

THESIS FOR THE DEGREE OF LICENTIATE OF ARCHITECTURE

Organoleptic Interfaces:

Exploring Embodied Methods in Foodscapes

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Abstract

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In the move to re-acquaint urban green and in-between spaces as solely parks and open spaces, this research looks to the concept of emerging foodscapes to form a transformative behaviour with food in the city. Urban population growth, unstable food security, environmental consequences of industrial food production are all motives for concern, alongside individual awareness of food provisioning, seasonal availability and behaviour. As these challenges increase in complexity, alternate methods and processes are needed to formulate a symphony of relations to instigate action and agency from urban inhabitants that need to be put into dynamic constructs to revise behaviours and reframe patterns of thought.

The research methodology embarks on artistic-based explorations into the role of corporeal thinking, situated knowledge, and sensorial relevance for studying the relation between body, food, and time within urban-making. In order to explore what spatial immersions could trigger behavioural shifts, the research approach has two sequential phases with three conceptual ingredients: embodiment, the senses and time in preparation for relating to the body as a mode of enquiring to space.

Phase 1 deals with 2 types of critical cartography: bodily and digital staging diverse modes of movement and immersion from feet to mouth through two overland green safaris, an app interface survey, and a tracing of the memory through place. Phase 2 deals with a bodily choreography and ‘instruction’ to find deeper forms of visceral enquiry via Butoh dance and other conditions for making and staging fiction. Each phase is done under two constructed platforms for the investigations, Gröna Linjen in Stockholm and AHA Festival in Gothenburg, that endeavour to ‘amplify’ the everyday experience around food. All experiments generate different modes of relating to the environment to produce situated knowledge using key methodological models including imagineering and staging fiction, metaphor and performativity. Thereby they also open for further theoretical approaches.

The findings from these dynamic corporeal assemblages is that in the process of embodiment, the invisible is made visible. In essence the body becomes a ‘connector’; between behaviour and space, everyday rhythms and ecology, and between humans and plants creating zones for meaning and deeper commitment.

Keywords: urban-making, embodiment, artistic research, foodscapes, relational assemblages, ecological architecture, performativity, imagineering, critical cartography, choreography

List of Papers and other Publications

Paper 1

Orrù, A.M., 2015. Extracting Urban Food Potential: design-based methods for digital and bodily cartography. *Future of Food: Journal on Food, Agriculture and Society*, 3(1 Special Issue: Finding Spaces for Productive Cities), pp.48–62. Available at: <http://fofj.org/index.php/journal/article/view/147>.

Paper 2

Orrù, A.M., 2015. Time for an Urban (Re)evolution - Negotiating Body, Space and Food. In *The 1st PARSE Biennial Research Conference on Time*. Gothenburg, Sweden.

Other Publications

Orrù, A.M., 2016. Extracting Urban Green Potential: Critical Design-Based Use of Digital and Bodily Cartography Methods. In R. Roggema, ed. *Sustainable Food Planning Vol 2*. Newcastle upon Tyne, UK: Cambridge Scholars Publishing, Chapter 44.

Essay 1

Orrù, A.M., 2016. Matkultur Framtidens Metabolismer. In Spridd, ed. *Future People's Palace*. Stockholm, Sweden, pp. 123–154.

Foodprints

Orrù, A.M., 2012. *Foodprints*, Innovative Kultur: Kulturförvaltningen, Sweden.

(NOTE: This publication is quite long and extensive, and as a prestudy, will not be included in the back of the this book. The entire book is available at: annamariaorru.com/Foodprints

Digest Series

Orrù, A.M., 2015. *Digest 01 - Green Line*, Gothenburg, Sweden: Vegetable Lamb Press. Available at: www.vegetablelambpress.com.

Orrù, A.M., 2015. *Digest 02 – Urban CoMapper*, Gothenburg, Sweden: Vegetable Lamb Press. Available at: www.vegetablelambpress.com.

Orrù, A.M., 2015. *Digest 03 – Instant Cartography*, Gothenburg, Sweden: Vegetable Lamb Press. Available at: www.vegetablelambpress.com.

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List of Abbreviations

AESOP - Association of European Schools of Planning

COP – Conference of the Parties (United Nations Framework Convention on Climate Change)

CPUL – Continuous Productive Urban Landscapes

EUGEO - The Association of Geographical Societies in Europe.

FAO – Food and Agriculture Organisation of the United Nations

FORMAS - Swedish Research Council

IFPRA - International Federation of Parks and Recreation Administration

IGU - International Geographical Commission: Urban Geography Commission

PARSE – Platform for Artistic Research Sweden

Resarc - Swedish Research School in Architecture (resarc.se)

UA – Urban Agriculture

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A Metaphor for Chapter Sequencing

Food has always been a vital ingredient in my family – both on the Italian and Polish side. All bodily behaviour revolved around eating. When to leave and when to come home. When to take a break from work, and when to find a moment of reflection in the day. When to find enjoyment or solace. Life occurs in the interstitial spaces of food – its gathering, growing, cooking, eating and preparing. And ofcourse! the conversations and planning of it – the meal. Hence, the chapters are presented in the form of a metaphor for preparing a ‘meal.’ The preparation of my research has felt at times like an edible feast and you are invited to partake.

Foreward Hunger *an appetizer*

The Forward indicates a hunger, instigated by my hunger, and is served as an appetiser and introduction to the cook. Guests are informed about the the cook's training and approach to the ecology of cooking.

Chapter 1 Organise *the recipe* *(Finding the challenge and framing)*

This chapter is about organising the meal. The cook decides on the recipe and on what will be served and how. Here, the cook needs to find out what is seasonally available - put aside the rotten unedibles and locate produce. It is important to choose a recipe where the senses are part of the gastronomic experience, and in order to do this, scanning past recipes is needed. The cook is aware of food intolerances, and makes sure the recipe pleases all stomachs.

Chapter 2 Gather *the ingredients* *(Situating oneself: Theoretical gateways & research concepts)*

Chapter 2 is about gathering all the ingredients needed for the recipe, and also the guests. Who to invite is just as important, as the conversations that will take place also share the same threshold with food – the mouth. Here, some ingredients have been foraged, some have been grown personally by the chef, while others have been given. It is time to envision how these ingredients will merge, and how each one contributes to the taste and meal's experience.

Chapter 3 Prepare *peel, chop, marinade, spice, whisk* *(Research approach & methodology)*

Chapter 3 is about the preparation of each ingredient. The cook carefully prepares all the elements and lines them up as a sequence on the counterscape. The recipe list is checked and now cooking can commence.

Chapter 4 Cook *fry, bake, simmer, boil, poach, stir* *(Interventions)*

Chapter 4 commences the cooking: the fire is lit and the clock is set. This process is bound in time. It unfolds sequentially and meticulously. It is also irreversible and the cook must follow through, at times improvising if the unplanned pops up. Along the process, the chef tastes and monitors to see if the ingredients are combining well. Sometimes, the recipe may need readjusting.

Chapter 5 Eat *taste: sweet, sour, salty, bitter, savory (umami)* *(Results & discussion)*

Chapter 5 commences the meal. The table has been laid and guests are gathered– they talk about what is going on. The meal is served, and the culinary feast unfolds. There is a silence at the table as guests are enjoying the kaleidoscope of tastes.

Chapter 6 Digest *metabolize, compost* *(Preliminary conclusions & next steps)*

Guests evaluate the meal, voicing compliments or disgust. They dicuss planning of the next meal.

Additions Utensils *tools, crockery, cutlery, appliances (references, appendices, papers, essay, digest series)*

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Foreward

setting the scene

hunger

an appetizer

As an architect, I have lived three lives thus far. The first was the ‘architect in training,’ a nine year endeavour. The second was the ‘architect in practice,’ one that stretched two continents. The third one is the ‘architect bridging into explorative and artistic enquiry,’ which brought me to embark on this PhD. All three lives thus far have been driven by the same ethos - towards an ecological objective. Perhaps, I will be able to keep to the lucky number nine lives found in felines.

Ecology has been a major driver in my educational and professional training. I received my Bachelor/Master education (1994-1999) from the University of Oregon, one of the first architecture departments in the United States using ecological design as their pedagogic driver and hosting the annual Hopes conference on sustainability in architecture and urbanism. In my professional experience, I worked for several firms in the United States and United Kingdom where their main focus was on ecological projects and research. The aim was to expose myself to a diversity of experiences and knowledge. The firms in London ranged from small firms such as Anne Thorne Architects Partnership conducting a feminist approach to ecology through social housing and building, to larger firms such as Ove Arups, Shigeru Ban, and Grimshaw who concentrated on the research, aesthetics and mechanics of environmental design. During my practice, I experimented between this practice and research. Consequently, following my experience with the foresight and innovation R&D group at Arup’s, I took on the leading role of the green research group at Grimshaw alongside Michael Pawlyn, who would provide the opportunity to practice a more holistic approach to ecology – through the discipline of biomimicry. As a result in 2006, I joined Pawlyn at Exploration Architecture where I headed the research unit looking into ways in which this new discipline could be applied. Thereafter in 2009, I set up my own atelier prior and parallel to the PhD studies which began Fall 2012 simultaneously collaborating with the transdisciplinary research laboratory FoAM in Brussels. In 2010, I initiated their Nordic team where I began to explore biomimicry in terms of urban food production in my biomimicry practice, awarded from the Innovativ Kultur artistic grant from the Stockholm Municipality. The result was a publication entitled ‘Foodprints’ in 2012.

My practical experience supported an ecological approach in architecture from different vantage points – social, technological, systematic, political, artistic and biological. Through opening up to

diverse approaches, I realized the shortcomings of sole use of technology to tackle environmental challenges. How would technology solve the relationship between nature and humans? This is a vital question to ask when confronting ways to instil behavioural change in terms of sustainable urban lifestyles which seem to be a significant solution but under-researched. Furthermore, while energy, wind and water were readily discussed, why was food not also considered as a viable resource for urban-making? Food is an energy source, and a common resource for all species. At this point, as a practitioner I had gained experience in building construction, building technology, urban design and research, but when I discovered biomimicry – a discipline which looks to nature for design inspiration – the endeavour to work ‘sustainably’ became clear. It is after all nature which is the most ecologically sound designer and practitioner. It was rational transition into biomimicry for me, but the next challenge was how to apply it in research, practice and in teaching.

Since 2006, I have utilised biomimicry in my practice, research and teaching. In Sweden and abroad, I have taught in numerous universities in architecture, design and art on the subject. It seemed natural to keep investigating ways to take the discipline further and closer to the human species. One solution that I found successful in this transition was in applying biomimicry to urban practice through the lens of urban food production. Biomimicry and food provided a clear link between humans, nature (species and plants) and the urban space. An animal’s form and their visceral intuition helps them survive: for procreation, thermo-regulation, food-finding, protection and so forth. The difference is that animals cannot modify the environment in which they dwell, but human species can to a certain extent. Humans have a potential to fit their environment so it caters to our short-term survival and for the survival of other species. Likewise, the human’s body could also be our best defence and is a good tool to examine our evolutionary behaviour in urban living. The link between food and body is vital, as food is energy for the body and is what keeps bodies moving. Therein, the two main agents in my research emerge – food and the body – and both hold the potential to create sustainable cities.

My experience of doing a PhD thus far has involved a making and remaking of myself in terms of an architect, an artist and as an ecological thinker. The research has taken this one step further into the realm of using my body as a living and acting body too (*something one of my supervisors noted in reading my work*). The aim is to challenge the way I have practiced and to learn to research under different conditions. These conditions are about continuing practice and research within the academic environment, in which the key has been to develop and explore an alternative approach to ecological design within art, architecture, and urbanism with food as a central resource of investigation. Working in the interstitial spaces between biomimicry and food brought me to the subject of embodiment, creating other opportunities for understanding their relationship and role in urban-making. This phd looks at the potential of using the body, not as a proportion tool, but rather as a tool for inquiry that in itself is a probing tool that senses and processes actively and performatively. Thereby, developing a stronger theory underpinning my practice, but also to situate the *everyday* body into urban form-making. I hope this thesis captures my intent.

Chapter 1

finding the challenge and framing

organise

the recipe

'For what shoots up into the air and what plunges down into the earth are fundamentally one and the same.' (Bailly 2001, p. 29)

There is a relation evoked in this quote that weaves together living matter above and into the ground - human and plant bodies. These are the main ingredients in my research, referred to as the body and food. Food is a driving force in ecology which means that the agency of food within the urban context is of the highest relevance to investigate and makes way for the dialectic reasoning in my thesis; body agency and food agency. Both agencies sit on equal terms as they rely on one another, and both are fundamental for everyday city life and urban-making. My research explores the logic of the interplay between food and the body, situated in an emerging urban space referred to as *foodscapes*.¹ My intent is to carry out these investigations, and their inherent relations through artistic means as it allows me to explore subtle qualities such as relation, time, senses and the imagination inherent in urban-making but intangible. The lengthier underpinning for artistic research is expanded further on in this chapter (section 1.2.5), but a brief motive is that it allows a research form to emerge that rests between science and art. It is an in-between inquiry space, as are foodscapes, in which I believe this thesis needs to emerge from in order to understand the delicate relation of body to food in spatial contexts and to deepen the discourse of how time plays a role beyond its seasonal indications. The complexity of this relation requires imagination in urban practice that extends into artistic practice. The Swedish Research Council (Vetenskapsrådet) annually releases an artistic research overview. In their most recent 2015 yearbook, Catharina Dyrssen, chair of the Swedish Research Council's Committee, eloquently characterizes the experimental conditions, potential and pertinent role of Artistic research. She states,

'Artistic research often takes as its starting point the scope for the art to shed light on value-related

¹ The term 'foodscapes' is a term referring to urban food environments and has been widely used in urban studies and public health, originating from the field of geography (MacKendrick 2014). Because the term is so broad and encapsulates places and spaces where food is acquired, prepared, bought, traded, produced, talked about, and shared, it is good to define exactly how it will be referenced. Within the scope of this research, foodscapes refer to urban spaces where food is grown, or produced, because it is the direct physical setting and contact with this 'activity' which is explored in understanding devices in transformative sustainable behaviour.

and communicative questions concerning creation of meaning and quality. The research methods tend to be action-oriented, performative and interactive with artefacts and the surroundings. This is some-times described as "through the making", where the researcher is an active participant in the investigative process' (Dyrssen 2015, p. 23-24).

The artistic research allows for a constructive mode of working that initiates connections and forms agency through a situated and activated knowledge making. Karin Jaschke argues that to reconsider the ecological perspective in architecture, without 'joining the mainstream drive towards technological innovation and triple-bottom-line compromises,' includes notions of embodiment, spatiality and agency affected by concepts of situatedness, locality and presence (Jaschke 2010, p. 80). This aids in deviating from a rhetoric of production versus consumption used in sustainable discourse. Landscape has also become a consumption, whereas it should be a relation. Spaces made for relating are necessary, rather than spaces for consumption and production. This is awkward when urban agriculture is also referred to as food production for consumption. A different language is required to move away from the capitalist model and to move back towards each-'other' - closer to relating to the 'other' and to nature. Felix Guattari puts forward three interchangeable lenses – social, mental and environmental – through which to apprehend the world. In order to re-attune ourselves towards nature and to construct a new eco-logic based on diverse perspectives, he suggests,

'It seems essential to me that we organize new micro-political and micro-social practices, new solidarities, a new gentleness, while at the same time applying new aesthetic and analytical practices to the formations of the unconscious. If social and political practices are to be set back on their feet, we need to work for humanity, rather than simply for a permanent reequilibration of the capitalist semiotic universe' (Guattari 1989, p. 139)

The main research endeavour is to explore creative processes within urban-making practice to develop an embodied methodology that instigates deeper commitments towards environmental behaviour with food and with the body in urban space. This body, my body, and the body of others, relating to human life and its dependency on plant life – food – within the urban everyday. Bodies in relation to the city, to nature and to other bodies. These process are about situating and staging these body(ies) in a series of interventions in an explorative manner, both on the level of individual contact and the collective relation with space. According to Dyrssen (2010, p. 225), 'Architectural thinking always involves the relationship body-space and often uses an active decoding of its surroundings that integrate all our senses and anchor them in bodily experience. In heterogeneity, the body is drawn into practice as an actively constructing, discursive agent. It emphasizes the 'multiplicity of subjects' and the 'relative other' challenging neutral relationships between body, perception, representation and space, instead raising questions such as: whose body, whose space, which sight, how, when, why?'

Several explorative experiments are staged through; traversing foodscapes, investigating digital and bodily methods of cartography, and staging a bodily choreography of making and performing a garden space using dance. Each intervention investigates methodology rooted in imagineering and

staging fiction, metaphor and performativity. The dance form Butoh is taken up in phase 2 because of its specific relation and choreography with nature and its beckoning tie to time and to the spatio-temporal Japanese concept of ‘*ma*.’ Briefly, ‘*ma*’ is a Japanese concept of time, it is an interval or gap where potential exists (Big in Japan Contributor 2011). This concept is further expanded in section 2.1.3. All approaches are set in concepts delving into embodiment, the senses and time through an inquiry into movement. They address the relation between body and food but also bring in a temporal sense of food in its seasonal dependency, extent of time and the spatial sequence of the activity in growing.

Food is fundamental. Food is the most common and present ‘material’ of our everyday existence. It is an energy supply. This is such a mundane link, food to energy, that it is overlooked and barely discussed in sustainable discourse. What if food was viewed as an energy supply on par with solar and wind, would it then take a more prominent role in the development of sustainable cities?

Energy derived from food gives movement. The human body needs to move, but vegetation stays. However, I find various forms of *movement* also inherent in plants, their surroundings, and their influence on human bodies and behaviour.

Plants move upwards towards the sun, and eventually towards our mouths.

They enter the human body, and move *through us*.

On a metabolic level, they actually *move us*, giving the required energy for movement.

Plants also *move* in time, from one state to another – seed, seedling, plant, fruit, food, energy, compost waste, soil, then again into a new plant.

There is also a *movement* inside of the plant. They drink water and minerals. They absorb sunlight energy and convert it into carbohydrates and oxygen during photosynthesis. Chlorophyll absorb these waves of light, transforming it into energy. It is a movement of life into and through the plant, gradually extended into humans during food consumption.

There is *movement* outside and around the plant. They transfer seeds to new areas,

They also *move* CO₂ out of the air and store it - cleaning the air we breathe and enabling further life in diverse ways.

The same sequence thinking can be applied to a garden space, it is not in motion but it *moves us* – both emotionally and spiritually. And if spatially composed in a particular way, a stroll through the garden can *direct* us to a certain behaviour. This composition occurs on both the individual and urban levels.

Movement is seen as a theme in this research and hence I want to emphasize the body at the centre of the methodology. For when a body is in *movement*, the sequence of moving can unfold. We *move to* the garden to find food and calm. We move around the garden and through it, and it *moves us*. We can be moved by watching neighbours gather to grow food in the garden and sometimes, we are *moved*

to participate. We *move* through the city by way of the garden if we are lucky. In some instances, we move our default route to pass by the garden.

Interestingly, plants also made humans stop *moving*. Carolyn Steel states that the first settlements of Uruk, Ur, Larsa and Nippur were established by settlers who had to stop moving in order to watch their sown grass grow (Steel 2008). This ‘harvested grass’ would eventually feed them, leading to the beginnings of agriculture. This act was the initiation of a ‘town’ planning, where settlements were erected as a direct cause of agriculture. Therefore, the coevolution of food and urbanism is not novel and a very important motive in the urban everyday. My research is not about returning in time to past agricultural practices, but rather to re-adjust, re-acquaint and re-align the relation of the city to food. After all Parham writes, ‘Food, in turn, is central to urbanism, because it is so critical to creating and maintaining this vitality, complexity and intimacy, because it can help make and support walkable, mixed, human-scaled and diverse places and because it can increase the focus of urban space on the public realm’ (Parham 2015, p.2). What remains to be further explored in contemporary urban-making is what role does the body takes in this relationship? Lakoff and Johnson (1999, p. 6) state; ‘Because our conceptual systems grow out of our bodies, meaning is grounded in and through our bodies.’ With this in mind, there is all the reason to use the body as a mode of enquiry for urban-making and food is the threshold.

1.1

Introduction - why this recipe?

In urban research, the over use and politicising of the word “sustainability” establishes a challenge to find alternative ways to work and write within this critical context without positioning it in the neoliberal structures that have appropriated it. This demands another study in which ‘to recognize the unsustainable and redefine what sustainability might mean, we need to question our worldview, social structures, material practices and value systems from an ecological perspective’ (Jaschke 2010, p. 79). Michael S. Carolan (2007) proposes another term “deep commitment”: ‘while terms like ‘sustainability’ and ‘sustainable consumption’ are value laden and not objectively given. I imagine each as presupposing the existence of deep commitments. By deep commitments I am speaking of behaviours that are informed by a sense of care for others and the environment’ (Carolan 2007, p. 1265). A ‘commitment’ that creates an action with and relation to nature. His view on sustainability entails, ‘a greater relational understanding of the world, where self, other, and the environment come together in a multitude of ways, lies at the heart of sustainability’ (Carolan 2007, p. 1274). The importance of a ‘deep commitment’ is that it creates a relationship between the individual(s), their behaviour, and with space, all of which are vital ingredients in urban-making. This deep commitment relies on an emergent state of reflection, motivation and awareness in order to arrive at a transformative behaviour towards the environment. Because environmental commitment is a very broad task, this

research positions itself in questions of sustainability towards food; its production, its relational qualities and the behaviour towards it. The study concentrates on the spatiality, intent and visceral potential of foodscapes, explored through an embodied methodology.

