, see also Haraway 2016). As data collection this engagement emphasizes a shift from matters of fact to matters of concern or even to matters of care bringing forth affects and values in the process (Puig de la Bellacasa, 2017 Staunæs & Brøgger 2020).

5 | The City Garden in Sundholm

The empirical content of this paper takes its point of departure in a transdisciplinary exploration of urban affective encounters in Byhaven på Sundholm (the City Garden in Sundholm), which we will now describe in more detail. In addition to being what might be termed a "regular" urban garden, Byhaven på Sundholm also functions as a form of social rehabilitation through gardening for marginalised groups (homeless, people with different kinds of abuse etc.). Byhaven is situated at Sundholm in conjunction with the Activity Center Sundholm which comprises homeless shelters, apartments and workshops, and is part of the wider 'Byhaven og Terræn'. Sundholm was originally created in 1908 to replace Ladegården – founded in 1620 and since 1822 a forced labour institution for the poor and homeless – an area that used to be surrounded by a moth so people could not escape. Today, Byhaven is characterized by a variety of thresholds and activities; the garden itself is surrounded by numerous public institutions, primarily concerned with various forms of social work, e.g. the shelter Bocentret Sundholm. The garden is neighbour to a youth prison, a design and artistic collective, several daycare institutions, and it also borders Amager Fælledvej and a large residential area, Hørgården, which is part of one of the more contested urban development areas in larger Copenhagen, Urbanplanen. In recent years, due to the general development of Copenhagen, the area has become more and more attractive from an urban development point of view. On the opposite side of Amager Fælledvej we have the continued Ørestad development, and the IT University of Copenhagen where one of the authors is heading the *Affective Interactions & Relations (AIR) Lab and Research Group* (https://airlab.itu.dk/). Byhaven is thus situated at the intersection of a wide range of urban developments. While it is entangled with the various developments surrounding it, is at the same time in a continuous fight for its own existence. As recently as last year, it was decided to postpone a plan to build a parking house on part of Byhaven's grounds. This precarious situation proves the urgency of documenting the value and affective qualities for the people currently using it. In the following, by focusing on Byhaven's urban ecologies and their affective potentials (as value, capacity to affect and to be affected) we outline the potential for cultivating a growing range of design concerns.
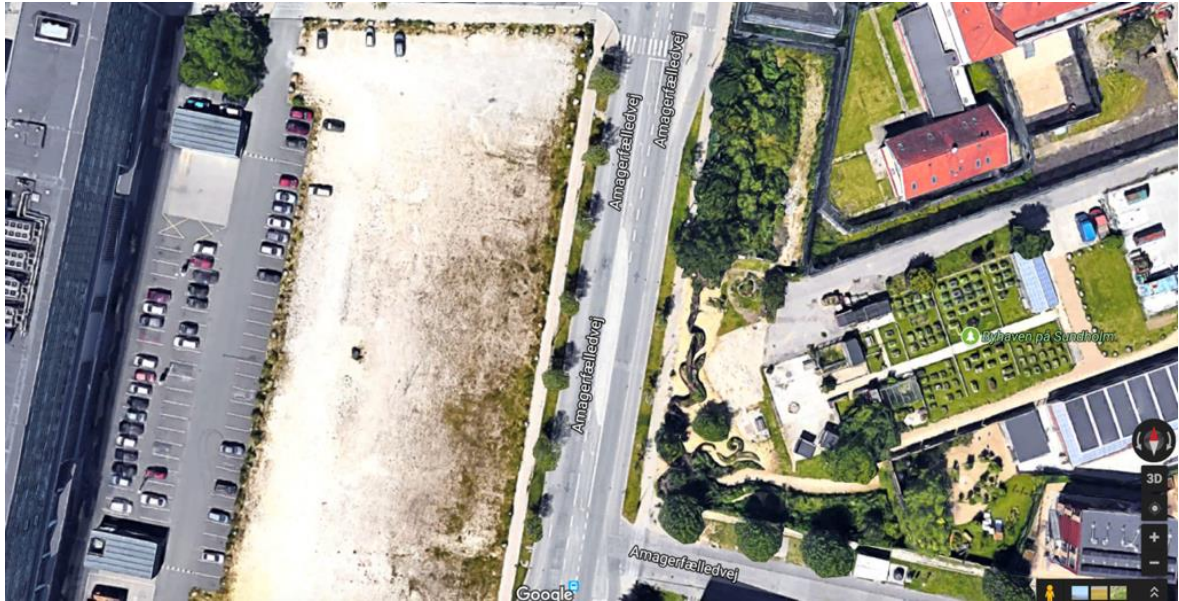
Figure 1: A screenshot from Google Maps of Byhaven (to the right) and its surroundings. To the left we see the IT University, a parking lot and an area that has now been developed with two new buildings. On the other side of Amager Fælledvej where we see a lot of trees is the area that was supposed to be developed into a parking house. The reed roofs are the youth prison and the grey roofs one of the kindergartens and part of a new residential development in Hørgården.