In recent years, urban food provision has become a growing concern given the growth in urban populations. The UN estimates are that 54% of the current world's population lives in urban areas, and this is set to increase to 66% by 2050 (United Nations Department of Economic and Social Affairs 2014). The urban population increase does pose the challenge of food security for future urban generations but also the way in which cities are inhabited in the urban 'everyday.' A response to the above challenges has been a huge increase in urban food production (urban agriculture) practised by over 800 million people worldwide (FAO 2016). Bohn and Viljoen (2014, p. 2), architects and researchers in the field of urban agriculture, state that 'undeniably, during the last twenty or so years, urban agriculture has become an increasingly common feature of many urban areas in the Global North and – responding to social, environmental and economic concerns – has long been practised in the Global South. It is now understood as a movement and as an urban space-use typology' (2014, p. 6). They claim that 'the future of a desirable city lies in the way its urban space provides for food' (Bohn and Viljoen 2014, p. 5). Therefore, there is a challenge for experts to create methods and processes in urban design that can take into account urban food production. Carolyn Steel (2008, p. ix) summarises this challenge of food in relation to the city, 'Feeding cities takes a gargantuan effort; one that arguably has a greater social and physical impact on our lives and planet than anything else we do. Yet few of us in the West are conscious of the process. Food arrives on our plates as if by magic, and we rarely stop to wonder how it got there.' She views food as a common medium between various disciplines in order to tackle issues such as food miles, obesity epidemic, urbanisation, supermarket power, peak oil and climate change to name a few (Steel 2008). She describes food not only as a physical historical material in the making of cities but also an element that creates opportunity for social, psychological, biological and temporal research. Bohn and Viljoen view this challenge as an opportunity for design professionals, 'to communicate the qualities and possibilities of food growing and architecture to all audiences, both at a theoretical/planning level and at a hands-on/practical level' (2014, p. 11). Often urban gardens include waste compost, people, water irrigation, seeds, tools – all the ingredients that go into growing food. It is a contact with an unexpected service in the city and also a direct observation of how food arrives at the table for nourishment. If the visual aspect can enforce environmental awareness – what does this mean in terms of design concepts for the aesthetic or experience in which the triggers are sensorial and embodied? Carolan warns though that, 'admittedly, the implications of an embodied politics must eventually reach to the roots of our lifestyle and not stop with a mere tidying up on the surfaces' (Carolan 2009, p.12). Food can be a powerful shaper of urban space and lives and the experience of *foodscapes* has an embodied effect on environmental enactment and place attachment, and the question in my research is how to enable and explore this and by what means?

Within an embodied approach, some research shows that, 'ideas about embodiment have become

central to theorizing food. Grounded in the notion that we know and experience the world through our bodies' (Parham 2015, p.4). Parham supports the body's inclusion in food-related research as vital and she lists various approaches in civic agriculture, community gardens, geography, sociology, spatial research and, in her own work on, conviviality and sustainable urbanism where embodiment is included. Nevertheless, visual or physical, such approaches propose an alternative use and conditions for the public realm, which is a highly exciting prospect in terms of developing new methods in urban-making. I use the term urban-making readily because it activates the relation between the body and urban space, necessitating an *activity* of 'making' available to all inhabitants.

In terms of other research pertaining to environmental behaviour which might be helpful in understanding attitudes towards food, consumer behaviour around recycling changed significantly when it evolved from a pro-active engagement to one which was closer and embedded in normal household practices (Diekmann and Preidendorfer 2003). For instance, research in Germany shows that driving to recycling bins and home composting was replaced by an infrastructure providing a centralised recycling collection closer to the citizen's doorstep. I envision the same could occur to food behaviour if it becomes locally transparent, activated, and produced to some extent. Creating a collective awareness around local food, embedded in everyday life whether physically or visually, could instigate a new form of behaviour. The question is *not* how much food can be produced, but rather, what spatial immersions could trigger a change in behaviour? My research endeavours to explore this question creatively, both on an individual and collective level, exploring dynamic immersions that instigate 'pleasures' of sustainability rather than doomsday scenarios. The responsibility to incite sustainable living is not only for policy makers to resolve, but it rests also with citizens in their everyday conduct towards developing deeper commitments for the environment. The role of the architect is to provide the urban conditions in which such responsibility can be induced and embraced – through experience.

An urban condition that could formulate an embodied experience transpires in the tactility of spaces. Given the complexity of food issues, Carolan refers to this complexity as an epistemic distance. A distance which is made due to our limited knowledge of the world. He proposes that tactile space is one way in which to reduce this distance by generating the potential for lived and tangible experiences. These experiences create altered perceptions, relationalities, commitments and transformations which are crucial in this reduction of distance. Here he claims that there is a limited research into the practice of exploring tactile space, and uses cases of community supported agriculture with a framework of epistemic meaning and impact on sustainable behaviours of self, towards others and the environment. Carolan outlines a peri-urban agriculture case example for creating a collapse of the distance between consumer and producer, which he believes is vital in bringing consumers closer to their food by creating a rapport with the farms where their food is grown. This is an important step but it still utilizes a market-driven structure to frame individual behaviour with food. The difference in my research is to explore variations of tactility for agency in the city fabric – in relation to the *everyday*. Carolan supports such an undertaking when he states, 'attempts must be made to concomitantly

ground such artefacts and relations in the lived, non-representational world of everyday' (Carolan 2007, p. 1274). He poses this task from the perspective of a sociologist (socio-environmental theory), about how 'deep commitments' emerge and develop relative to the daily tactile space, however, there is a need to pose this task also from an architectural perspective and within activated and situated spatial practice. Therefore, by engaging creative methods for opening up for this type of knowledge and environmental identity, could construct diverse experiences of immersion which support a 'deep commitment.' This immersion draws from the imaginative methods of imagineering and staging fiction. Such an immersion conjures up a sense of belonging, interfacing, linking and relating through metaphor.

1.2

Societal Challenges - why I serve this particular recipe?

There is a lot to be said on the topic of food and numerous challenges are associated with this resource in urban development. Urban population growth and food security are main motives for concern and come with a succeeding list of connecting issues in the form of an environmentally damaging food production. From the position of an architect, these challenges are too broad and complex to tackle but important to keep in mind as they are the global ethical underpinning for my study into food and the city.

Food is seen as an integral part of city well-being, everyday behaviour, and social cohesion between inhabitant's (Wiltshire 2012; Tomkins 2012; Steel 2012). This is not an obscure role, as there is much research dedicated to this but not the focus here in my research. Given all that is known, and the options offered for a coherent approach including food in the city, there is still disregard and a slow response from both experts and city inhabitants which is strange as both have motivation to find a common ground from which to embark on the challenge rendering food an inclusive urban artefact. My point of departure for the challenges will be from a grounded and tactile level by turning to the agency of body and food and their role in urban-making. The body to food relation is tangible as a point of reference because of their close reliance on one another. Food connects to a bodily awareness whereby all the senses are activated. By bringing in the senses, an organoleptic approach, and movement into the discourse of urban food, I maintain that urban space should not be separated from the corporeal realm. Allowing the senses to leak into urban discourse through imaginative staging, can make the body a more refined instrument for urban-making. The varied methodology and concepts for this approach are discussed in Chapter 2 and 3 in more detail.

I begin with the broad challenges which are two-fold but linked: one where urban food provisioning from an individual awareness is overlooked (section 1.2.1 - The Rotten Foodscape), and second in which seasonal availability and eating is also disregarded (section 1.2.2 - A Seasonal Connect).

1.2.1 The Rotten Foodscape

This section outlines the complexity of challenges faced with urban food provisioning from a broad perspective. For some in privileged societies food is taken for granted – how it appears in the city daily and on our plates year-round is a mystery to most. Most urban inhabitants are unaware that the place they live in is linked to a long chain of industrialised food processes. Mass food production, which effectively and efficiently delivers food all year to urban doorsteps, adds to a lack of awareness due to its almost invisible manufacturing and arrival. Although this efficiency is conducive to feeding growing urban populations, many of whom still have lack of access to food, it comes at a pronounced environmental cost. The process is energy-intensive, relying on our energy reserves, and is a very significant contributor to greenhouse gas emissions. The United Nations Food and Agriculture Organisation (FAO) has calculated that, globally, this agriculture generates 30% of total man-made emissions of greenhouse gases, including half of methane emissions and more than half of the emissions of nitrous oxide. In the EU, over 30% of the greenhouse gases from consumer purchases come from the food and drink sector (Sustain 2012). It takes 10 calories to produce one calorie of supermarket food when it used to be just two (Horrigan, Lawrence & Walker 2002). And, one litre of water to produce one calorie of food (UN n.d). One other startling fact, and the reasoning for an organoleptic bodily approach, is that food's industrialised production dramatically reduces agro-biodiversity and reduced quality and diversity in fresh produce, which should be addressed when deciding 'what type' of urban food production could occur in urban space² (FAO 2011). Given these statistics, Food is a complex and systematic chain of effects of which we are unaware of in terms of the resources it undertakes and it requires a more transparent, scaled-down and ecologically sound approach. One response has been in the local food movement defined as, 'This movement focuses on reconnecting people to their food supply and reinvigorating the values (and relationships) inherent in community through the production, purchase, and consumption of local food' (Delind 2006, p. 123). But this approach still defines food as an economic endeavour, setting up a relationship which is based on food as commodity and as Delind points out, 'Without engagement or some other embedded memory, food easily assumes the role of a "thing" –something quite separate from the living system that produced it and resides within it' (Delind 2006, p. 125). Again, there is a separation between food and the body which necessitates bridging.

'If local food (however local is defined), represents little more than another delightful, and possibly guilt assuaging, choice made by people who see themselves as wise consumers, then it will not withstand market forces. Without an emotional, a spiritual, and a physical glue to create loyalty, not to a product, but to layered sets of embodied relationships, local will have no holding power... What are needed are ways of thinking and feeling about local food that cannot be easily appropriated and/or disappeared by the reductionist rationality of the marketplace and that can balance and reframe an eco-nomic orientation with more ecological and cultural understandings of people in place' (Delind 2006, p. 125-126).

2 For example, farming typologies such as permaculture, organic, hydroponic etc.. should be considered.

Therefore, an approach is called for that is recognizable in everyday urban life and one which can be *experienced* on a bodily and tactile level. Delind supports an approach of linking place to body embedding food in a 'contextual' experience, and extends this placement to the act of eating itself by following a native diet which has shown to have numerous benefits. Through pointing to research conducted by conservation biologist/nutritionist Nabhan (2004) and Biophysicist and cultural anthropologist Cone and Martin (1997), Delind highlights diet benefits to a strengthened immune system and health benefits in terms of food tolerances/intolerances. Delind points out that the *local* experience is both an external and internal endeavour, 'Local food, it would seem, *is us* in ways that we may not have fully considered' (Delind 2006, p. 133). Her view of the place-food-body connect has extended the notion of local, to one that is place-based and also metabolically-based. The cellular/metabolic level is the closest 'space' to us, harkening a more signified and extended relation to food placement. Delind (2006, p. 142-143) identifies the challenge,

'Enabling people to become better consumers or producers of local food, then, is not enough... Our challenge, as academics and practitioners, as people engaged in relocalizing the food system, will be to find ways to stretch our experiences and sensibilities to a point where "the local" as food, as farmland, as the culture and ecology of real places starts to "be" us and define us wherever we are. We need to move beyond the creation of lifestyles through consumption and challenge ourselves to create places through acts of physical engagement and cultural identification.'

But there is yet another level to this body connect - bodily involvement and active engagement. A level beyond the *local movement* where there is a, 'role of the sensual, the emotional, the expressive for maintaining layered sets of embodied relationships to food and to place' (Delind 2006, p. 221). Delind (2006, p. 134) refers to Lockwood (1999) to reinforce this connect, 'Moving beyond the cellular level, she too feels that what we take into our bodies – what ultimately becomes us –instructs us about the world around us and our relationship to it. We learn about living contexts and we learn to engage with the spaces, rhythms, smells, tastes, colors, textures, periodicities of our food'. Specifically, it is the senses – in their organoleptic experience – that can activate this experience and deepen the relation to place and nature. In building a relation between one's own body and the place in which one lives may be one way to motivate place attachment necessary for agency to mature.

Far from the local, another consequence of mass produced and industrialised food is its transport referred to as 'food miles.' Distances between site of production, distribution and consumption have increased from both a systematic and individual failure of restraint due to the year-round demand for all types of foods. This is imperative to mention, because it brings in another consideration - 'time' - as an element which needs considering when approaching urban food challenges. Therefore, the time aspect is equally vital when considering a body to place connect, as food is a dynamic entity that is governed by time. In this context, seasonal rhythms are the first link when discussing food.

1.2.2 A Seasonal Connect

To explore the relation of body with food from an experiential perspective, the seasonal disconnect

with food needs consideration. In the urban environment this food disconnect is a physical and sensorial severance, but there is great potential to approach this matter differently. City inhabitants have agency to do something about it, it is a matter of everyday convention. As mentioned, one response has been urban agriculture which has increased in the last two decades meaning that there is already a self-initiative towards a different form of urban food provisioning and space. With this activity, comes a growing sense of seasons and food access. But not every urban inhabitant wants to, or knows how to, farm and this is an important point to consider. Therefore, what urban methodology within the urban food field could be introduced to a wider public in order to harvest a wide-ranging awareness? What forms of embodied engagement, other than the act of gardening, exist? These questions are explored through the interventions in my research, staging varied ‘embodiments’ and ‘relations’ with food gardens in order to position an assemblage of agencies instigated by collective imaginations. In chapter 3, the notion of collective imagination and creativity is discussed under the methodology of imagineering.

To continue on the seasonal debate, a majority of research focuses on citizen behaviour from an eating pattern perspective and the general advice is to ‘eat seasonal foods’ (Röös and Karlsson 2013). However, seasonal eating is also a problematic solution as Röös and Karlsson demonstrate with a multitude of definitions and impacts on environmental benefits. They provide four definitions of seasonal consumption taking into account aspects of spatial distance between site of production and consumption, local origin and production technology such as greenhouse growing or various ‘soils.’ For a detailed version of their findings, please refer to their table below (Table 1). *Note.* Table from ‘Four definitions of Seasonal Eating ‘ (Röös and Karlsson 2013, p. 3)

Definition	Description	Transport	Accepts produce from heated greenhouses
A	Swedish season. Consumes only Swedish produce. Heated greenhouses allowed. Main argument: decreases transportation.	Short	Yes
B	Swedish season with no energy use for heating. Consumes only Swedish produce that has been cultivated in unheated greenhouses. Main arguments: decreases transportation and energy inputs.	Short	No
C	European season. Consumes European produce with the shortest transport distance (therefore prioritises Swedish produce when this is available). Heated greenhouses allowed. Main argument: decreases transportation.	Medium	Yes
D	European season with no energy use for heating. Consumes European produce (but prioritises Swedish produce when this is available) that has been produced in unheated greenhouses. Main arguments: decreases energy use for greenhouses.	long	no

Table 1 - Four definitions of seasonal eating

Similar to the complexity seen in the food systems, seasonal eating is also a Pandora’s box of

challenges. To counter this dilemma, Rööös and Karlsson suggest several ways to confront the issue of seasonality. They propose consuming diverse forms of vegetables and fruit, such as canned, dried or frozen, as another answer for seasonal food behaviour. This brings back the dilemma surrounding industrialised food. Next, they also reveal that prolonging the growing season is not necessarily a solution because of its additional use of pesticides, fertilisers, energy and water. Nevertheless, they encourage further research to better understand the environmental gain of promoting seasonal consumption according to different definitions (Rööös and Karlsson 2013, p. 10). In terms of food consumption, strategies such as food labelling have been used to improve dietary choices, but most interventions have been aimed towards health– including the drive to increase fruit and vegetables to five times a day. Most people now have some level of understanding of what healthy eating constitutes, but there is still a gap between what people know is good and what they choose to eat, and where they get their food (Hawkins 2012, p. 234). This negates a deeper embodied understanding wherein I believe an artistic research approach is necessary to go beyond ‘seasonal eating’ rational. The difference between ‘knowing of’ and ‘knowing how’ rests in an activity that mobilizes the creativity of a collective body in playful immersions which bring this ‘know-how’ to the surface.

Another angle to seasonality is that it also is a physical and sensorial experience, as it is an ingredient of time, which can be linked to an understanding related to body and space. Scholar Sen Soshitsu XV, refers to seasonality as an important interval of time for it ‘allows all things the regulation and adjustment they require in their progression to’ the next season (Di Mare 1990, p.321). This concept of a seasonal interval could be viewed as a spatial sequencing through each season that creates a potential for reflection, awareness and change. Carolyn Steel underpins a view of connecting seasonality to time – the *quotidian*. She states, ‘Living according to the seasons, as we must, links the everyday rhythm of our lives to the universal: a dual meaning captured whenever we speak of ‘mundane’ existence... By paying attention to the mundane, we can regain our sense of place in the world, and gain insight into better ways of living’ (Steel 2012, p. 40). It is in the mundane that inhabitants can find a connect between the micro perspective of food and connect it to a larger existential meaning brought about by an experience of time. Michel de Certeau (1998, p. 183), French sociologist, adds to the time aspect by noting that, ‘Eating, in fact serves not only to maintain the biological machinery of the body, but to make concrete one of the specific modes of relation between a person and the world, thus forming one of the fundamental landmarks in space time ...’ Reminders about seasonal produce are necessary as this contact can become a sensorial experience of the food cycles, however there is a need for an engaged and more dynamic experience beyond the visual queue of time.

As *seasonal behaviour* is thorny to regulate, could it be perceived as part of public health and wellbeing? Numerous studies have provided a link between nature and health benefits. The International Federation of Parks and Recreation Administration - Ifpra report (2013) defines benefit as something that promotes wellbeing. They list benefits of urban parks to be; for human health and well being, social cohesion, tourism, house prices, biodiversity, air quality and carbon sequestration and water management. The health impacts are both physical and mental either through direct or

indirect effects of activity and recreation. To the best of my knowledge, none of this research into wellbeing has listed seasonal eating as an aspect of public health which seems lacking. In addition, there is also a lack of research insight into urban agriculture to help policy-makers address these issues as 'to what specific conditions this activity can deliver in its alleged public health, social, economic and environmental benefits, and to whom?' (Wiskerke and Viljoen 2012, p. 28). Whereas, my research regards the dynamics around seasonal behaviour as a vital aspect of environmental wellbeing and health. If urban agriculture can be viewed as the catalyst in the relationship to nature in cities, it can be imagined as a producing nature that we relate to directly on a metabolic level, and one that has a strong spatio-temporal presence. The challenge is to create an awareness surrounding urban food behaviour beyond dietary choices and explore how urban space may generate a connection to seasons and nature through everyday spatial experiences and sequence of activity? An approach already mentioned has been tactility and its connection to the sensorial.

1.2.3 An Imaginative Sensorium

There is a gap in our approach to environmental challenges in terms of activating the urban agricultural experience to a wider audience. Stokes (2006) points out an 'extinction of experience', referring to urban inhabitant's experience and contact with nature which is disappearing as individuals go about their daily busy lives. To remedy this, Stokes (2006) suggests a need to activate biophilia through direct experience of nature space. Biophilia, according to biologist Edward Osborne Wilson, is human's strong attraction to nature. This strong connection is vital in achieving an environmental relationship, through deep commitments, and in provoking an imagination of making nature an inclusive experience. Creative methods, such as artistic research, in the environmental field aimed to stimulate a shift in urban behaviour are therefore necessary. One approach explored in my research is from the technique of imagineering. Imagineering's origin dates back to the 1940's as a term that fuses 'imagination' and 'engineering.' It is the application of creative ideas into a viable form, coined by the aluminium company alcoa to encourage innovative usage the material and get more customer. It is better known for its use by Walt Disney Company in their visioning and creation of Disney theme parks. Since, it has been a term utilised in urban design, futures studies, design thinking, geography, politics etc.. I should mention, there has been critical views on imagineering due to its unpleasant association with social engineering, which is not at all the aim in my approach. I have chosen to use it primarily as a catalyst towards the use of imagination as an approach. My research views imagineering benefits through its emerging complexity-based approach to design which has an evolution orientation rather than a focus on only solutions as a certain inspiration from living systems is present in my explorations. Diane Nijs (2014, p. 5) explains imagineering 'as the complexity-inspired design approach that makes use of the narrative mode in order to strategically ignite and frame collective creativity.' Through igniting creative and imaginative ways for environmental behaviour, citizens are more likely to participate. Another imaginative approach is using the senses. Classen (2010, p. 66) underscores the senses as vital ingredients in sustainable urban design; she writes,

'As we rethink urban design within the context of ecological sustainability, we need to look for urban models that can fruitfully sustain our sensory lives. The best way to encourage people to commit themselves to new modes of urban existence is by engaging them through pleasurable sensory experiences: green pleasures, rediscovered and reimagined through a revitalised cityscape: [...] the aesthetic of sustainability is not about recovering preindustrial ways of life or making cities into green machines for living. Rather, such an aesthetic call for new ways of perceiving and interacting with Earth and its inhabitants, based on justice, compassion and cooperation- the sharing of pleasure. Think of green pleasures as a way to cultivate a more ecological way of relating to the world, with both our minds and our bodies' (Classen 2010, p. 73).

Wiskerske and Viljoen (2012) add to this by bringing in the term 'urban organoleptic' as a place-holder for senses. Different from my research, they use the term mostly in regards to a decline in the organoleptic quality and diversity in food varieties due to the focus on high production of mono-varieties, the standardisation of production and processing techniques, and strict food hygiene rules and regulations. I interpret the meaning of the urban organoleptic to be the loss of organoleptic qualities of urban spaces, however, as a sensorial confrontation and experience with food in everyday lives. An early assumption underpinning this PhD project is that the organoleptic experience of such spaces could stimulate behavioural shifts, in turn increasing the quality of urban spaces and responding to food security challenges.

1.2.4 Curating a Corporeal Poetics

The epistemic gap highlighted by Carolan is a distance between experience and action, and the aim to collapse this distance through establishing a deeper commitment to the environment. Though Carolan (2007) refers to tactility as one solution, there is little research dedicated to practices of exploring tactility in terms of gardening other than the obvious experience of immersing hands into soil. This lack in research into tactility is highlighted by Keniger (2014 p. 930) when he speaks about the potentials of interacting with nature. He concludes by posing questions for further research;

'What characteristics of natural settings (e.g., biodiversity, level of disturbance, proximity, accessibility) are important for triggering a beneficial interaction? How do these characteristics vary in importance between different cultures, geographic regions and socio-economic groups? These are important directions for future research if we are to make effective, informed decisions regarding the best ways to maximise opportunities for people to interact with nature in a rapidly urbanising world.'

Furthermore, such interaction is supported by the link between place attachment and pro-environmental behaviour. Research on place attachment states that 'Although one's connections to a place may influence pro-environmental behaviour, the dearth of evidence on this topic means that definitive conclusions are difficult to draw [...] what is known about the relation between place attachment and actual pro-environmental behaviour?' (Scannel and Gifford 2010, p. 290). Scannel and Gifford researched how emotional place attachment and identification with the natural environment

encourages pro-environmental behaviour. They claim that, an ‘environmental identity’ is formed but, in regards to space, I am curious as to what spatial conditions curate this? Scannel and Gifford (2010, p. 296) call for directions in future research to determine the ways in which natural place attachment could be encouraged among community members, and whether such an intervention would produce an increase in pro-environmental behaviour’. There is a need for creating ways of intervening with the public around foodscapes, and thus finding processes for activating a pro-environmental imagination and performativity.

Carolan (2009, p. 2) refers to an embodied approach as the ‘corporeal poetics of everyday life,’ he states,

‘approaching understandings of nature from this direction, from the angle of embodiment, reveals important insights that would otherwise fly below our theoretical radar. For example, if nature is shaped by our doings – that is, if it is an embodied effect – then what ‘natures’ are possible (or probable) become constrained by the embodiments available to a society... Experience and bodily practice cannot be divorced from one another. In other words, what we see (and hear, smell, taste and touch) is shaped by our doings.’

This is a key point as to why an embodied approach to the study of nature and the environment is meaningful and vital. The intention of my research interventions is to intersect the poetics of everyday by bringing embodiment, imagination and a certain eco-playfulness into urban-making practice. Research thus-far into the senses often describes them as an external experience, however to my knowledge, they are not referred to in combination with the ‘moving’ and ‘acting’ body in sustainable development. What occurs when embodiment as a method of enactment, embedding and activating is used in planning, conceptual design and in agency-making of spaces? Would this approach sustain a deeper commitment to pro-environmental behaviour? How could this methodology be formulated? If ‘bodies dwell with differing degrees of attachment to the natural world (Carolan 2009, p. 9)’ then ‘a change in style (*lifestyle*) implies the creation of new embodied actions, stories, and ‘being’-in-the-world, from which will spring forth new intelligibilities toward nature’ (Carolan 2009, p. 12). Should these stories be our own, whether indirect or direct, can they also conjure up this relation equally through participation and observation? Hence, ‘ultimately, the goal of an embodied environmental politics is to bring people back into a sensuous kinship with the natural world – in their travel, play, work and rest – so this world can again be experienced from within’ the everyday (Carolan 2009, p. 13). In his closing remarks, Carolan supports the use of the body to achieve this, ‘if we think with our bodies then we must think about nature with our bodies too [...] It is time to nurture alternative ways to know, recognize and understand nature. And where better to begin than with the body’ (Carolan 2009, p. 14). Carolyn Steel also underpins a necessity for an alternative approach to food issues, ‘the scale and complexity of the task demands a broadening of the architectural and planning discourse to embrace fields not traditionally considered relevant. New tools are needed, both in order to comprehend the issues at hand, and to make effective use of the creative capacity of spatial imagination’ (Steel 2012, p. 37). What I am trying to tie back to is where we began the chapter

with a brief sentence supporting use of artistic research. An artistic approach can imaginatively stage embodied approaches for studying the relation between body, food and urban-making, not only to deal with the complex challenges, but also to seed behavioural agency towards food and a place attachment.

1.2.5 Why Artistic Research?

I have written of artistic and creative processes interchangeably, but I see them both as artistic research. This approach is explored within the contextual, theoretical, and methodological frameworks in later chapters (chapter 2, 3 and 6), but it needs to be introduced earlier as an underpinning tone. Another term that will be mentioned is *transdisciplinarity*, a thorny term as it has various interpretations of *disciplinarity cross-overs* depending on which field you are partaking from. Doucet and Janssens' (2011) definition and approach is best suited in regards to my research as they seem to clarify the term around the type of knowledge that is being produced in architectural and urban thinking. They state that this knowledge-production is conceived of three major elements, 'the integration of discipline and profession (theory and practice) in knowledge production, the ethical dimension, and the importance of experimental, designerly modes of inquiry' (Doucet and Janssens 2011, p. 2). They go on to support this by saying, 'transdisciplinary knowledge production entails a fusion of academic and non-academic knowledge, theory and practice, discipline and profession,' and cite Julie Thompson Klein (2001, p. 7) who has offered the following addition to the definition, 'Transdisciplinarity is a new form of learning and problem-solving involving cooperation among different parts of society and academia in order to meet complex challenges of society' (2011, p. 4). In my research, the artistic research is a transdisciplinary process and the two go hand in hand for several reasons. One reason relating to the artistic justification is that, since I am not a trained artist, I have collaborated in several interventions with diverse artists from different backgrounds – mainly using dance and performance as their mediums. The collaborations were a process of thinking and composing together blurring disciplinary borders, however, I do not think they were entirely transdisciplinary in nature because the situated knowledge was outsourced to the artist (Frauke) to perform, and for myself to merely observe.

A diverse array of approaches has been mentioned for an embodied approach – from tactility to senses, from immersion to creative engagement – and they all require alternate methodology. Dyrssen in her article on architectural thinking and artistic research highlights six thematic tools that could be used in art-based research (AbR) which form the basis for her triad framework of thinking, acting and composing. The six themes are: architectural thinking, performance and performativity, staging explorative experiments, modelling and simulation, critical construction and reflection, and constructing the assemblage. All of which have reverberated through my research since its inception when I read the article on a Resarc approaches course on Scholarly Craft and Criticism. In her article, Dyrssen (2010, p. 224) writes about using AbR approach in architecture as a 'concept of space as something constantly changing, relational, diverse and heterogeneous but still bodily and

multisensorially experienced.’ This way to envision the practice of spatial-making is to bring in a sense of *movement*, both physically and theoretically, which I alluded to at the beginning of this chapter. Specifically, I refer to using artistic research through four endeavours in my research:

- Relation: to explore the interplay between food and body and their relation in regards to urban-making
- Time: to explore how time plays a role in the research beyond the seasonal eating rational
- Senses: to investigate how an organoleptic approach is related to the sensorial use of a bodily approach to uncover the invisible
- Immersions and imagination: how to create dynamic immersions that instigate the pleasures of sustainability and reinforce our relation to nature through situated knowledge-making

Given the complexity of the food challenges and the intended use of an embodied methodology, gives way for an imaginative approach. Alternate thinking within the realm of urbanism is needed to enliven environmental approaches that reach a wider audience. Knowledge, technology and skill are readily available but yet there is a slow uptake. Dyrssen writes how the artistic research process can help,

‘Through art we can accept that most research problems are not ‘pure’, but often contradictory and vague, impossible to regulate, open for interaction, and where logical thinking is naturally intertwined with associative and intuitive conceptualization. The usual non-linear structure of AbR processes allows researchers to cope with complexities without controlling them’ (Dyrssen 2010, p. 223).

The use of the arts in the urban agriculture movement has been utilised by various artists as a context for their explorations. For instance, Amsterdam-based artist and gardener Debra Solomon (2012, p. 377) uses urban agriculture as an artistic medium for approaching environmental awareness through a series of projects engaging communities in gardening and food. She believes that ‘urban agriculture implemented by artists and designers as part of a social design or art in the public space praxis, provides a platform for rapid experimentation and action research that may be better at expanding the range of urban agriculture working models than projects initiated by the agricultural or other sectors.’ Solomon confirms the need for the role of artistic research in environmental sectors, where experiments and prototypes are produced in a more liberated setting, and thus open up for stronger interpretation, perception and awareness. The use of an activated approach through immersion or performance creates a process as a learning and knowledge producing device, and perhaps can also be used as training for experts and citizens alike. Likewise, Doonan (2014, p. 39) writes about Amanda Marya White’s performance, *Botanical Animal*, in which she intersects and reconsiders ‘the relationships between human, animal, organic, and inorganic forms. By disrupting the habitual rhythms of everyday life regulated globalized, industrial food systems, White creates affective ties between human and other bodies.’ The project also incites participants to re-imagine their roles within the global food distribution through a culinary experience into a closed-loop tomato cycle. The act of consuming these tomatoes triggers questions as to the origins of foods. Staging awareness

is one role that artistic research can inspire, however, it is not enough to just create awareness. How is action and transformation inscribed? To strengthen this gap, Dyrssen (2010, p. 223) writes, ‘If AbR is to reach out to a larger research community, it implies that more developed strategic tools are needed for enquiry, and for making AbR research methods explicit so that they may open up communication with other modes of research.’ In chapter 3 (section 3.3), I relay the making and use of specific platforms to stage my interventions (chapter 4). These platforms lie between both scientific and artistic disciplines and everyday life experiences - Gröna Linjen, AHA festival and Living Archives - bringing together a larger research entity from different disciplines to enliven this cross over.

Perhaps it is important to also mention the crossover between architecture and art in this context. I gingerly approach the artistic field not being a trained *artist* myself because I know that I open my disciplinary background up for criticism. However, the intent is not to begin a discussion into whether architecture is art. Dyrssen (2010, p. 224) concurs that though architecture is not pure art, ‘architectural thinking-making-composing is largely a complex, artistic activity, a mode of finding hidden connections between seemingly disparate elements to construct new coherencies. It investigates situations through spatial understanding in a wide sense, design actions, tentative proposals and explorative experiments.’ For the sake of clarity, my research assumes that forms of architecture are artistic and that the practice of spatial-making (urban-making) benefits from and belongs within the artistic realm because it involves space and people in other ways and engages their imaginations. I would say the same goes for certain practices in the sciences as well, and certainly that many artists are bordering over into the realm of architecture. In this moment of blurring borders and interfaces something interesting is sure to happen. In Chapter 4, this belief of engaging in the nebulous borders between art and science is the foundation of the platforms, especially the AHA festival, which I was privy to initiating and organising in the Chalmers department of architecture colleagues in 2014.³

1.3

Research Dynamics – learning from past recipes

There are two paths that lead to the content for my research; pre-studies and the development for the research study. The pre-studies took place prior to commencing the PhD and in a way led to the proposal. The development for the research study are the first year of research underpinning into the PhD.

1.3.1 Pre-studies

Prior to commencing the PhD, I had begun to stray off the path of normative architectural

³ The AHA festival has occurred in both 2014 and 2015. It is also set to occur this fall in 2016 in partnership with the physics Department at Chalmers University of Technology. The strength and continued support for the festival give substance to its intention to stage a vital space for art and science to meet.

practice since 2006.⁴ As mentioned briefly in the forward, the first step was with Ove Arups in which I took a position in the Foresight and Innovation R&D team working on the publication entitled ‘Drivers of Change.’ Through the research conducted here, I came upon Biomimicry which in essence brought biologist to the design table. This was my first opportunity to investigate the crossover of science and art. It would not be until I collaborated with Michael Pawlyn at Grimshaw and Exploration Architecture, where I would begin to put biomimicry into practice. Especially at Exploration Architecture, I took the opportunity to open up to diverse methods of making such as constructing models based on animal forms, working with carpenters to create mock-ups of beetle harvesting techniques. This was not the usual mode of finding solutions to spatial thinking, however uncomfortable it felt at times, I found the process enjoyable and informative. On one hand, the process of *making* was different, and on the other hand, the design conceptualisation was also innovative – it was based on organisms. One insect in particular – the Namibian fog basking beetle. Many would argue that this is not architecture, but, this tiny beetle has come to give the practice one of their largest commissions, the Sahara Forest Project, which I still lecture about to my students. Though this is not art per se, I would argue that the immersion into a transdisciplinary process reflected an artistic practice. Feeling uncomfortable at times, it created the opportunity for an other thinking that opened a different instruction for architectural design. As with alternate ventures, though the firm had much success in the media, it struggled to survive. Consequently, and with great sadness, in 2009 I left Exploration Architecture (and London) to pursue my own practice. My first experience of crossing art with environmental activism occurred at the COP15 Cultures Futures’ Symposium and conference in Copenhagen DK. The symposium, in preparation for COP15 summit, brought together creative experts to discuss the role of art in climate change. As a result of the event, I met Nik Gaffney - director of FoAM with Maja Kuzmanovic, which would provide the path for my ensuing artistic research practice. FoAM is a transdisciplinary laboratory, with main studio in Brussels BE, that is an international network of artists, gardeners, chefs, IT designers, architects, astronauts, composers etc.. who gather together when necessary for larger artistic cultural grants. The network is made up of freelancers, but also, experts in diverse institutions conducting unorthodox research. The working motto of the studio is ‘grow your own worlds.’ A phrase I have lived by since this fortunate stumbling upon FoAM. Upon arriving in Sweden, my biomimicry experience proved fruitful. I was invited to universities, institutions and design festivals to speak about the concept. As a result of this new-found approach, when I applied for funding at the Innovativ Kultur foundation at the Stockholm municipality to further the practice of biomimicry into the field of urban food, I was fortunate to win a small grant in 2010 for a project entitled *Foodprints* (Orru 2012). Because of the nature of the funding, I could not take it as an individual, so I asked FoAM if they would like to have a Nordic leg of their studio. In 2010, I started FoAM Nordica, which would be my first instance of

4 What I mean by normative architectural practice is one whereby, as an architect, I was designing, running and constructing architecture. Such a practice, at least for me from 1999 till 2006, meant working in an architectural office on projects ranging from school, shelters, social housing, community centres, museums, and performance halls - to name a few. A collection of some of these projects can be found on my website - www.annamariaorru.com

practicing artistic research. The project Foodprints finished in 2012, and it was a strong underpinning for the PhD thesis proposal at the time of application. Foodprints threaded together scientific, artistic, futuristic, and culinary perspectives to examine the urban ecology and potential for Stockholm’s Norra Djurgårdsstaden and for the way the area would be fed. The project proposed tools and processes for awakening the edible possibilities in design and for urban-making. One of the main endeavours was to create a hand-held artefact, a parametric ruler, to use as a communication tool to discuss the complexities of food systems. (Figure 1) We consulted ecologists Louise Hård af Segerstad and Fredrik Moberg at the Stockholm Resilience centre for the eco-systemic conditions. In the artistic phase of the project, we endeavoured to use food as a medium instead and proposed foodprints dissemination as a ‘måltid’ (meal) designed around five proposed future food scenarios; peak, technology, values, communal, and regeneration. The intention was to stage a food performance with an intentional script to inspire invited Norra Djurgården development experts to implement food into their policy process. Unfortunately, due to lack of funding the project did not stage the performance, but the publication foodprints describes the intended recipe for this enactment.

Foodprints was an important shift into artistic research for my professional work as it allowed me to use experimental intervention as an urban-making query. It also gave me the chance to create a network with other artists and to build up FoAM Nordica resilience and character as a transdisciplinary studio. My work continues in the studio parallel to the PhD though it is dormant at the moment with no active engagements but only potential to carry on a discourse with FoAM collaborators. The project also sparked an opportunity to begin lecturing about this cross over of urban-making and art. As a result, I was invited to participate on competitions with architectural firms as their ‘artistic ecological’ consultant, and as a *food* expert. This role given to me by my professional community gave

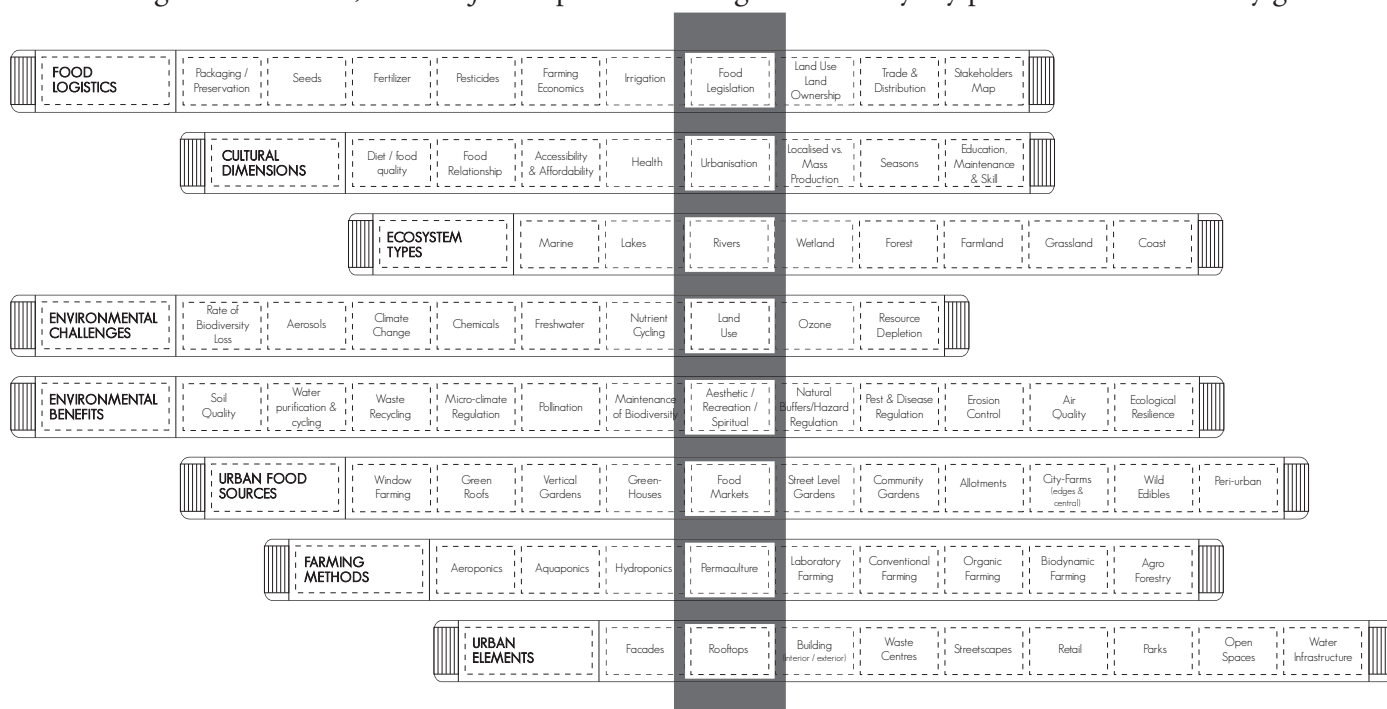


Figure 1 – Foodprints hand-held ruler for food system discourse

me the courage to continue and seek out a PhD position to deepen my knowledge and methodology – both for practice and academic purposes. Alongside competitions, lectures and teaching, I was invited by Delegationen for Hållbara Städer to speak at the Miljonprogrammet ‘Framtidens Stad’ (Refurbishment Programme ‘The Future City’) and asked to contribute a chapter to their publication *Future People’s Palace* on the topic of food in refurbishment practice (See Additions- Essay 1).