We have been engaged in a number of design and research activities with Byhaven since 2017 and the collaboration is ongoing. Here, we will mostly focus on a defining workshop held in the early stages of the collaboration to show the origins of the engagement with the place. One of the authors had noticed Byhaven on his everyday commute to work and was interested in exploring the site further. As part of the *Affects, Interfaces, Events projec*t and the subproject on Urban Fabric(s), it was decided to conduct an experimental mapping workshop inspired by the *Bthere* method (Eriksson et al. 2006). Originally, the Bthere method concerns the situated mapping of a particular site and its surroundings into different layers and textures. Thereby aspects and layers that are not visible from the surface and visual approach can be unfolded through affective and embodied engagement. Ideally, you map a place with respect to different layers – in this case we decided to focus on text, texture and textiles – from different perceptions – social, digital and physical. We printed an A0 map of the area, and brought post-its to annotate the surroundings with respect to these layers. In addition, we brought different technological devices that would help map the area; FeltRadio (see above), which was both used for wifi and CO^2-level sensing, a network sniffer that can capture all wifi-network names in the area and a sound recorder for capturing sounds for the web platform Sonic Contours (see above, here is the link to the final contour: http://iesv.dk/sc1408/). Further, we took a number of photos, videos and collected other kinds of materials. An important part of the BThere workshop is to engage in conversations with the people you meet. In this case, we ended up having a conversation with one of the people working in Byhaven. He was very passionate about the place but also told us how Sundholm was being transformed, and how the municipality had decided to annectate part of the garden to build a parking house. He envisioned that retail development would soon try to annectate the area to create a gated community – which he thought was quite funny, since the area had already been gated to keep people inside when it was used to house the poor. The data was primarily collected and processed on-site and just after the workshop by the four workshop participants and consisted of an annotated map, embodied accounts of exploring the area with the different technologies, a list of network names and a filled-out sonic contour moving from ITU past the urban garden.
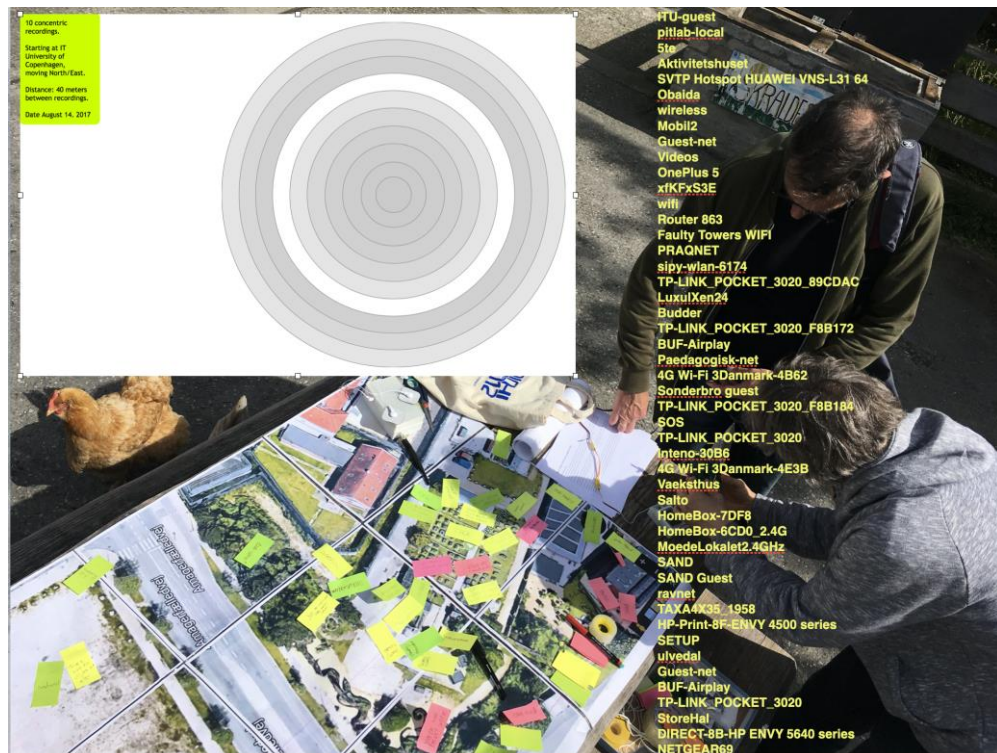
Figure 2: A collage from the workshop; in the top left corner you see a screenshot from the Sonic Contours, the yellow names to the right are wifi-names we discovered when moving from ITU to Byhaven, and in the middle you see the annotated Google Map and a non-human participant. Photo by Jonas Fritsch.