Essay 1

Essay 1: *MatKultur Framtidens Metabolismer*

Chapter in Book: *Future People’s Palace* ⁵

The publication includes several chapters for sustainable refurbishment processes from various categories: materials, construction techniques, social agendas and economic paradigms. This essay is the contribution chapter on the role of food in refurbishment schemes through an urban metabolism approach. The chapter outlines a collection of case studies to be used as an agenda setting for policy making to refurbishment practice in Sweden. It describes the concept of urban metabolism in relation to the practice of biomimicry and systems thinking. It highlights several strategies for using food as a refurbishment practice and also investigates in detail the potential of one case study in Byalvsvägen, a suburb in Stockholm, where a systems mapping outline is proposed. The existing case studies are divided by their location and potential for food production: on ground level, at urban level, in a greenhouse, integrated into the building infrastructure (roofs, walls, façades, sills and balconies), and inside the building (basement). In addition, included are cases that demonstrate creative social initiatives political agendas, transdisciplinary teams and closing waste loops.

As this is a collection of best case scenarios, the methods applied in the first stage were site visits which occurred prior to the start of the PhD. The case studies were underpinned by three approaches; the discipline of biomimicry, the concept of urban metabolism, and a systems thinking methodology. For the Byalvsvägen study, I used a method called mind mapping which is a type of systems design strategy. I also teach MA students on the Chalmers Systems Design course a similar type of mapping tool. I then mapped the neighbourhood according to the STEEP systems we used in the Arup Drivers of Change book; social, technological, environmental, economical, and political. The case studies provided a holistic survey of the urban agriculture scene and the variety of ways for stipulating food production into the built environment. The essay is an important part of a publication that could be used for agenda setting when it comes to refurbishment projects.

Both the *Foodprints* project and Essay 1 were an important part of the pre-studies leading up to the PhD proposal. Both opportunities introduced me to an international urban agriculture scene, as most of the case studies in both publications were personally visited. The different sites were run by a diverse network, and in one case, an art gallery in Brussels (Wasteland). The artistic research in *Foodprints* was the most inspirational as it allowed me to investigate the food movement and urban-

5 Dates: First received: Spring 2012 | Last revision received: Fall 2015 | Forthcoming Publishing Fall 2016

making from alternate perspectives. It was in this instance that I could see how a creative approach to the subject of urban agriculture had the opportunity to reach many more stakeholders, such as urban planners and scientists, and that it could take different forms of dissemination to communicate an alternate way of living in the city. It was from this platform that the proposal for the PhD started to be formulated, and the concept that interventions with urban sites, in the form of gardens and staged exhibits of knowledge, held an important potential for another kind of sustainability approach away from the eco-technical logic I had been professionally trained for.

1.3.2 Development of the Thesis Project

Two words that position this work – *Organoleptic* and *Interfaces*. Each has moulded the work and led to the research interventions.

or·gan·o·lep·tic *adjective.*

- 1: *being, affecting, or relating to qualities (as taste, colour, odour, and feel) of a substance (as a food or drug) that stimulate the sense organs*
- 2: *involving use of the sense organs*
- 3: *organoleptic properties are the aspects of food or other substances as experienced by the senses, including taste, sight, smell and touch*

in·ter·face *noun.*

- 1: *a surface forming a common boundary between adjacent regions, bodies, substances, or phases*
- 2: *a point at which independent systems or diverse groups interact*

I first stumbled across the word *organoleptic* at the Sustainable Food Planning Conference 2004 in Berlin. Wiskerke and Viljoen (2012, p. 20) use it in their writing about urban food challenges. They state, 'Irrespective of food, if cities are to expand as predicted, and residents are to remain connected to seasonal cycles, the outdoors, and a sensual experience of the world *urban organoleptics*, then the spatial implications of new food paradigms need to be considered'. Earlier work in the thesis interpreted this as the role of stimulating the senses, prior to focusing on the body which results from activated senses. In the first phase of research, I explored the notion of organoleptic through the senses which the body used in order to engage with space. Initial assumptions and the thesis 'hunch' assumed that there is a sensorial link and relationship between foodscapes, the senses (sensescapes), and urban inhabitant's behaviour, and that senses play a vital role in the production of space, urban planning and design processes. Assuming that these sensorial links exist, it is seen as a positive attribute towards promoting a more ecologically-minded lifestyle by increasing urban quality. The research problem addressed a loss of connection to food production and seasonal eating and its effect on urban organoleptics. This was done both through a literature review and through travel to various urban food production sites observing and staging interviews as I began questioning urban greenery as solely used for parks and open spaces. Next, I supposed that 'foodscapes', in contexts of

food production, play a vital role in establishing relations and in triggering organoleptic qualities.

What changed for these assumptions into the 25% seminar was that the focus was no longer on an increase in urban quality, but rather on promoting alternative urban behaviour in regards to food. Also, *quality* was a problematic terminology to contend with as it was entirely subjective and did not relate to the core of the issue which was to instigate a change in behaviour. Foodscapes, food producing spaces, not only trigger organoleptic qualities but also establish a re-visit to the relationship with what we eat, and how we attain food. However, this was possible if the bodily contact and engagement was there. In addition, these sites create opportunity for a transfer of agency to promote more ecological lifestyles in the city. Agency in this instance, belongs both to the community and also to the space. I realize that senses do not act in isolation, but that they are activated through various bodily engagements with the space. Gardening is after-all a physical act. One of the main transitions in the research has been from the concentrated focus of the senses onto an engaged embodiment with space.

Food production contexts take into account different urban atmospheres, scales, agricultural typologies (i.e.: organic, permaculture etc.), soil typologies (i.e.: raised box, directly growing in soil, vertical gardens etc.), activities and social interactions available. (i.e.: some more public than others, some intended for selling and trade, others just for private dwelling) I constructed a 'mapping' where 'foodscapes were viewed as sensescapes' and vice versa 'sensescapes in foodscapes' (Figure 2). The relationship was interchangeable and interdependent. For *Foodscapes as Sensescapes*, I took a triad approach to it. First, the historical underpinning of the senses on city making and concept development. Secondly, a look into existing contemporary cases for best case practices. The idea here had been to visit the various sites to stage my intended artistic interventions. Thirdly, a preliminary theory making, concept development and methodological development. With collected data, I could move onto the next stage - the *Sensescapes in Foodscapes*. To implement the research here, I planned to conduct interventions in order to explore what urban organoleptic qualities could exist and their potential in agency. With these, I would hope to create a design programme. The outcome of both approaches aimed to be transformative in terms of awareness. The initial aim was to look at the design programme as having three impacts: creating active and participatory social entities, instilling ecological well-being and awareness, and developing 'food' as an essential urban infrastructure. Viljoen and Bohn (2009, p. 53) support this necessity, stating that, 'urban agriculture could make a significant contribution to fruit and vegetable requirements, and that a case could be made for considering it as an essential element of sustainable infrastructure in existing and developing cities.'

From the time when this thesis began, there has been a surge in Stockholm's urban agriculture movement. Upon my first interview with Antonia Axon foundation about growing food in the city in 2010, this scene has changed immensely and many new sites of gardening have appeared (Bjers 2010). Since there are numerous best case scenarios of urban agriculture that are documented from all places in the world, what is the next stage for more implementation, documentation and dissemination? But more so, why is urban agriculture still seen as a novel and trend, having a slow uptake by urban

planning schemes? Finding purpose and creating an alternate urban activity in the in-between spaces and dwellings of the city is key to using its potential. Public space policy is needed to support these 'activated' types of public realms that redefine urban green, because speaking about sustainable cities in the form of 'green spaces' is not enough anymore.

Earlier research experiments also had a much larger focus on the attainment of local urban food besides growing. I looked into vegetable box deliveries and I met with organic farmers and small distributors. Vegetable box schemes essentially deliver fresh fruit and vegetable produce to your home usually weekly from nearby-produced small farms. The produce is usually organic and you can choose a seasonal option. In my instance, with the Ekolåden experiment, I traced my local veggie box scheme mapping all of the contents through the Nordic seasons (Figure 3).⁶ The box scheme I chose was for local organic Swedish produce that was seasonal, assuming that what would be delivered came from nearby (*nara-producerad*). As expected, in spring and summer the produce was more diverse than in the autumn and winter, but it gave me the chance to experience and learn the Nordic edible seasonal patterns (Figure 4). To my surprise, through the edible mapping, I learned that Ekolåden's locally-produced sometimes arrived from as far as 600km away in the Skåne region of Sweden. This particular example was for mangold which is quite a resilient vegetable that can withstand being harvested further North in Stockholm. I know because I grew it myself in my gardening community. I understood that what had started as an eco-conscious initiative as an urban citizen to eat more *locally and seasonally*, came to be a highly regulated conglomeration of the different marketing forces of contracts between farmers and Ekolåden. I do not know why Ekolåden provides produce from such lengthy distances, though I tried several times to reach them to receive an explanation, however as a consumer I felt deceived. (see Appendix 1)

Another aim in the preliminary research and studies was to speak and to submit research papers at sustainable food planning, geography and Artistic Research conferences about my research from prior and during the PhD.⁷ The exposure helped in surveying how the academic audiences would react to a more artistic approach and content to sustainable food planning. On two occasions, I was invited to speak at the AESOP (Association of European Schools of Planning) Sustainable Food Planning conferences - in Berlin DE and in Leewarden NL. And prior to initiating the PhD, I participated as a delegate Brighton UK at the same AESOP delegation which gave me the chance to develop a relationship with this network which includes some of the authors I refer to in my research.⁸ Authors Wiskerske and Viljoen, who are part of the lead initiators of this network, were particularly keen to promote 'alternate' ways of approaching the topic of food production and new research in the field. As a result, together with the scientific committee appointed to the task at the 6th AESOP conference on sustainable food development in Leewarden, they chose my paper 'Extracting Urban Food Potential:

6 Ekolåden is a vegetable box scheme delivery company based in Stockholm SE

7 These included the 4th (2012) and 6th (2014) AESOP Sustainable Food Planning Conference, IV EUGEO Congress Conference on Alternative Food Networks (2013), IGU Urban Georgraphy Commission Conference on Urban Challenges in a Complex World (2014), and the PARSE Biennale Research Conference (2015).

8 These include: Steel, Wiskerske, Viljoen, Soloman and Bohn.

design-based methods for digital and bodily cartography’ (paper 2) as the ‘best scientific paper’ (Orru 2015). It was a big surprise and honour for me, and encouraged me to continue on this research explorative track and to keep submitting this genre approach to scientific contexts. It also pointed out to me that there is room to manoeuvre art to inspire scientific endeavours, and vice versa.

Simultaneously since the beginning of the PhD study, I have conducted longterm situated research by embedding myself into the urban food garden community in Stockholm. For three years, I became a member of two gardens, Mälarpiraternas and Hornstull, during which time the urban farm ‘scene’ in Stockholm (and in Sweden) has changed tremendously. Urban farming is no longer a stranger to the Nordic urbanscape. Embedding myself into these contexts helped to encounter first-hand what sensorial qualities these spaces and activity might offer. However, I found that this experience lacked in examining the original inquiry into organoleptic parameters for a wider audience, those that do not engage in gardening, and I thought that the bodily understanding of the task called for a more reflective method of using the body beyond gardening to understand what a more conscious bodily dialogue could occur with the space. Gardening alone did not offer the opportunity to develop new methods for making my enquiry apart from the obvious – engaged in growing and understanding of what it meant to participate in this activity with my neighbours.⁹ The experience was personal and subjective and brought up the questions of how would it be transferred to a larger audience?

All the above research preparation interventions, dissemination and studies were not in vain as they did give me a deep insight into urban farming and also an understanding of the social agency that can exist in participating in gardening. I was part of an ecologically-minded community that gathered weekly to water, and monthly outside the growing season, to plan and discuss. It was a continuous rhythm around the food all year and an awareness I gained. Furthermore, with Christina Schaffer and others, it allowed me to construct and initiate the collaboration for the Gröna Linjen team which takes a strong role in the staged interventions outlined in the methodology chapter.¹⁰ Lastly, and this is a personal transformation, I began to understand the delight of growing my own food in the city where I live. The gardening allowed me to understand Nordic seasonal crops far more than a veggie box scheme, get to know my neighbours and to practice speaking Swedish. I also become more conscious of buying organic food and what I put in my body. Part of this experience is an extension of a project I began in 2011 entitled Raw Food experiment, where I embarked on a self-experiment into nutrition, food and health in order to better understand the effect of vegetables on my body. These interventions became an understanding how food production is as an embodied method and what it means if I am an agent and candidate rather than a mere observer.

9 In Winter/Spring 2016, with the gained knowledge from my gardening experience, I have began my own vegetable garden in Pietrasanta IT with my partner. The difference is that the activity is not shared with many other people and the responsibility and bodily labour will increase.

10 Christina Schaffer is a researcher at the Department of Physical Geography at Stockholm University, and is also one of the initiators of Stadsodling Stockholm.

1.4

Research Framing

Given the early explorations, I have discussed that my point of departure is therefore at an embodied level and its potential role in foodscapes to enable situated knowledge to be developed further. The aim is to find methods and processes on how to view foodscapes as spaces of activation and agents for change, creating increased awareness and reflection, environmental relation and a wellbeing that reignites a pleasurable shift towards an ecological ethos in urban and seasoned behaviour. These are investigated through both individual and collective immersions into the spaces and developed by the users themselves for a study into emerging agency through constructed relations. This thesis responds to the following gaps:

- The lack of embodiment and senses as devices in urban-making practice which can instigate deeper commitments to the environment arising from activating the corporeal to spatial relation and contact
- A lack of methods and tools in urban-making to deal with the task and complexity of food system challenges regarding food production in the urban context
- A need for artistic research processes within urban-making to build on and develop relations that create agency through an embodied practice. Such processes are capable of providing a frame through which people can gain situated knowledge themselves and change their behaviour accordingly.

1.4.1 Situating Research Aims

In *Eating Architecture*, Singley and Horowitz (2004, p. 5) query ‘What can be learned by examining the intersections of the preparation of meals and the production of space? What can be made from the conflation of aesthetic and sensory tastes in architectural design and what is disclosed by their dissociation? Such questions guide this work toward an architecture found in gestures, artefacts, and recipes that belie any distinction between art and life.’ They envision the city as a tabletop with buildings situated as plates in the landscape, an alternate view of an edible architecture but nevertheless it awakens the imagination and architecture is placed in proximity with food and art. Singley and Horowitz construct a narrative, ‘one that questions the taste (aesthetics/connoisseurship), the hunger (body/libidinal systems), the ingredients (materiality/tectonics), and the recipe (history/theory) that go into the making of a building, space, or landscape’ (Singley and Horowitz (2004, p. 10). Herbert Girardet (2008) has a similar metaphorical approach in which he views cities as *superorganisms*. He equates the city to a complex living body of varying interacting organs such as in the human body (Figure 5). *Note.* Figure from *Foodprints* (Orru 2012, p. 14). Such metaphors taken from biology have been used to depict cities since 2300 years ago starting with Aristotle who regarded urban society as a single organism however in a less literal way than Girardet’s figure.

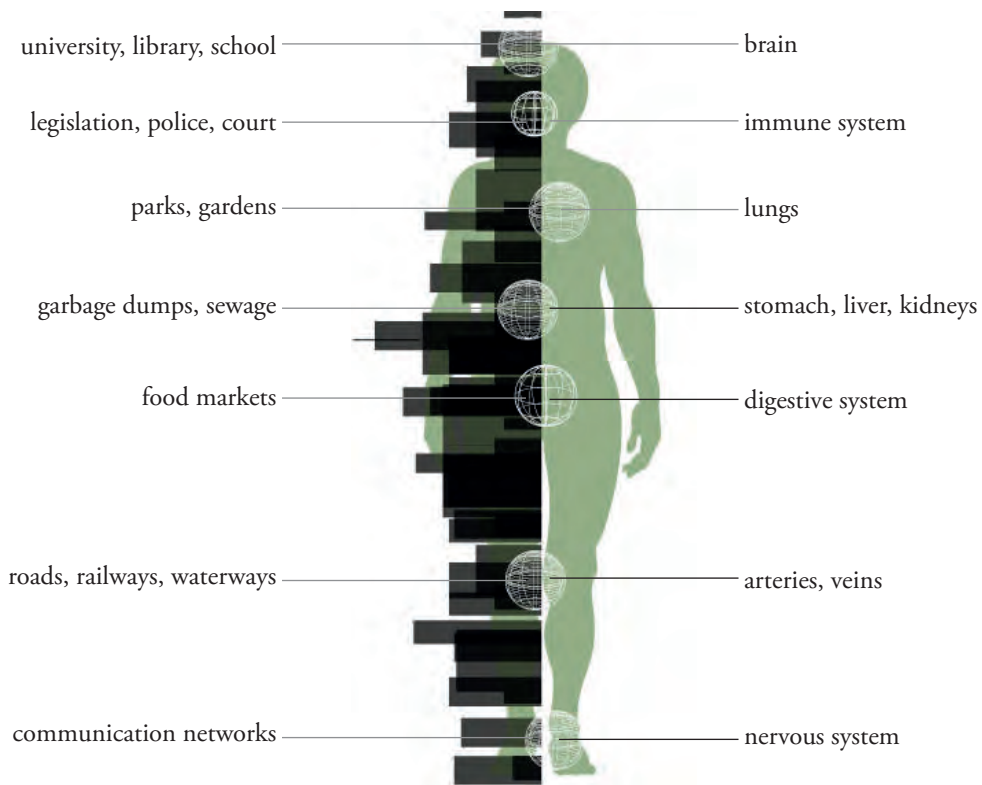
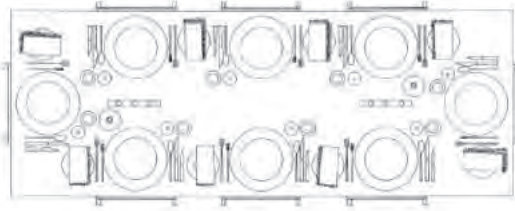


Figure 5 – City as a ‘Superorganism’

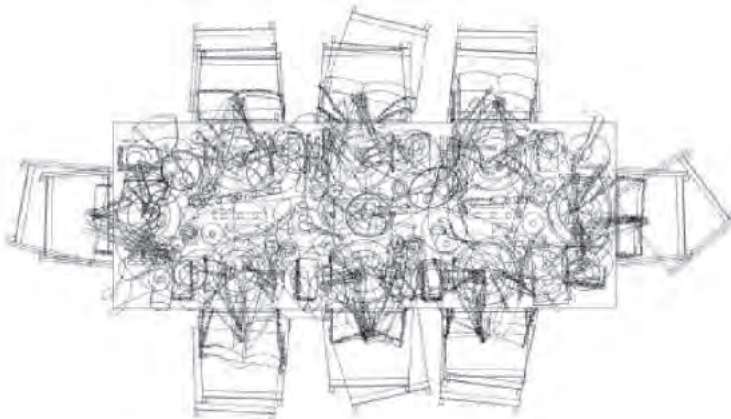
Architect Sarah Wigglesworth takes imaginative culinary performance further by using the inspiration of mapping a set table, from initial orderly layout to an abandoned post-consumption disorder, translated into the built form for the 9 Stock Orchard Street, London Terrace house (Singley & Horowitz 2004). (Figure 6) *Note.* Figure from ‘Sarah Wigglesworth Architects: 9 Stock Orchard Street, London UK’ (Singley & Horowitz 2004, p. 12-13)

My intent is to go beyond this physical translation of the culinary table top into a form, however I find that all the above imaginary concepts open up for another way of thinking and doing architecture which is a vital trigger from these example. Including that nature too can play a role in staging a fiction through metaphor and form. These imagined concepts also help in envisioning that what occurs on an urban foodscape is linked to the food served and eaten at the table. This link provides a corporeal link between the two thresholds – mouth and site. Architectural historian Elisabeth Cromley (1996) writes about how the conventions that constitute the relationships between cooking, storing, serving, eating and disposing operate as a food axis in the social production of space. Her research investigates the ‘domestic’ realm of food which is equally important because it further extends the metabolic rapport into the space of dwelling where many decisions about food are made. The discussion of architecture’s role within the realm of appetite and food is vital to consider also prior to food arriving in the kitchen, which is primarily the focus of my study. Therefore, the query is into artefacts and agents of relations,



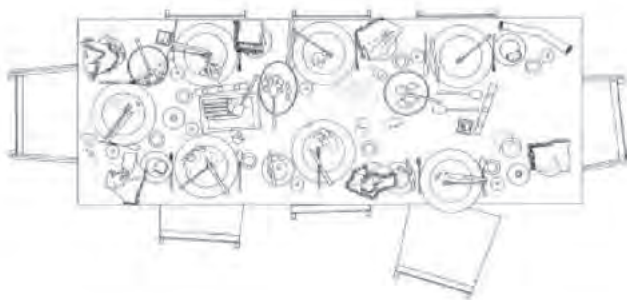
THE LAY OF THE TABLE

An architectural ordering of place, status, and function. A frozen moment of perfection. This is how architects see.



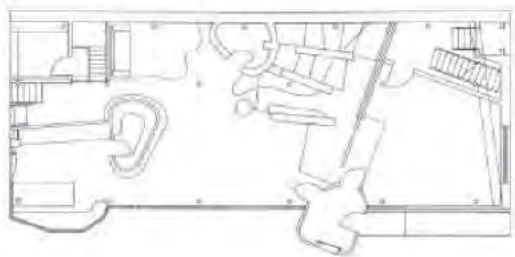
THE MEAL

Use begins to undermine the apparent stability of the (architectural) order. Traces of occupation in time. The recognition of life's disorder.



THE TRACE

The dirty tablecloth, witness of disorder. A palimpsest. This is the reality of domestic life.



THE LAY OF THE PLAN

The trace transformed into the plan of our house. Clutter filling the plan(e). Domestic difficulties interrupting the order of the grid.

Figure 6 - Sarah Wigglesworth Architects: 9 Stock Orchard Street, London UK

rather than spaces of production and consumption. Such a query illustrates that foodscapes can become performative mediums and alchemy devices towards transforming urban public space and conduct by blurring boundaries of activity, ‘like the table itself, food stages events, congregating and segregating people, and food becomes an architecture that inhabits the body’ (Singley & Horowitz 2004, p. 11). The weaving of the activity of growing food into a physical public artefact is intriguing, and, exploring what these devices are is the backbone to my methodological interventions. Through re-conditioning public green spaces, urban form can become a metabolic experience and aesthetic.

In this way, the merging of the quotidian of food, together with a critical environmental psychology and landscape architecture, can create diverse approaches for the role of architecture into the realm of public space. Thereby, informing new alternatives to greening and engaging deeply ecologically committed livelihoods.

Re-imagining urban spaces as partially a 'food'[scape] has a lot more to do than just growing food. It responds to current societal challenges around food security and renders these spaces as active and relational artefacts which can provide transformative agendas. My research looks into the democratization of such spaces through the transfer of spatial agency to city inhabitant and a chance for a relational autopoiesis that can bring on states of reflection and awareness through different forms of movement – alone and together.

1.4.2 Research Questions

The research question presented here have been transforming while in the 'thinking-making-composing' process. As the diverse experiments and interventions occurred, the questions have been moulded through the development of the thesis. In response to the gaps highlighted, the following research questions (RQ'S) are applied:

RQ (main) - *What creative processes within urban-making practice can develop an embodied methodology and alternate situated knowledge to instigate deeper commitments in forms of diverse agencies, relations and transformation towards environmental behaviour with food and with the body?*

RQ- sub 1 - *If embodied methodology is consciously poised in the approach of urban-making, which practices can revise behaviour and reframe patterns of the everyday urban experience?*

RQ- sub 2 - *What spatial immersions could trigger a transformation in behaviour?*

RQ/Paper 1 (P1) - *What is an embodied practice in architectural urban making that can instigate spatial agency and deeper environmental commitment both in individual and collective forms?*

RQ/ Paper 2 (P2) - *By positioning the singular body in urban-making via way of artistic research in the field of Butoh dance and imagineering, what shift for sustainable behaviour could concur by developing and implementing new methods for staging situated contact?*

Summarising the gaps; a lack of embodiment and sensorial devices for deeper environmental commitments, needed methods and tools dealing with the complexity of food systems, and a call for an embodied method of artistic research to create agency. These gaps are investigated and discussed in both paper 1 and 2, however there has been a certain procedure in unravelling and arriving at the texts provided. The gaps occurred in stages. The first stage was to disentangle the complexity of food systems and find ways to engage the public in this by providing a bodily experience they could immerse in. The second stage, was to evaluate the success of the proposed methods (interfaces) to underpin a more

bodily approach in the second round of interventions. It was also vital to create a platform prior to commencing the interventions. Here, my longterm embedded research and contact with the existing gardening groups in Stockholm had already begun to formulate a platform on the Stockholm side – Gröna Linjen. For the Gothenburg side, the platform took longer but was one in which I joined forces with colleagues in my department to form a stronger artistic identity at Chalmers, eventually staging an event called the AHA festival. Both platforms are discussed in more detail in the end of chapter 3 (section 3.3). Once the platforms were in place, there was the opportunity to round up the audiences needed who would engage in my proposed interventions.

All the research explores ways how a deeper environmental commitment with urban space is primarily shaped and strengthened through the corporeal and sensorial behaviour, and the potential we activate in space through visceral means. In order to generate this potential, what spatial affects are needed and how could they be explored via way of artistic methods in urban-making?

Paper 1 investigated how different forms of digital and bodily cartography establish deep commitments and awareness to environmental food issues. This paper brought urban ideas around food to the foreground via different methods using individual and collective activities.

Paper 2 explored further how activated imagineering and performance could play a role in establishing this deep commitment to the environment from a bodily artistic research perspective? This paper went deeper into research strands of bodily reflection through making, imagining and performing. It also took the idea of time present in the ‘seasonal transition’ further as a potential in strengthening environmental identity with food rather than inhibiting it.

The methodology outlined in both papers motivated both individual and collective forms into states of various reflections about their commitment to urban food behaviour. Using the state of movement as the primary dynamic engine of exploration, I positioned the research questions in different method approaches: digital interface (smart-phone app), bodily interface in performance, in making fictional space (imagineering), and in movement together as a collective through the gardening sites in the interventions Safari. The aim is not to highlight a single ‘best practice’ method or prove whether this method is ‘true’, but rather to reveal that a combination of activity, both in individual and collective forms, creates high ‘states of reflection’ needed for transformation and in rooting a deeper commitment. I have modelled the papers into two states which are the main process of intervention: the ‘state of reflection’ and ‘state of movement.’ These two states arise from trying to understand the different forms of *movement* which I began the chapter with earlier. Though reflection is not a physical movement, it is what I perceive as a *movement of thought* and thus the transformative potential. *Movement* is discussed because it is the most recognisable way to make an enquiry into the embodiment of different forms. The set-up is used to convey perceptions towards environmental food potentials by informing the audience to alternative behaviours for re-shaping the way we make contact with space. Finding methods for engaging the collective is as important as opening up for ways of individual reflection.

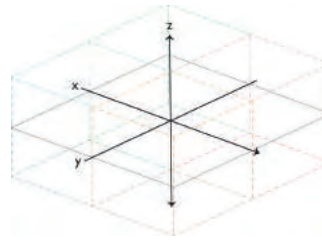
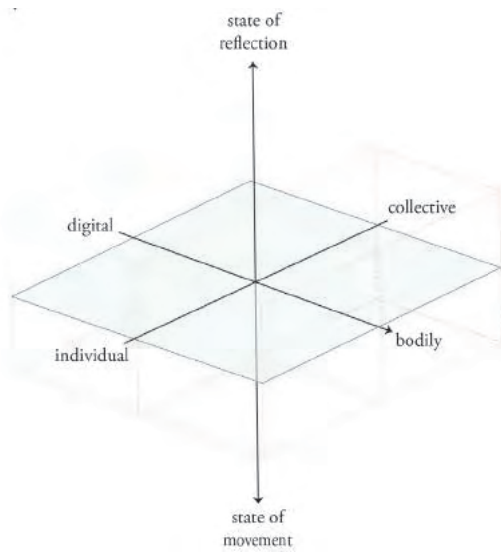


Figure 7 – The Six Parameters of Research in Paper 1 and 2.

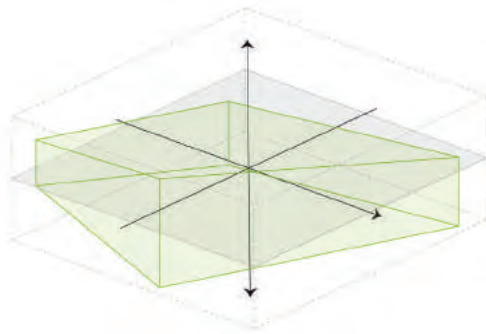


Figure 8 – Paper 1 Explorative Interfaces

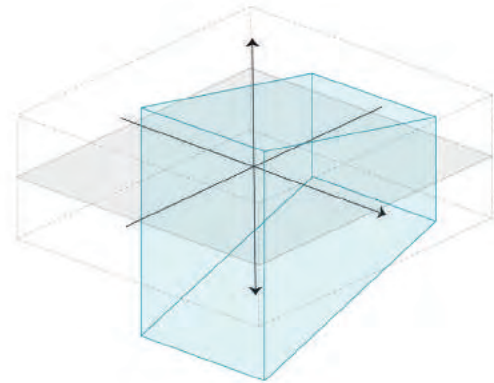


Figure 9 – Paper 2 Explorative Interfaces

1.5

Paper Introductions and Summaries

Paper 1: *Extracting Urban Food Potential: design-based methods for digital and bodily cartography*
 Journal: FOFJ-Future of Food: Journal on Food, Agriculture and Society 3 (1) Summer 2015 ¹¹
 Paper 2: *Time for an Urban (Re)evolution - Negotiating Body, Space and Food*
 Conference Paper: The 1st PARSE Biennial Research Conference on Time. November 2015 ¹²

The initial phase of my research has produced two papers. The first paper, published in the FOFJ journal, is viewed as an agenda setting paper and a report of the initial networks and staging

¹¹ Dates: First received: 14 January 2015 | Last revision received: 05 May 2015 | Accepted: 07 May 2015 | Published online: 20 May 2015 | URN:nbn:de:hebis:34-2015031947797

¹² PARSE (Platform for Artistic Research in Sweden) Dates: Abstract First received: 1 March, 2015 | Abstract Accepted: 6 May, 2015 | First paper received: 1 July 2015 with peer-review | Presented: 5 November 2015 | Revised paper post conference sent to Journal. First paper published in proceedings.

of interventions in Stockholm. The second paper, from the PARSE conference, is more experimental and explorative in nature looking into the chosen method of Butoh dance. The papers are linked by their common focus on urban food productive spaces and food behaviour. The aim of both papers is to understand the connect between the individual and collective experience of an urban food producing site and how this contact brings about transformed behaviour in regards to food and seasonal attitudes. In addition, the papers are descriptions of interventions where I stage other ways to engage with the spaces beyond gardening and reach out to include a larger public audience.

Both papers deal with an exploration into two types of interfaces: a digital and a bodily. Paper 1 served as the initial study for staging an intervention where the digital interface was examined, along with the question of individual and collective contact with the sites. The paper laid out the ground for an understanding what an embodied methodology might entail – referred to as bodily cartography in the paper. Paper 2 examined the bodily interface through techniques such as imagineering and Butoh dance, creating fiction and performance, it examined the bodily interact within a fictional foodscape space in Paperscapes and the Organoleptic Interfaces performance. Both papers 1 and 2 are related in terms of movement and reflective contact with the context, which is where the opportunity for environmental identity and behavioural shift can occur. The papers are modelled into six parameters of research (figure 7); digital versus bodily (x axis), individual versus collective (y axis), and state of movement versus state of reflection (z axis). The experimental and expanding points in the research are along the lines of State of movement and reflection, within the parameter of the bodily - that is why the arrow lines continue outwards. Each paper has been modelled into the six parameters to produce a shape of explorative interfaces. Paper 1 can be seen to investigate the ground work in all six parameters (figure 8). Whereas, paper 2 only investigates parameters on the bodily side, with digital work not being considered due to its conclusions from paper 1 (figure 9).

In addition to the papers, Essay 1 and Foodprints have been submitted as pre-study publications in my research because they created the contextual underpinning work of case scenarios useful for when imagining the diversity of food production and network options. The Foodprints publication may be accessed and downloaded online (Orru 2012).

Both Papers are summarised below, and for a more in-depth understanding of the interventions and results, they will be in the method and result chapters (chapter 4 and 6).

1.5.1 Paper 1

This paper follows the dilemma of including the citizen as spatial agent for the urban agriculture movement in Stockholm, Sweden. The main gaps dealt with were: citizen as co-creator of green city spaces and the need for creative and artistic methods when creating agency for urban food production. The starting research questions was – how can the role of the citizen be strengthened and enacted through new practices in the urban design process? and, how do we identify with green spaces in cities, specifically urban gardening and new forms of creative and artistic user participation and civic dialogue at early stages? The aim of the paper was to encourage an intimacy with nature and form a

reflective interrogation of our eating habits – where we get our food from and how we eat it seasonally. The challenge was whether assigning spatial agency, via innovative methods for critical cartography, can develop an urban design approach that integrates citizens as agents and informs policy for urban agriculture. The platform and interventions created a bridge for exchange of ideas, information and dialogue towards a practice of ‘co-creation.’ The underlying concepts used to make the argument were spatial agency, critical cartography through community mapping, and the role of artistic research in the practice of urban agriculture.

The transdisciplinary team ‘Gröna Linjen’ was made to initiate the democratization of spatial agency and to create interventions under an identifiable platform. The first intervention, a green urban safari overland expedition through five Stockholm sites, to find existing and potential places for urban agriculture and to test new modes of cartography using the body, movement, activity, dialogue and a digital app. The event had a varied audience which included gardeners, curiousites, neighbours, researchers, students, planners and experts in the field. During the event, two modes of cartographical inquiry occurred:

- - Digital interface: Urban CoMapper smart phone app for hand-held devices using crowd-sourced mapping/survey in real time. The app was designed with a specific theme for urban foodscapes.
- - Bodily Interface: The group traversed the sites on bike, with a stroll in each, foraging, in dialogue, and eating to unearth their sensorial aspects and reflective contact with sites and others.

The platform was needed to evoke alternative participation in city making and to stage the safari event as it became an identifiable source. The modes of inquiry - digital and bodily - complimented each other and are needed simultaneously for a holistic approach. The initial aim for a new engagement process was created by building a bridge for communication and information exchange between experts and citizens both on a digital and physical platform. This generated alternative opportunity for agency through collective activity and challenged participant’s rapport with the urban environment as potential ‘foodscapes.’ Nevertheless, it was the combination of the digital activity with an activated physical event with in-between discussions that served best in intervening with the sites and gathering remarks that would otherwise have gone unnoticed had individuals simply used the digital interface. In both forms, the state of reflection could occur whether inputting into the app, or talking amongst participants whilst cycling to sites or walking through each garden site. The collective effort within a dynamic event created a bond with the sites, the agents involved, and placed the agriculture movement as a dynamic strategy in city making.

1.5.2 Paper 2

This paper was an opportunity to further explore my research interests into bodily cartography mentioned as a continuation from paper 1. I was interested to see how time could be explored

within the context of urban food production sites and its relation to the Japanese spatio-temporal concept of *'ma'*, in which time is seen as a gap or opening for potential awareness, and within the explorative design technique of imagineering. The time thematic relates well to the societal challenge of seasonality outlined in chapter 1, and was intended to discuss the potential of a cyclical urban rhythm rather than a linear one. The paper approaches the environmental concern around food access from another perspective and evaluates Butoh dance as an artistic research method. From within architectural research I pose the question: How can the interaction of the body in Butoh practice and food production, set in relation to one another, improve the understanding and handling of urban space where time is an aspect in design?

The paper therefore looks at two consecutively-related explorative experiments conducted at the 2014 AHA Festival hosted in the Department of Architecture at Chalmers University of Technology in Gothenburg, Sweden. The first intervention method explored the technique of imagineering by constructing a fictional garden called Paperscapes based on the theoretical concept of natural farming. Imagineering is a design technique used to stage a narrative in order to generate an imagined emergence of a concept, and open up for creative thinking and exploration. The 'Paperscapes' workshop modelled a fictional garden from air, ground and edge with Chalmers BA students. The second intervention was a staged performance in the paperscape by Butoh performer Frauke entitled 'Organoleptic Interfaces.' This intervention is unfolded in the text through the theoretical and historical underpinning of Butoh dance. Techniques such as: rebellion, interaction, mimesis, agro-roots, transformation, metamorphosis and reflection are discussed to negotiate the examined parameters of body, space, time and food in this paper.

The paper outcomes succeeded in staging initial interventions for bodily approach in the research using the imagineering and Butoh dance in relation to space, time and food and its theoretical historical background. However, the research aim to activate the body and evoke imagined states from which knowledge could emerge needed further investigation as the paper looked into the concept theoretically and I was an external observer and producer. As I did not do the performance work myself, it was difficult to draw clear conclusions for exact ways that Butoh provides design processes. Results showed that the experience of students, dancer and audience were all from differing perspectives and metaphorical imaginations. The paper outlined the correlations between Butoh's conceptual underpinnings, the spatio-temporal aspect of *'ma'*, and its potentials for ecological practice set against the parameters of body, space, and food. The dance performance left a challenge in terms of understanding the affect of the Paperscape on her performance and its effect on the audience. The imagineering, research-through-narrative, renders the use and result together in one performance which makes it difficult to separate. What does come is a deeper theoretical understanding of Butoh and its connection to time, space, expressions and movement. The paper allowed for further artistic perspective to punctuate the research opening up a larger spectrum of exploration and a different approach to drawing in a new collective audience. New processes using Butoh dance and staging fiction were devised to explore environmental issues at hand.

Chapter 2

situating oneself: theoretical gateways &
research concepts

gather

the ingredients

The ingredients in the research take on a two-fold voyage. One path includes the theoretical gateways which are vital to orientate the aims and frame the complexity of entry points into establishing a complex assemblage of relations. The other path includes the research concepts that support both the approach and methodology in this research process. This chapter therefore takes us on a journey through first theoretical entry points followed by the conceptual framework. It is important to keep in mind though that both are essential ingredients in constructing the explorative experiments outlined in chapter 4.

Section 2.1 outlines the tentative theoretical gateways that seek to describe the ingredients for *agency*. This entails a study on *relation* – of body to space (site), of body to body, of moving body to static plant and food, of body to time, of space to time, of time for change – essentially, an exchange for change. In formulating a symphony of ‘relations’, coinciding with what Delanda refers to as an ‘assemblage’, the recipe used for the interplay of ingredients is discussed in chapter one. There are three theoretical ingredients that are in a dynamic arrangement with one another. Embodiment serves as the research concept which is discussed in the following section in this chapter, but should be simmering while we situate ourselves in the theory. The theoretical gateway is focused on agency and the entities that compose it – relations and assemblages. Here too, embodying can be viewed as agency. Thirdly, the methodology to explore these components draws from imagineering and in staging fiction, along with using metaphor and performativity.

The call for agency is becoming more relevant in Swedish research. The 2011 report released on Sustainable urban development from Formas Swedish Research Council identified several research areas which need further attention, one of which is agency. The report highlighted a need for the link between people’s doing and the urban environment by stating ‘there is an unquestionable link between built environment and living conditions. Therefore, the urban space tends to be understood as something external by which people are affected, while it is forgotten that man, by acting in and appropriating the built environment, is also its co-creator’. In essence, ‘the place is created by the people using it in a reciprocal interplay with the place itself’ (Swedish Research Council Formas 2011, p. 36). The aim of the thesis is to tackle this blind spot through linking food production to

embodiment in order to render the citizen as co-creator of the built urban environment through various modes of engagement, enactment and immersion. Paper 1 resulted from these investigations through creation of a recognizable platform Gröna Linjen and its events. Such modes require new forms of relation – both for the citizen living in the city and for the engaged practitioner.

Next in section 2.2, I will formulate three vital research concept ingredients that sustain in the research approach and methodology. These are: embodiment, the senses and time. All concepts are in preparation for relating to the body as a mode of enquiry. The aim is to return to the initial aim of using movement in diverse ways and as an artefact - fleeting, passing, slowly embedding, lasting an impression onto the body and in habit. Both the agencies of the body and of food, are explored in individual and collective conditions relying on capacity and imagination. The intention of the research is to re-adjust, re-acquaint, and re-align the relation of city to food via means of the body.

2.1

Three theoretical gateways

Three theoretical gateways lead towards a tentative theoretical framing in my research. These gateways, or entry points, are; relation, agency and assemblages. Each is briefly summarised in this section but in more detail in Chapter 6 as they formulate conclusions and serve as a springboard for future research.