The affective data emerging from the workshop both related to our own experiences of the place, the experiments conducted and the conversation with the person working there. Being surrounded by chickens, plants and grass just 100 meters from our own offices at ITU was a very palpable experience. From our listening exercises we noticed how the area was characterised by sounds transgressing the demarcated areas (e.g. sounds from the fenced off youth prison could be heard clearly, and the noise from Amager Fælledvej was audible throughout the place), pointing to Byhaven as a meeting ground for different intersecting ecologies. Interestingly, we also saw that wifi-networks were transgressing the same boundaries. But it was the encounter with the worker in the garden that had the deepest impact; it was a real point of intensification and gave rise to a range of questions and considerations. Based on this, a range of themes and affective qualities emerged. In particular, we started thinking about questions of value and the different value systems clashing in the area, e.g. in the case of the parking house vs. the people using the area. We discussed how it might be possible to develop technologies to better register the ways in which this place had a positive impact on people's life quality, and how it might be possible to transfer this into the urban planning process. The transversality of the space also foregrounded such emergent and processual qualities, which we wanted to explore further.

The affective engagement from the first encounter with the place has until now (December 2020) resulted in a number of on-site visits in Byhaven, activities, interviews, workshops and design experiments to further explore these initial interests. In addition, we have also carried out similar workshops at Kongens Nytorv and Refshaleøen, but unfortunately it is out of scope for this paper to enter into a comparative analysis. Throughout we have explored various listening techniques, and even the use of EEG Headsets (brain wave scanners). The users of the garden have visited ITU,

and we have regularly had lunch in the garden. During the Covid-19 lockdown in March 2020, we were in contact with people from Byhaven to hear how everybody was coping; we heard about a rise in conflicts which had required some de-escalation measures, but also of a rise in families and daycare institutions using the place. In many ways, the lockdown has made it even more apparent how city-near nature is important for people's general wellbeing, and a sense of community, as highlighted in e.g. the reports *Brugerperspektiver* created by SocialRespons[2] or the Public Space, Public Life & COVID 19 report by Gehl Architects[3]. The continued corona situation seems to indicate a growing need for open air ways of gathering, in particular for vulnerable user groups, to avoid social isolation and to potentially improve quality of life.

As we are writing this paper, we are finalising the design of an interactive listening installation with the working title *Sonic Zoom*, which allows visitors in the garden to sonically attune to the affective qualities of the place as a way to foster community storytelling and bridge building between the very different groups that use the place. The sonic atmosphere is both characterised by a very "urban" tone, not least in the form of traffic from Amager Fælledvej. But there are also chickens, birds and a rooster, city bees, tomato plants and much more – things that all emit more or less audible sounds that connect nature.

Figure 3: In-situ engagements with Byhaven open the garden towards its multiple practices. While chickens explore the soil in the rich compost, digital artist Mogens searches for affective data on his machine. From our recurrent situated encounters with the garden we felt the entanglements and interconnectedness of multiple species - an affective experience we find need to be documented to a broader public and have an impact in future urban planning and design. Photos: Kristine Samson.

6 | Future perspectives: revaluating urban environments through affective data

Through the *Sonic Zoom* project, we have entered into more long-term collaboration with Byhaven and Aktivitetscenter Sundholm to further explore concrete designs for the place. This adds to the ongoing inquiry into the different values that the different users of the place see and to explore how we can make this felt as a form of affective data. We can clearly see that the place generates value that directly improves the quality of life of the people using the space; from the users of the garden, to the people visiting. However, to take this insight and "translate" our affective experience about entanglements of naturecultures, mental and social health into affective data that can influence urban design and planning practice more generally is still an open question. In this regard, one aspect to consider is the found qualities and what it does to us and how these qualities can be extended into values not only for us but be put into a design and planning practices of "commoning" in which a multitude of spatial agencies are allowed to co-exist and take part in design processes.

The encounter with Byhaven as a site and the people there has had a deep impact on a number of emerging research agendas that have become key in the formation of the AIR Lab at ITU. Byhaven has a very particular feeling and atmosphere, it visibly creates value and enhances the quality of life for the people who use the space. One of the most pertinent research themes arising has exactly to do with using experimental technologies to experience, document, relay, or translate affective-felt qualities of a particular urban space into data and knowledge that might be used in urban planning and site-specific design. As we have hinted at above, this is by no means a straightforward task. However, we also see that if these affective qualities that are so apparent for the people who actually use and engage with Byhaven should play a role in the future development of the place, they need to find a format that can be recognized by the people and systems making the decisions on a level of urban planning.

We started this paper listing examples in which urban spaces and diverse historical or biodiverse environments are being demolished, removed or transformed. We argue that to sustain and preserve valuable urban diversity we need affective data to map and performatively point to the rich atmospheres and affective qualities inherent to urban space. We argue that mapping affective urban spaces like Byhaven holds promise for developing future methods in urban development and planning. Methods that allow citizens and users to become engaged and affected, and methods that can accurately register the affective values of urban spaces. Such affective data is more urgent than ever as to convince and render visible to planners and decision makers what values are lost when standardized urban development and housing are prioritized over urban diversity. While writing this paper several other urban spaces face severe threats from urban planning. Amager Fælled, Teaterøen and Fiskerihavnen just to mention a few. Those examples have gained massive support from citizens signing petitions against urban development. However, we believe that such democratic petitions are not enough. By bringing in affective data, and by mapping of urban values beyond quantifiable reason, we believe that decision makers and planners can be affected too. Affected as to reflect and reconsider. Affected as to better understand, listen and develop the arts of noticing.

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