Setting up relations with nature – whether direct or indirect – is what creates an awareness towards environmental change in the form of deeper commitments, motivation and action for an ecological ethos in urban living. In chapter one, I proposed that the interplay of two main ingredients, body and food, have equal agency when approaching urban-making. There is also a need to bring about spaces made for relating, to each other and to nature, and of course food. To relate and to find relation is to explore conditions for interplay and interchange. For it is an exchange in relations that create the experience and commitment to a place of dwelling. And, to dwell is to relate. There is an important link between ethos and dwelling made by Jean-Luc Nancy (2007) where he ‘points out that the originary meaning of ethos is dwelling. The world then, as a concept, simultaneously holds the different meanings of “an ethos, a habitus, and a place of dwelling”’ (Nancy cited in Janssens 2012). The two are inseparable, because the right to dwell goes hand in hand with ethos, ‘because to take-place is not to simply occur but to properly arrive and happen. This properness indicates here the ethical dimension of the world, an originary ethics of being-of-the-world’ (Nancy 2007, p. 10).

To understand this, Kavanaugh (2010, p. 95) in her article on ‘The Ontology of dwelling,’ cites Martin Heidegger writing on dwelling and being, ‘We are “in” the world, he said, and fundamentally interconnected with the things in it. We are always in relation *with* things *in* the world, and that relation is fundamentally spatial, characterized by a ‘inconspicuous familiarity’ and a ‘belongingness’

(*Gehorigkeit*), and ‘insiderness’ (*Inwendigkeit*)... We exist in space. Our corporeality dwells in proximity to objects and other persons; therefore, human existence is essentially spatial... We ‘belong’ in the ‘insiderness’ of space. We inhabit space through our cultivation and familiarity with things in our world.’ Therefore, we are essentially space and space is us. And as we belong to and inside space, we have to take care of it as we would take care of ourselves. Included in this space is the consideration of the other, other species and bodies, which also are included in this extent of care. The boundary between these interfaces of ‘I’, ‘You’, and ‘Them’ are significantly blurred into an ‘Us’ – in *relation*. In order to create the pallet for these conditions to set play, a carefully crafted assemblage is needed that require agents who maintains its resilience.

The theoretical frame rests in a triad alliance - relation, agency and assemblages. This frame is what Glissant (1997, p. 11) eloquently refers to as the ‘poetics of relation’, where a ‘Rhizomatic thought is the principle behind what I call the Poetics of Relation, in which each and every identity is extended through a relationship with the Other.’ Glissant’s relation is an action which he offers up in three statements to keep in mind as we disentangle the research ingredients. He declares (Glissant 1997, p. 201):

- ‘The control of an action is in its *act*’.
- ‘The full-sense of an action is in its *place*’.
- ‘The future of an action is in *Relation*’.

The above statements hold an eloquent link between action, meaning and space The identity he is referring to in his statement comes through the relations that are formed and acted upon in a particular moment and space. Relation in itself also becomes an action - a movement.

2.2

Drivers for Exploration - Research Concepts

The movement thematic comes in many configurations. Movement on micro and macro levels. Movement through space, movement in order to make space. Food being moved around, the food movement. Food moving inside us and through us into nourishment for other species via our own waste. The movement from season to season. Each movement is an interval, part of a cyclical rhythm of everyday, and in this everyday a seed for transforming urban behaviour can grow. Humans do indeed move in order to find food, but the potential of reshaping urban green spaces is about *moving* food closer to us and in some way finding a closer relationship to *move* us to have a different relation to food. A movement of habit and a shift in how we perceive green spaces in the urban space. ‘Visual greens are held and maintained by municipal organisations and are rarely programmed with activity’ (Solomon 2012). Therefore, it is not sufficient just to make green space, but the opportunity

exists to create direct engagement with the space rendering a body engaged. This activation is an opening up of the imagination.

A movement is an instruction or rather, a movement needs an instruction – a protocol, a guide. This instruction is given by the place in which the movement takes place, similar to the practice of Butoh where the choreography is instructed by the space in which the practice takes place. This PhD uses different forms of movement to research the topic of food, the body and human's relation to them. Movements are in the form of a cartography and choreography through various explorative experiments, both in individual and collective forms (chapter 3 and 4).

2.2.1 Embodied Affordance

In the reader, *The Body in Architecture*, Hauptmann (2006, p. 10) confirms the use of the body in architecture for both theory and practice. In the opening statements she states, 'Our conceptual frames, the manner in which we approach questions pertaining to the body are, of course, not only formative, but necessarily transformative as well...reason, desire and knowledge are embodied and express, at least in the first instance, the quality and complexity of corporeal affects.' If what the body does is connected to reason and what we know, and vice versa, then approaching the matter of environmental behaviour begins with the body. The negotiation about body, space and food is an ongoing dialogue which develops the reason and meaning needed to act. Lakoff and Johnson (1999, p. 3-4) refer to this negotiation as reason, they say, 'Reason includes not only our capacity for logical inference, but also our ability to conduct inquiry, to solve problems, to evaluate, to criticize, to deliberate about how we should act, and to reach an understanding of ourselves, other people, and the world.' Therefore, the body used as an inquiring entity in my research has the potential to explore the embodied affordances that exist with food and in activities related with it because of its capability to reason.

Whilst the body acts on nature, little is said on how nature responds in a dynamic manner as well. In this two-way dialogue between nature and the body, there exist a potential array of 'doings' that afford the body to have an understanding of nature (Carolan 2009). Affordance is a terminology used in fields such as environmental psychology and perceptual psychology and it was developed by psychologist James J. Gibson in 1977. Gibson viewed affordance as "action possibilities" that are present but not yet manifested in the environment. These possibilities, recognizable and measurable by the body, are based on the agent's capability to understand how to act within that environment. If a potential aim in environmental behaviour is to seek a way to instigate an embodied approach to and with nature, an embodied nature, then the relation between body and the environment is key. In my research, I have referred to this relation as a dialogue which occurs tacitly between the body and environment, and in the methodology section I use Butoh dance to de-construct and explore this conversation.

Carolan (2009, p. 3-4) writes, 'Affordance, for Gibson is defined as 'what it (the environment)

offers the animal, what it provides or furnishes' (Gibson 1986, cited in Carolan 2009). He provides clear examples by saying, 'affordances speak to how the environment affords the body with a variety of actions and sensations: e.g., light affords the body to see colour; a landscape dotted with objects affords the body a sense of visual depth; and an environment of water affords the body such actions as swimming and floating (in addition to certain kinaesthetic sensations unavailable to a body on dry land)' (Carolan 2009, p. 4). By acting in the environment, we develop a great understanding of ourselves, of others and of the environment. Therefore, our beliefs about nature are intertwined with our experiences of it. Merleau-Ponty (1962) writes, 'I am conscious of the world through the medium of my body...I am conscious of my body via the world' (Merleau-Ponty, cited in Carolan 2009, p. 5). To become aware of nature is a first step, but to make a rational and emotional attachment, understanding, and logic to nature is the next and this entails a form of dynamic embedding.

But what is the body aware of? And which body is it?

Collected literature on the body in the Hauptmann book looks into various conceptions of body and space (ed. Hauptmann 2006). The collection dived into theory and practice, looking to the historical concept of the 'Vitruvius' body with *corpus architecturae* and its role in constructing an empire – meaning power (Healy 2010). The reader provides articles on not only the 'body as power', but through to the Renaissance body (humanist body) overtaken by the modern body – the mannerist body dismembered and dislocated, de-constructed, fragmented. In late 19th century, through disciplines such as psychology and psychoanalysis, another modernist body in line with the humanist body arose. This body was constructed through the mental rather than the physical properties – the body of psychophysical space (Vidler 2010, p. 132). At this stage, this humanist body goes through various stages of interpretation through how it begins to understand space. The understanding of this quick historical account of the 'body' is that moving from the body seen as a separate entity which acts on the environment, it is slowly revealed that the two are intricately intertwined and that they are connected to the mind.

As I alluded to in chapter 1, the contemporary body has become a detrimental producing and consuming body. For a moment let's consider this, not through the obvious lens of a consumer market (i.e. shopping society), but rather through how there is an identification with the contemporary body as a product. Take the tattooed body or the pierced body as a form of exhibited art. In this exhibition the body identifies itself in a cultureless and placeless way because it can happen anywhere in the world. It is ubiquitous. This contemporary body therefore becomes a floating body without anchor. A body that can be copied over and over again and is ideal for capitalism to put a stamp on it rendering it with a bought identity. Elizabeth Grosz writes a similar account of the contemporary body as a body 'under control, pliable, amenable to the subject's will...Just pick the body you want and it can be yours (for a price)' (Grosz 1995, p. 1-2). Grosz argues that such a concept of a consumerist body, 'never questioned the body's status as an object (of reflection, intervention, training, or remaking), never even considered the possibility that the body could be understood as subject, agent, or activity' (Grosz 1995, p. 2) My research aims to re-situate the consumerist body, to stitch it together with nature

and space for perceiving another affordance, one that sees and relies on environmental behaviour. Thereby, becoming an experience body conscious of place and its acting upon it. This experience body has potential to anchor us in the world – to ground us through its very own soil. Identity in this instance becomes an action as it is activated and is no longer solely a product armour. Knowledge is not a product, it is situated, and therefore behaviour is not something to be produced but rather it should be experienced. In this instance, responsibility is no longer borrowed but rather becomes a transparent and situated act – it is embodied. The urban body reconstructs itself *with* and *in* space through the act of ‘doing’ and ‘being’ in nature; understanding and reflecting. Through the act of physical gardening - hands immersed in soil - the understanding of the environmental food challenge has the capability to become embodied.

I have established the body as a qualified instrument and underpinned the connect between spatial relations and movements that create reflection, learning, connection, commitment and engagement. The next step is to turn to the role and potential of the senses, the organoleptics, as the mediating field of method and exploration. A quote by anthropologist Steven Feld (2005, p. 179) helps in this leap, ‘as place is sensed, senses are placed; as places make sense, senses make place.’

2.2.2 Making Urban Sense(s)

“The human and social sciences, from anthropology to geography, have undergone a “sensorial revolution” in which the “senses” constitute not so much a new field of study as a fundamental shift in the mode and media we employ to observe and define our own fields of study. Critical thinking in this area is driven by a rediscovery of phenomenology, experience, the body, perceptions and the senses. Not just by language, semiotics, text and signs’ (Zardini 2005, p. 22).

In the initial phases of my research I focused on sensescaples particularly for their ability to instigate and motivate ‘green pleasures’ as Constance Classen (2009) has alluded to in her text in which she devises a possible design programme which includes sensorial diversity, local touch and fairness. Classen defines sensescaples as ‘landscapes of sounds and sights, smells and textures, and the flavors of their characteristic foods’ (Classen 2009, p. 66). These sensescaples can be seen as living gateways of knowledge and learning. George Wilson, chemist and once president of the Royal Scottish Society of Arts, poetically opened up to this thinking in 1857 in his work when he wrote,

“The Ivory Palace of the skull, which is the central abode of the soul, although it dwells in the whole body, opens to the outer world four gateways, by which its influences may enter; and a fifth, whose alleys are in-numerable, unfolds its thousand doors on the surface of every limb. These gateways, which we otherwise name of the Organs of the senses, and call in our mother speech, the ear, the nose, the mouth, and the skin - are instruments by which we see, and hear, and smell, and taste, and touch: at once loopholes through which the spirit gazes out upon the world, and the world gazes in upon the spirit; porches which the longing, unsatisfied soul would often gladly make wider, that beautiful material nature might come into it more fully and freely; and fenced doors, which the sated and dissatisfied Spirit would, if it had the power off, often shut and bar altogether’ (Wilson 1857, p. 2-6).

To consider this means that there is means to ‘investigate the role of the senses in the production, regulation and contestation of particular city spaces and the cultural meanings associated with them’ (Hetherington 1997 cited in Cowan and Steward 2007, p. 6-7). Thresholds and margins which make up the language in the dialogue we conceive with space. However, these gateways are not limited to only five senses, Dürschmid (2011, p. 192) with research from Durie (2005) explains,

‘If our perception System would be restricted to 5 senses, we would die immediately. Modern scientific methods come up to 33 doors of perception, 33 sensory systems in human beings, reaching from vision, smell, taste, touch, trigeminal perceptions in the nasal or oral cavity, somatic pain, cutaneous pain, balance, kinaesthesia, muscle stretch, heat, cold, to interceptive receptor systems for blood pressure, head blood temperature, lung inflation and so on. Not all of those sensory systems lead to conscious perceptions-some remain unconscious and we can make conscious, as soon as we pay explicit attention to it.’

The sensorium is a complex system, an assemblage of certain hierarchies that the body and space has intricately composed. Literature on senses agrees (Dürschmid 2011, Classen 2009, Howes 2011a, Howes 2011b, Corbin 1995). With the historical model of sensory hierarchical systems, Dürschmid (2011, p. 197) argues, ‘Mostly vision was on the top of the hierarchical pyramid and smell was at its base. Vision was said to be the most objective and smell, in contrast, the most subjective sense.’ However, it should be stated that though there is a visual sense that may dominate, and this is based on the context, Dürschmid reminds us that ‘Our sensory systems are integrated network, in which one element cannot change without influencing the others...Besides actual sensory inputs from the peripheral sensory systems, also memories, expectations and emotions influence the actual perception’ (Dürschmid 2011, p. 198). This is an important point because it positions the senses into a spatio-temporal construct wherein memories can evoke action.

In connection to urban-making, senses have played a major role in the formation of city legislation in the 18th and 19th centuries. In France for example, street smells that ranged from perfumes to foul odours from excrements in the city’s cesspools created an array of smells that dominated city inhabitant’s everyday lives. Classen (2009, p. 6) links the senses to the growth of cities and the sensory displeasures that were encountered, ‘The early 19th century Utopian philosopher Charles Fourier wrote of what he called the ‘sensory ills of civilisation’: the din of the trades...the sight of the hanging rags, of the dirty dwellings...of the stifling smell of the drains...painfully affect the sight, hearing and smell. To incite narrative, I use a paragraph from Charles Dickens giving a glimpse of 19th century London in ‘a vivid encounter of the underbelly of the city’ where I have eluded to the most recognized senses in parenthesis:

‘A dirtier and more wretched place he had never seen (visual). The street was very narrow and muddy (touch), and the air was impregnated with filthy odours (smell), there were a good many small shops; but the only stock in trade appeared to be heaps of children, who, even at that time of night, were crawling in and out at the doors, or screaming (sound) from the inside. The only public places that seemed to prosper amid the general blight (visual) of the place were the public houses (taste)’ (Dickens 1837-39 cited in Cowan and Steward 2007, p. 4).

Such unpleasant sensations became greatly intensified in the 18th and 19th centuries by the immense growth of urban populations and the depletion of urban green spaces.’ This was smell alone, but the other senses also played their part as cities modernised, ‘The increasing industrialisation and mechanisation of the city created a new set of urban sensations. 19th-century New York centered on sounds produced by peddlers, Street musicians, animals and horse-drawn vehicles. By 1925, predominant noise of New York was motorcars subway trains drills and other mechanical sources’ (Classen 2009, p. 6). As sensorial affects increased with pressure on space resulting from growth, city authorities were forced to do something about it especially in terms of controlling the unpleasant smells from faecal wastes. It was at this point that hygiene legislation began. The hygienic city was ‘taken up on the municipality level in the mid-18th century. The transformation of the character and quality of public space starts with the first regulations concerning street cleaning and attempts to control the proliferation of dust and mud by paving streets with stone, and subsequently asphalt’ (Zardini 2005, p. 21). If sound and smell had such dominating effects, the same was said for food in terms of both smells and tastes. ‘Smells associated with the production and consumption of food and drink were a major feature of city life, and both played an important role in the creation of particular types of urban spaces...As cities grew they were dependent on an increasingly complicated infrastructure for the production, distribution and retailing of foodstuffs’ (Cowan & Steward 2007, p. 17-18). Therefore, the history of the senses played a strong role in the development of both urban material and culture and has influenced the way in which modern urban environments are experienced, understood, delegated and represented.

To link the senses back to the previous section on embodiment, it can be stated that the sensorial experience of a city belongs to the corporeal realm. Monica Degen (2008) writes about the topic from a different vantage point. She speaks of the spatial-sensuous encounter in urban regeneration and how it is made effective through organization of sensory experiences. In my research, the sensuous encounter is crucial for its purpose and potential in establishing environmental behaviour, connecting to the corporeal which is the responsible vessel for sensory experience. Thereby, I use the term *organoleptic interfaces*, the ensuing title of this thesis, as a way to delineate the potential in sensual encounters, bodily experiences, assembled interfaces and the pleasure of their meeting. But what relation do the senses play with the body and urban-making in the contemporary discourse and in regards to my research? A quick answer is that, the relationship between the human body as sensorium and its urban environment, and vice versa, leads to the sensorial production and may influence the design of urban spaces. This two-way dialogue: built environment stimulating the sense and the senses in turn stimulating the built environment, could be first approached through mapping the assemblage of these spaces (figure 10).

Monica Degen (2008, p. 48) underpins assumptions about an embodied behaviour with her research on sensuous architecture and planning. She writes, ‘the combination of the different senses contributes to our spatial orientation, an awareness of spatial relationships and the appreciation of the qualities of particular places.’ Degen’s research looks into how bodies and everyday practices in

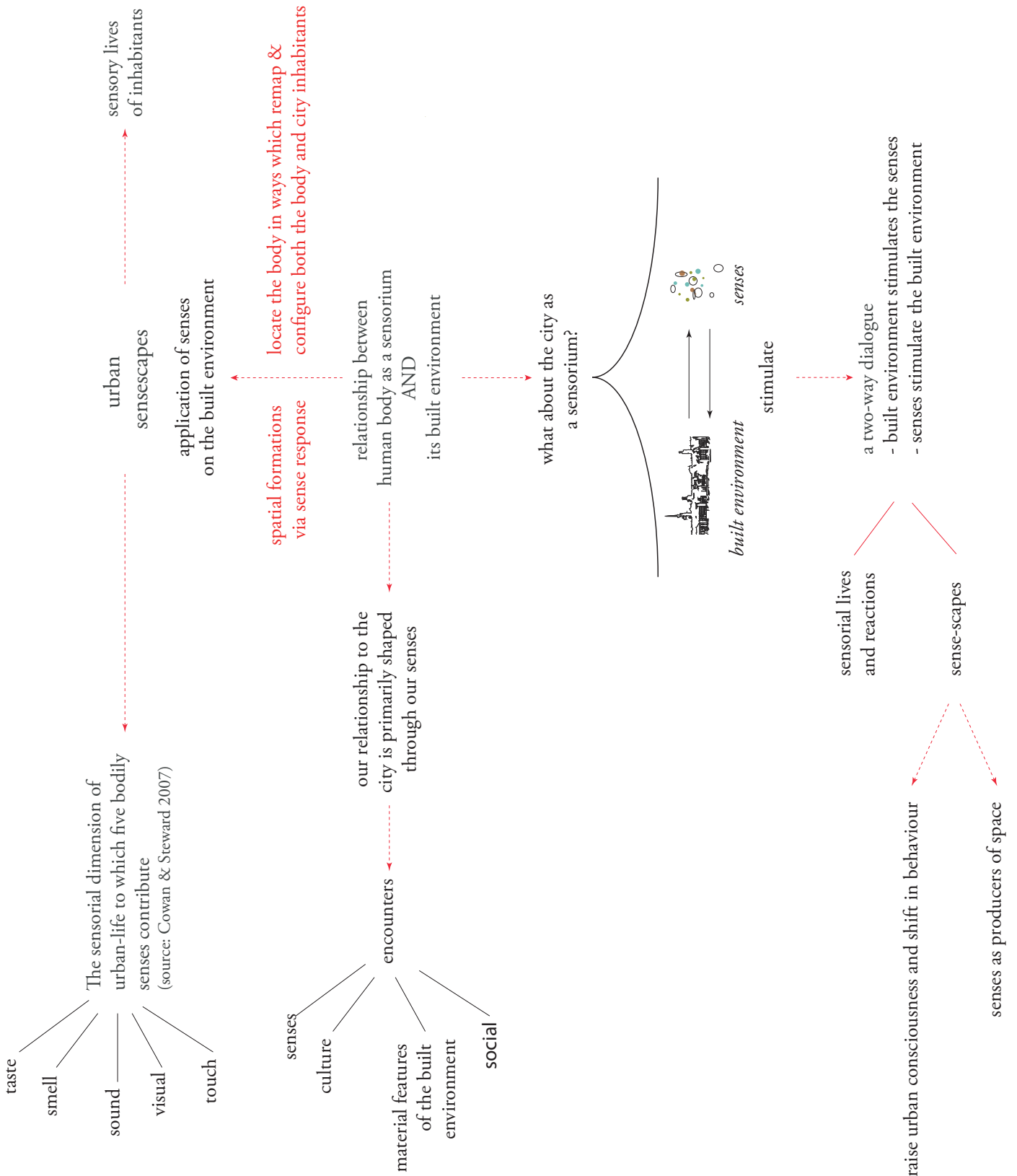


Figure 10 – sensorial dialogue diagram between senses and space

‘designed’ environments, such as pedestrian areas in shopping high streets and regeneration schemes, are affected. Her work however omits how the same ‘affect’ occurs in open ‘green’ designed spaces about the urban ethics of living sustainably and how the method of using the body can be used in creating this empirical connect. In her findings she states; ‘The physicality of the city constantly interacts, supports and collides with our bodies. And our bodies respond to, go along with, or ignore these environmental affordances.’ Degen (2010, p. 66) views the body as an interface where ‘the body and the surrounding material environment are in permanent flux, constantly folding and unfolding; and, that the body digests, adapts and transforms in relation to the potentialities offered by its surrounding environment.’ Primarily, the fact that design of urban spaces has the potential to affect how we behave has had numerous impact on the building of the ‘experience economy’ when it comes to developmental projects of commercial regeneration. In my research I allure to these affordances as the bodily dialogue with space. Maurice Merleau-Ponty (1962, p. 61) wrote on this formation of an individual’s sensory sphere, ‘sense experience is that vital communication with the world, which makes it present as a familiar setting of our life. It is to it that the perceived object and the perceiving subject owe their thickness. It is the intentional tissue which the effort to know will try to take part.’ The knowledge acquired from sensorial encounters is tacit but constant. Carolan (2007, p. 1265) states; ‘tactile space offers a spatially sensuous supplement to the limited representational knowledge we have of the world by its ability to nurture non-representational knowledge...tactile space seeks to further embed and embody individuals within the social and natural worlds; a move that, in turn, nurtures new intelligibilities and thus behaviours towards others and the environment.’ If the senses play such a key role, why are they not considered more in architectural and urban-making. Degen (2009, p. 52) also highlights this poverty of the senses as a method in urban development, she highlights; ‘how the five senses are combined to produce particular place experiences has been largely neglected.’ Furthermore, in terms of linking the senses to the body, another gap is found in the link between the senses and society. Classen (2010, p. 69) writes, ‘A full bodied experience of the world requires all the senses. However, if we are to counter the domination of sight in contemporary culture, I suggest we pay attention to touch. By cultivating tactile values of intimacy, interaction, and integration - values that promote engagement with our physical and social worlds - we can more effectively sustain both our cities and ourselves’. Classen (2010, p. 68) proposes guideline for a sensory design for an aesthetically pleasing sustainable city. The proposed basic principles are: ¹³

- that the widespread privileging of vision in modern urban life be tempered by an increased sensitivity to the nonvisual senses, to the ‘invisible city’
- that an integrated diversity of sensory stimuli should generally be preferred to a tedious uniformity
- that the sensory design of the community be rooted in local cultural traditions ecological systems

13 Classen, C., 2010. Green Pleasures: Sustainable Cities and the Senses. *Harvard Design Magazine* 31, p. 68.

- that any program for the development of a green aesthetics be guided by an ideal of working in cooperation with nature, and be grounded in social justice and compassion

Now that I have positioned the senses in relation to urban-making and established their relevant role in its history and potential in practice, the next ingredient within the conceptual framework to delve into is time.

2.2.3 The Body in time and space

Time can be said to take three roles as a conceptual device. The first is biological time, which has been alluded to as seasonality in chapter 1. The second is the time of the present moment, the here and now, the everyday rhythm. The third is the in-between time, the ‘ma’-time full of potential which perceives time in intervals rather than in linear progression. Ma time has been the subject of time in paper 2. In relation to space, time and bodies, Grosz (1995, p. 97) writes, ‘The kinds of worlds we inhabit, and our understanding of our places in these world are to some extent an effect of the ways in which we understand space and time.’ And with each *passing* time, space is intervened differently. Time is essentially in *movement* and beckons movement either forward or, in some cases, backwards with memories. Time *moves* us through space.

The aspect of time is perceived differently based on the body’s position in space. Poet Morten Søndergaard (2013) uses three metaphors – vertical, oblique and horizontal time – to relate position in space to time. My reading of his metaphors, after further discussion with the poet, is:

- The ‘vertical’ position of moving is enacted through *movement* such as walking, dancing, gardening and thus collapsing the distance between places in different scales.
- The ‘oblique’ position is one of reflection that occurs while writing, speaking, talking, conversing, or even growing.
- The ‘horizontal’ position is a type of reflection, which comes in instances of rest, sleeping, sitting still, procreating and dying.

The vertical and horizontal metaphors are counterparts, the contrast of life in movement and life at rest or death, both of which are metabolic processes (biological time). The oblique metaphor lies in-between, as a bridging role, for it is the position that essentially moves us forward or drops us to the ground – in this sense, it is the decisive factor. It is in this oblique state, the *ma*, where the potential for transformation in everyday behaviour resides and the focus of my research. In this reflective position, the opportunity for decision and choice emerges. In order to activate the oblique state, space needs to be embodied through presence, agency and activity.

Biological Body

Outlined in the challenges was the question of seasonality, the temporal sense of food – the time it takes to grow, its dependency on light and weather during the appropriate seasons, and also the

spatial sequencing of movements entailed in gardening. The concept of temporality and circular time has been hidden from the daily urban experience, especially when it comes to the subject of where food arrives from. I suggest that a deeper understanding of the bodily experience and its relation to seasonal time in a foodscape is necessary. As food grows, we understand its connection to nature, to cyclical time, and therefore to season. It is through seasonality that the environment provides a sensorial experiential presence and the body can experience different layers of time: metabolic time and biological time through the body, rehabilitative time and recreational time through activity, food consumption time, social time and so forth. Each of these ‘times’ varies in scale, bodily contact and length.

Just as the environment has its seasoned time rhythms, so does the body. In rhythm analysis, Henri Lefebvre views the body as a metronome when he states:

‘The body. Our body. . . . The body consists of a bundle of rhythms, different but in tune. . . . the body produces a garland of rhythms, one could say a bouquet, though these words suggest an aesthetic arrangement, as if nature – an artist – had foreseen beauty – the harmony of the body (of bodies) – that results from all history’ (Lefebvre 2013, p. 30).

In viewing these biological rhythms from internal and external viewpoints, there are two perspectives that can be taken; from the body (inside), and from the environment (outside). Time on a metabolic scale is understated. It occurs without us having to do anything and we only notice it via aging, digesting or waking for instance.

‘From these first glimpses, the outcome is the living body can and must consider itself as an interaction of organs situated inside it, where each organ has its own rhythm but is subject to a spatio-temporal whole (globalite). Furthermore, this human body is the site and place of interaction between the biological, the physiological, the physiological (nature) and the social (often called the cultural), where each of these levels, each of these dimensions, has its own specificity, therefore its space-time: its rhythm’ (Lefebvre 2013, p. 89-90).

However, time in the environment, on a seasoned scale, is usually very apparent. Lefebvre writes,

‘But look at those trees, those lawns and those groves. To your eyes they situate themselves in a permanence in a spatial simultaneity, in a coexistence. But look harder and longer. This simultaneity, up to a certain point, is only apparent: a surface, a spectacle. Go deeper, dig beneath the surface, listen attentively instead of simply looking, of reflecting the effects of a mirror. You thus perceive that each plant, each tree, has its rhythm, made up of several: the trees, the flowers, the seeds and fruits, each have their time. The plum tree? The flowers were born in the spring, before the leaves, the tree was white before turning green’.

‘Continue and you will see this garden and the objects (which are in no way things) polyrhythmically, or if you prefer symphonically. In a place of a collection of fixed things, you will follow each being, each body, as having its own time above the whole. Each one therefore having its place, its rhythm, with its recent past, a foreseeable and a distant future’ (Lefebvre 2013, p. 40-41).

The foodscape is a space interval – local, seasonal, metabolic, rhythmic, flowing – and a space of double movement that is both ‘fixed and fluctuating.’ Flowing in change, in which the body moves between the fixed and the fluctuating. There is an assemblage of rhythms that can be queues for environmental behaviour, even other bodies are signals of time, ‘the surroundings of bodies, be they in nature or social setting, are also bundles, bouquets, garlands of rhythms, to which it is necessary to listen in order to grasp the natural or produced ensembles’ (Lefebvre 2013, p. 30), and the ‘act of rhythmanalysis integrates these things...in an ensemble full of meaning, transforming them no longer into diverse things, but into presences’ (Lefebvre 2013, p. 33). Lefebvre understands the biological and social rhythms co-exist, and that the body is the main epicentre from which this relation springs. If our biological rhythms of sleeping, eating and thirst are conditioned by the social environment, why can’t this rhythm extend into the type of food we eat as well. The body needs to be on alert and on par with the understanding of nature’s metabolism. This begins with everyday rhythms

Everyday Rhythm

‘Everywhere there is interaction between a place, a time, and an expenditure of energy, there is rhythm’ (Lefebvre 2013, p. 15).

In Lefebvre’s (2013) Rhythmanalysis, he uses the interrelation between the biological, social and psychological to understand space and time in the context of everyday. He suggests that the rhythmanalyst is aware of and listens to his/her own body and learns from its rhythms. In this learning, there is a relation that is established with external rhythms, such as metabolic or biological. In Glissant’s Poetics of Relation, he refers to these rhythmic encounters as holding a potential to inspire. He writes,

‘Repetition, moreover, is an acknowledged form of consciousness both here and elsewhere. Relentlessly resuming something you have already said. Consenting to an infinitesimal momentum, an addition perhaps unnoticed that stubbornly persists in your knowledge.

The difficulty: to keep this growing pile of common places from ending up as dispirited grumbling-may art provide!

The probability: that you come to the bottom of all confluences to mark more strongly your inspirations’ (Glissant 1997, p. 45).

The probability is viewed as a potential in the everyday body which can be a transformative body formed by the variety of relationships of temporal intensities. If body and space are containers of time, do they have the potential to evoke a deeper commitment towards the environment? I speculate that through the act of growing food and physical creating foodscapes in the urban fabric, there is an alert to circular time through construction of a spatial aesthetic and atmosphere. This atmosphere also has potential to inspire ‘other bodies’ not partaking in the activity of gardening. David Harvey writes, ‘Aesthetic and cultural practices are peculiarly susceptible to the changing experience of space

and time precisely because they entail the construction of spatial representations and artefacts out of the flow of human experience' (Harvey 1992, p. 327) There is an opportunity here to redefine how and what green spaces should represent based on how they are designed. This is obvious but has not been discussed in the context of an embodied aesthetic in urban-making. In 2014 Lillemor Boschek, a graduating MA at Chalmers University of Technology, kicked up quite a fuss at the department of architecture with her unorthodox thesis on how the body fits into the urban space in non-conditioned ways (figure 11). Her project saw the relation of body to space as an aftermath in which space is created and then the body adjusts. Most architectural urban interventions are conducted in similar manner, but what happens if you create that embodied knowledge prior to the space being created?

Urban-making can consider time as an ingredient if we envision it as a series of urban sequences in different scales, patterns, and sensorial immersions based on a body in *movement*. This sequencing affords moments of potential. Mendonça (2010, p. 327) explains the moment in a movement,

'The moment, understood as an increment in time, an instant, corresponds to two different ways of reading place. On the one hand, places and their features are tied to a location and relate to a space of places; whereby the particularity of a moment corresponds with its exact locality, the specific space, a time interval. On the other hand, in the network of places flows are marked by general and particular speeds and rhythms in distance and time and mark a process of movement from place to place, the space interval.'

In this moment, the urban agent 'adjusts' and the body is at the epicentre of keeping time. In Lefebvre's (2013, p. 4) 'theory of moments', he claims that moments are the most significant 'times', because it is in these moments that prevailing attitudes open up to be challenged, re-adjusted and there is the potential for transformation.

The body in 'MA'

The Japanese spatio-temporal concept of *ma* further supports the spatial-to-corporeal correlation and has been numerous applied in discussions about architecture in Japan in regards to seasonal sequencing. *Ma* can be viewed as the gap between seasons, for instance. *Ma* is an interval, gap, opening, awareness in which temporal progression relies on space awareness, spatial progression relies on time, and the potential transformation which exists in this 'interval'. It suggests a delay or silence, as a demarcated in-betweenness in space or time. The ideogram for *ma* (間) comprises the character for 'gate' or 'door' (門) enveloping the character of 'sun' (日) – in this sense it refers to the interval between things, from which light can shine through (Big in Japan Contributor 2011). According to scholar Sen Soshitsu XV, this interval in time 'allows all things the regulation and adjustment they require in their progression to' the next season or point in a place (Di Mare, 1990, page 321). This concept of the interval can also be viewed as Mendonça's statement on spatial sequencing where there is potential for change to occur guided by movements.

With *ma*, time and space are measured in terms of intervals that are defined as cyclical rather

than teleological and linear progression. In urban-making and architecture, there is opportunity to provide markers in time that delineate a circular progression. In his study on Japanese architecture, Veal (2002) reveals markers such as natural light, shifting sounds and shadows, material decay and weathering as instances where *ma* is present. These markers are aspects of time. They are the *interface* referred to in the organoleptic sequencing in space. The use of ‘*ma*’ to delineate a time potential, and the use of Butoh to highlight a corporeal potential are linked by their origins from Japanese thinking, philosophy, arts and architecture. This is a significant continuance of using concepts embedded in the same culture. Butoh itself uses time as a choreographical and driving factor for its sequence in movements, for me it was natural to relate the study of the body to the study of time. *Ma* is a well used concept in terms of architecture, from Arata Isozaki to Kengo Kuma. (see paper 2) It is also a concept readily used in dance. Kristina Fridh writes about aspects of *ma* in terms of Japanese architecture, she cites Kunio Komparu (1983) who writes on Noh theatre (dance) in relation to *ma* and space,

‘This word can be translated into English as space, spacing, interval, gap, blank, room, pause, rest, timing, or opening. Indeed, the conceptual prescription for this term varies with the speaker. A(n) architect uses it to mean space, a musician to mean time. As an expression of time, ma can mean time itself, the interval between two events, rhythm, or timing...’ (Fridh 2004, p. 25).

The correlation between movement, body, space and time is integrated into the choreography of movements. Like Noh, Butoh integrates these elements into its movements however they are taken a step further via their metaphorical use of nature’s elements.



Figure 11 – Images from Lillemor Boschek’s MA thesis

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Chapter 3

research approach & methodology

prepare

peel, chop, marinade, spice, whisk

Through ‘activating’ the body both conceptually and methodologically, I intend to address the lack of using the corporeal condition in architectural thinking. This has been discussed conceptually in chapter 2, and in this chapter, I discuss it in terms of methodology used for the interventions in chapter 4. The intent is to reconnect urban inhabitants to their primal bodily instinct of evolutionary behaviour, one in which the body is reconnected to its relation with nature, survival and time. The concepts are linked to the methodology in three ways:

- Artistic Research through imagineering and staging fiction: explore alternative methods to incite awareness in regards to food resource challenges and relations in the city. The aim is to collapse the epistemological gap between the complexity of environmental food issues and the behaviour around them.
- Embodiment, senses through performativity: use of the body to explore a sensorial dimension of space and its potential. This includes finding agency for both individual and collective forms of the ‘body.’
- Everyday/Time: looking at the theoretical ‘everyday’ practice within and around foodscapes through repetitive actions, memory, remembering and routine, as well as, the potential that exists in the intervals of time.

3.1

Research Approach

In order to look at different *movements* associated around food, I bring the body into a spatial discourse – situated in the context of foodscapes. The starting point has been a concern with food behaviour in urban environments and the passive use of urban green spaces with the desire to deconstruct such behaviour and look at it from a number of alternate ways – a construction and assemblage of interfaces for exploration. Through staging various artistic-based interventions, I try to understand the corporeal dimensions of urban space with the contention that art can invent new relations both to the body and to space. The explorations are done both on an individual and collective

capacity to dissect the relations that exist both personally and collectively with a foodscape and urban space. Environmental concerns are collective and not necessarily only individual, but they are a matter of individual behaviour and origination (Tomkins 2012). Both entities rely on each other, especially when it comes to the engaged and dynamic moving body particularly ‘the collective growing project draws its strength from the solidarity of the participants in a shared endeavour, underpinned by a common ideology made manifest through the garden’ (Wiltshire & Geoghegan 2012, p. 340).

I assume that the body draws up sensory ways of knowing a space and behaves as a result of it. In this way I position the body, and the knowledge gained by activating it, in relation to foodscapes. By generating various forms of bodily interfaces, the thesis takes on a two-fold pursuit: cartography and choreography. Both practices extend into diverse methods that endeavour to ‘amplify’ the everyday experience around food. One of the main reasons for this is about making the invisible - visible, and the disconnected - connected. As Dyrssen (2010, p.229) states, ‘Art can simply be a very efficient way to see hidden connections in a problem situation, to switch perspectives, formulate complexities and reach new understanding.’ The different forms of bodily making in the experiments are to take the research concepts and theoretical framing, and put them in various conditions of interplay with foodscape sites – both real and imagined.

The approach has two sequential phases (figure 12). Phase 1 deals with types of cartography: bodily and digital. Phase 2 deals with urban bodily choreography. Given my research into embodiment and using the body as a tool for enquiring beginning with the senses, I start by looking into bodily cartography. The bodily engagement comes in the activity of ‘mapping’ through presence and actively gardening in two urban communities. Described in chapter 1, the initial approach was through longterm embedded research at Hogalidsparken and Mälarpiraternas gardens in Stockholm. This gave me the knowledge to understanding the transformative behaviour behind joining such groups and join in the collective task. Next, to compliment the use of the body, I started to investigate digital cartography as a comparative method as a way to see what situated knowledge would come from this interface contact. I did this in collaboration with a colleague at my department and we developed a smart phone app for critical cartography called Urban CoMapper. After both components for cartography were complete, Paper 1 was the result.

Thesis Dynamics

The 2 main dynamics are:

Body + green space

Bodily cartography / choreography + transformation

Therefore

Transformation of urban space + Re-shaping of space (cartography / choreography)

= a Shift in behaviour

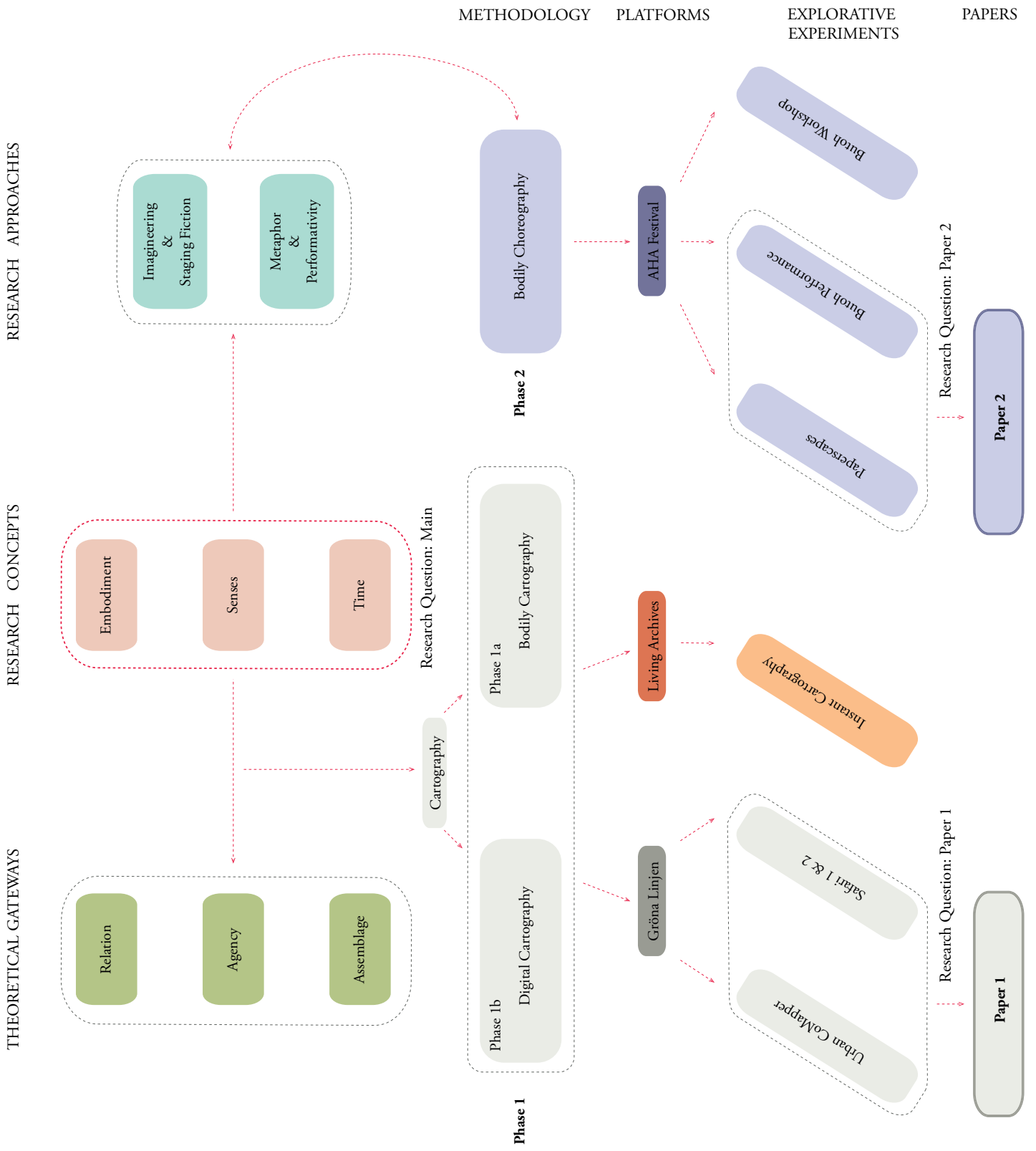


Figure 12 –Assemblage diagram for PhD components

The central dynamic of the thesis is the body in relation to foodscapes, the grounds for incubation. This dynamic is interfaced with urban behaviour with food as a component to inspire transformation. The next dynamic is viewing bodily engagement as an active process of cartography and choreography. Different explorative forms are used; digital critical cartography, bodily cartography set up in different forms of traversing and immersing in space, and Butoh dance through enactment and performativity. All forms are used as triggers to understand the central relationship between body and space (foodscape), and to conceive the landscape as a dynamic and interactive process within the experiments. The assumption with the set up of these dynamics is that the bodily engagement can lead to a change in both dynamics; one is the behaviour towards urban food, and the other, a transformation of urban green space in how it is reshaped, reconstructed and reused. In the process of embodiment and enactment, the invisible is made visible, and a new architectural process emerges whereas the things that had been disconnected, or unlinked, are connected. For example, urban-making to food, and hence nature; urban-making to the senses, and hence a corporeal connect to the environment (a renewed relation).

3.1.1 Cartography – the digital, the bodily and the cook

The cartography experiments stage various modes of movement and immersion in the foodscapes. The two diverse forms, bodily and digital, differ in the way that situated knowledge is experienced and taken in. The digital cartography entails the design of a smart phone app made for urban farming. The bodily cartography entails traversing and experiencing the sites in a variety of ways, from feet to mouth. Both methods are tested during two occasions under the platform Gröna Linjen (section 4.2). They occur during an overland expedition, a green safari of discovery and building of new relations to the site, your own body and other bodies. These experiments are discussed in detail in chapter 4.

Why map? Or rather, why cartograph? (there is no verb for cartography)

A map signifies that a form in the urban landscape exists, it has a 'place on the map'. Although, I have chosen to actively use cartography as the terminology for the experiments, no maps are being generated, and mapping is an observational task and a capturing device. Also, it is important not to view cartography as a device for territory in this exercise, drawing borders and 'owning' land. Rather, it is a device that brings to the fore ways of moving through the landscape. The aim with the cartography experiments is for tracing an embodied immersion, the body is inside a map and at times, the body is the map. However, the digital app could be seen as a process of mapping and recording, whilst the traversing is seen as cartography because it opens up for more experimental forms of viewing the urban.

The tricky part of the experiment was to develop ways in which the senses could become active measuring ingredients. Senses are embodied, experienced and relayed through words of text. In immersing participants in two forms of cartography simultaneously, the intention is to activate their modes of perceiving the space. In the context of this space perception, Dürschmid (2011, p. 196)

writes about how the senses are used,

'The dimensions of space and therefore the geometrical layout of the environment are not only perceived with the visual system, but we use that auditory system, sense of balance, the nasal trigeminal, the olfactory and the tactile senses for that purpose as well. Nasal trigeminal and the olfactory stimuli are used for means of orientation, since we are able to smell the direction of irritants and odours just as we can judge the geometry of an environment or the position of a sound-emitting object using the auditory system. All of the sensory systems of space perception allow the brain to construct a virtual model of our environment.'

This constructed model of the environment has the potential to create transformative behaviour, depending on the impact of situated immersion.

Digital cartography

The reason for creating a digital cartography is to manifest a better record of gardens that exist in Stockholm, as well as, the opportunity to record places for new gardens. The data collected by Stockholm's Stadsodling, a grassroots organisation, is a google tag of existing garden locations with no information about agency of the spaces. Data of this kind is passive, and if viewed from the angle of wanting to inspire more individuals, it is difficult to assess if it can provide enough motivation. A more dynamic and inclusive process is needed. Mapping combined with an immersive experience could foster stronger relations, disseminating and developing new agencies. Architect Petrescu concurs and her interventions on spatial agency develop relationscapes rather than maps. She writes,

'Together with other tactical devices, the mapping process itself worked for us like a plug-in; an activity that was added to the project to help us make visible to and discuss with others the facts and things that would have otherwise remained invisible and non-articulated (for example, the evolutive roles of a person or a device, the changes in the motivations of certain users, transformation in use, and so on)' (Petrescu 2012, p. 139).

The digital cartography is entailed as a bridge for interactivity between the body, mind and space. In Mendonça's (2010, p. 325) project of mapping and naming in-between places in Portugal, she explains the agency of mapping in relation to the body, 'The individual is a *body of experiences* and a cognitive preceptor, thus 'a mapper'. What emerges, is an ensemble of patchwork spaces that were invisible, and now known to a larger local community – some of whom decide to engage for longer term immersion. The intention here is develop a larger view of what how the urban green in Stockholm is being used and activated. These demonstrative sites of altering urban living could become embodied stewards, knowledge devices, and keys for instigating transformative behaviour. The importance of weaving these spaces, of non-existence or 'gaps in an urban life-world' as Mendonça refers to them, is crucial for forming an alternate urban green quality, she explains, 'The intention of in-between spaces is to investigate ways of supporting the social and perceptual integration of urban components, transforming these spaces into a continuous urban experience' (Mendonça 2010, p.

325). In the process, these interventions no longer are seen as occasional acupuncture points in the city, but rather a seamless urban opportunity for everyday living.

Paper 1 describes in further detail the intentions of strengthening agency through cartography devices in terms of critical cartography through community mapping. Critical cartography is a new form of alternate mapping that incorporates both theory and practice as foundations for building 'new societies.' In this instance, the new society is one which understand the fundamental behaviour needed for sustainable urban food relations. This field of cartography investigates new mapping capabilities that hand over agency, develop open-sourced and pervasive tools (Crampton 2006). The paper also notes that the form of community mapping is an example within critical cartography revealing communities that may otherwise fly under the radar, but also can render invisible practices such as urban gardening visible to a wider audience. In turn, the practices and act of recording their existence becomes a transparent process of urban-making. Critical geographer Brenda Parker (2006) states that the mapping process can hold three values; inclusion, transparency and empowerment. All of which create a process in which the local capacity is increased and holds potential for the emergence of a more influential role within the neighbourhood. Furthermore, she states, 'Community maps provide a medium for community interaction, consciousness-raising, and conceivably action. By mapping the land, communities may reclaim the territory for themselves, figuratively and literally' (Parker 2006, p. 479). With all the benefits outline from partaking in this form of mapping, Parker still is critical to forms of community participation through normative planning practice. She identifies a strong need that these types of critical mapping studies should be critically approached to 'help sort hyperbole from politically and socially embedded "realities" of mapping agendas, and can contribute to the production of a more robust and reflexive cartographic counterculture' (Parker 2006, p. 482). The intent for digital and bodily cartography experiments answers this call for providing necessary modes of interacting with, knowing of, and engaging with foodscapes. The digital cartography goes a step further in looking into places that could be used, but yet silently awaiting intervention and care from the community. The bodily cartography is about embodying this process, providing a format based on improvisation with the aim to generate a whole range of experiences within the practice of 'sustainability.' What emerges is a playful approach to a serious endeavour.

Urban CoMapper tool is an interface device that provides a real-time reflection of a participant's perception of the foodscape space. The information collected is personal, subjective and tacit. Tacit knowledge put into the phone comes from a source that has a strong relation to the site through its embodied experience of it, and knowledge that may not have been there prior to this experience. Therefore, both place and knowledge are rendered visible through the cartographic process. Martijn de Waal (2014) considers urban devices to be interfaces to the city as they generate new public urban spheres and specialised communities. He sees these virtual communities as "territory devices" which create, 'the stage or platform where city dwellers show who they are (make their way of life public) and, as a result, become acquainted with other people's ways of life and compare themselves with them. City dwellers can recognize like-minded people and, together with others, be absorbed into

new collectives (new publics) or distinguish themselves from other city dwellers' (De Waal 2014, p. 14).¹⁴ The word 'territory' should be critically evaluated though because the intention of having these spaces in the city is to open up; both for the experience and to other bodies for a common form of urban ethos.

Bodily Cartography

The Peruvian Cashinahua hold that:

'a wise man, huni unaya, has knowledge throughout his whole body. 'hawen yuda dasibi unaia', his whole body knows,' they say. When I asked them where specifically a wise man had knowledge, they listed his skin, his hands, his ears, his genitals, his liver, and his eyes. 'Does the brain have knowledge?' I asked. 'Hamaki (it doesn't),' they responded' (Kessinger 1995 cited in Howes 2011b, p. 6).

In giving such precedence to the whole body as a knowledge generator, bodily cartography is a vital component and partner to the digital cartography. Furthermore, it opens up to the sensorial dimension which the digital form lacked capacity to do. Much of the underpinning for this mode of experiment is discussed in the research underpinnings for 'embodiment', and it serves as the first phase of interventions into bodily modes of enquiry. The second phase is bodily choreography. However, unlike the choreographical performance experiments, the bodily cartography is a collective experiencing of many bodies going to the same places, traversing along a common line of immersed encounters. Also, the intervention opens up to a wide audience of both urban inhabitants and practitioners that have the capacity for creating change in their communities. Dialogues could be instigated directly on the spot in a situated knowledge transfer in real-time, in turn, democratising the process of transferring agency.

The bodily cartography took many forms; cycling along the route, intercepting the space by foot, through the mouth and stomach, planting a seed or experiencing the outcome of a freshly planted crop. The first intervention took place mid-June at the very beginning of the Nordic growing season, whereas the second occurred at the end of the summer when the growing season was in full swing. The sensorial experience of both sides of the season is crucial because in each version, the senses are amplified in different ways. This immersion became a much stronger catalyst for a 'mapping' wherein its playful nature, collective formation of understanding and experience rendered citizens more likely to participate and to continue participating than ordinary city-organised participatory initiatives.

Traversing a landscape by using the body is a known concept in the artistic world. Artist Hamish Fulton and architect Francesco Careri are two such practitioners that evoke the experience of the environment via walking as their prime mediums. Their work is further described in the next chapter under the heading AHA festival as they were invited performers to the platform's event.

¹⁴ Territory device is 'an appliance or system that can influence the experience of an urban area' (De Waal 2014, p. 19).

Both practitioners work in very diverse ways to instigate change. Fulton's 'walks' are commonly done alone and for long periods of time. His work is an important reflective practice with a limited audience present, but the situated knowledge gained from his excursion has a rich detail level that can only be had through deep and long periods of immersion. The personal and intimate experience of traversing through walking should be carefully noted for 'Walking is the way most of us make our way through the world most of the time, yet our gait is as personal as a fingerprint, and so are our multiple itineraries' (O'Rourke 2013, p. xvii). Careri's walks, under the platform Stalkers, takes on an different approach.¹⁵ On a summer day I met with Careri in Rome at the Mattatoio di Testaccio at the Città dell'Altra Economia, a converted ex-slaughter market into a new bustling ecological market and urban haven for learning about ecological city living. However, this was not the aim of the visit, but rather to see Careri's intervention and collaboration with the Kurdish community adjacent to the market. Through his collaborative mapping and walking experiments, he helped initiate an informal Kurdish community centre that provides housing and a kitchen garden. Careri's walking modes are about going to places in the city that are usually 'avoided.' Careri walks to the places of emotion, the places where nobody goes or even knows about. And through rendering these places visible, he is able to open up to larger audiences for immersion and involvement. My research approach aims to open up for diverse forms of audience participation and to reach an assembly of bodies, but at the same time finding opportunity to create reflective engagement. Tim Ingold (cited in O'Rourke 2013, p. xvii) writes that 'Knowledge is grown along the myriad paths we take.' The particular act of traversing a site, or a path in this instance, using the body may be an act of urban-making in itself. 'Walking blurs the borders between the arts, between artist and audience. The situationists imagined a total art that resembled architecture and was experienced by drifting. Walking structures experience. We perceive ourselves and our environment in interaction as we move along the path. We shape space as we go. Walking may be a form of architecture' (O'Rourke 2013, p. 43). My research approach is to form a *movement* to re-adjust, re-aquaint and re-align the relations and agency we form with foodscape sites via way of the body. The meaning grounded through this encounter is innumerable, therefore, the second phase of the research deepens the exploration of the body as a device through bodily choreography.

3.1.2 Bodily choreography

There seems to be a play of time, tactility, slowness. movement forward through space

Extension of limbs to understand the space.

Hands aiding feet, feet aiding body.

She is in grey, non-descript clothing so as to focus on the movement. She has a black gauze over her head. She takes it off at one point of the performance, and it falls to the ground – discarded.

Gravity? Body memory forgot how to stand. How to stand up? Long hair, up to her knees. Arms limp at sides. I try to recall the principles of Butoh.

15 Stalkers is a platform initiated at the Roma Tre University in mid 1990's. It is a collective of architects, artists, activists and researchers who work in experimental forms, creating self-organised situations and spaces. Further information available at: <http://www.spatialagency.net/database/why/political/stalkerosservatorio.nomade>

The earth body and how to make it visible. In Butoh the body is a vessel. A vessel of values. Grounding.

She moves, sudden move – does she remember something? or is it her body.

Hands, feet – they have their own will and the head follows along. Obeying. Eyes open, eyes shut. Butoh mouth. Shadow play. A long shadow accompanies her from one end of the room to the other. Shadow is projected on the wall, on the door, on us who are audience. My attention turns to her expression again. Her mouth. She listens to the floor, or is her ear speaking to the brick flooring. Magnetic.

Butoh dance, tragic, painful...Breathing for air, a cry

To watch...she grabs my foot...lets go and takes off her shoes. Puts foot in her mouth. Takes off her sock, barefoot now. Takes off her coat. Shedding.

The room has shadow sources on both sides. What are the different interpretations of butoh? Why butoh?

I was in love with the conceptual theory of it. The idea of the body being navigated by the space. She starts to cough. And touches the faces of some of the audience.

Time - Different ages. Different entry points into creativity.

Water drips from the glasshouse sealing. It's the condensation, temperature difference between outside and inside. Heat produced by audience and moving body. She entered through one door, but came out the other end.

She leaves us behind.¹⁶

My collaboration with Frauke began in 2012 when she approached me to conceptualize biomimicry into her performance for Göteborg Konsthallen (figure 13). Our intention was to do a service exchange; I would provide research for Frauke and she would give me Butoh lessons in Gothenburg's Botanical Gardens. Her choreography script featured behaviours linked to verbs which I would then link to different organisms found in nature that behaved in the same manner. This connect between biomimicry, nature and body encouraged me to explore Butoh further in my research into foodscapes.

Briefly, the originators of Butoh were Ohno Kazuo and Hijikata Tatsumi. Tatsumi began exploring contemporary dance during a turbulent historical period and transition in Japan. The Asia Pacific war 1941-1945 sparked a strong nationalistic environment that led to unprecedented economic growth, resulting in protests and consumerism for the following decades. During the course of this period, Japan was thrown into the grasp of modernization and struggled with a crisis of identity and of a rapidly changing culture, wedged between the contemporary and the archaic. This struggle for identity occurred across all the arts, including architecture. Hence, Butoh dance was an expression that came out of this shift in Japan (Reynolds 2015).

This phase of the research approach comes sequentially after the first phase of cartography. The aim is to find deepened forms of enquiry in foodscapes, and in understanding how the body can be utilised as a mode for enquiry. My brief experience in the botanical gardens with Frauke was enough

16 A Living Archives Symposium Butoh performance – Joan Lange: These are photographic notes on performance 1 at the symposium on 26 February 2015. This is a form of note taking and observation of performance wherein the pen allows me to 'look' differently. More alert, I record movement differently. I see action. I write action.



Figure 13 - *Frauke performance at Göteborg Konsthallen 'How to be invisible' 2013*

© Photo Credits: Robert Eklund

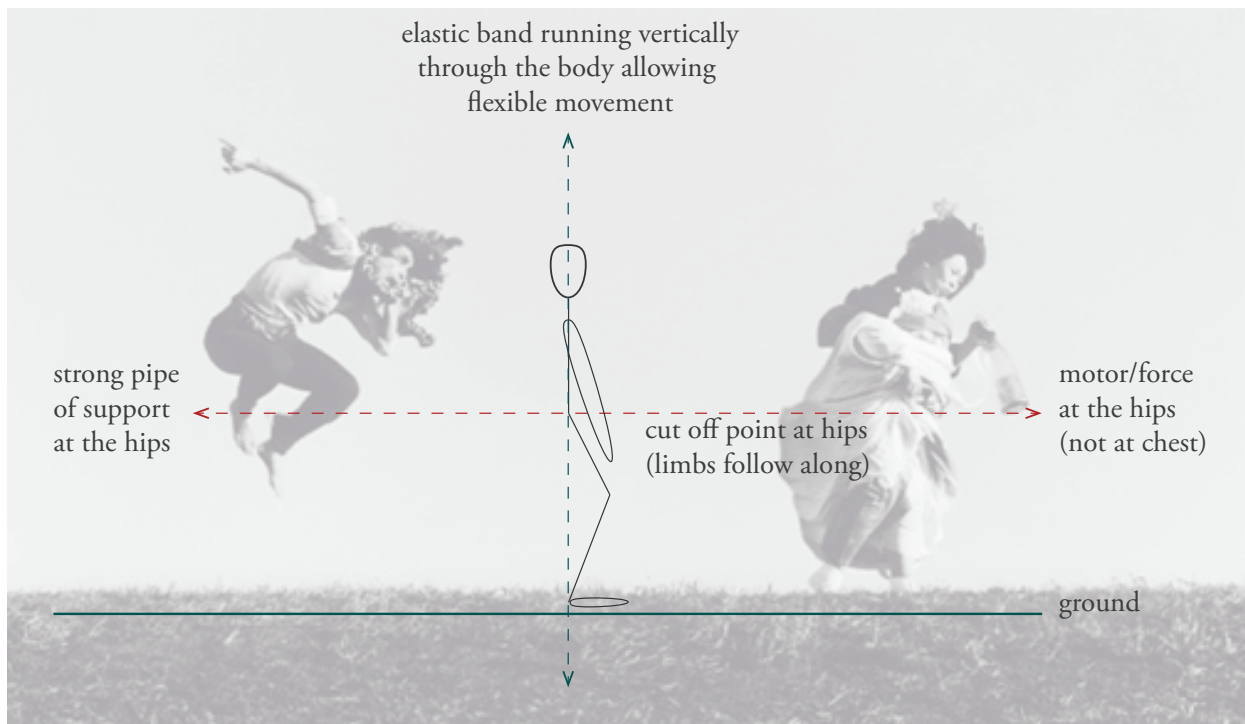


Figure 14 – *Butoh diagram of posture*

to spark an interest in butoh as an immersive practice that generated the level of contact with the site which I was intending for. Nigel Thrift (2000) associates feeling of and commitment to ‘nature’ as an entity which we set up, he states that, ‘Immersive body practices account for a large part of what we attend to as ‘nature’; they define much of what we cleave to as a ‘natural’ experience by setting up a background of expectation.’ This immersive body practice came in the form of Butoh, a contemporary dance form rooted in Japan’s experimentation with expressionistic movement. The aim, through Butoh, is to become aware of the bodily engagement with space by transferring into a state of high physical alertness and to monitor the organoleptic interfaces that arise. During butoh practice, the novel learner must remove their hierarchic sense of vision by being blind-folded, which leaves a reliance on the other senses to navigate through a space. The dynamic nature in butoh is not

about speed – it is a slow tool for an alternate awareness of space around the body. I experienced an awkward reshuffling of senses. I could hear with my touch, I could smell with my hands. Perception got altered through this dance medium. My Butoh practice with Frauke lasted only a few hours, but afterwards the body was so exhausted from the sensorial exposure and overload that I needed to sleep for the remainder of the day and night. It was an overwhelming experience and an insight as to how underused are our other senses. Furthermore, the relation between Butoh and nature gave more motive to explore this dance practice further, particularly the fact that it is trained by some in Japan through rice paddy farming. In choosing the practice of Butoh in urban-making, a new tool emerges that can form new embodied processes. Lister and Nemeskeri (2010, p. 105) highlight, ‘the fundamental understanding that in developing, shaping and applying our tools, our tools and applications simultaneously develop and shape our own perceptions.’ This is an important point to consider because in crafting perception an opening occurs for an ecological ethos to be placed alongside.

Bodily choreography explores the body to space in a dialogue through action and reaction which I alluded to earlier in my writing. Butoh’s motor of movement is at the hips, activating the voids around your body and thereby getting to know the world through the body (figure 14). Butoh works on the premises that the dancer must erase the social body and open up to become a vessel for crafting all kinds of relations with the surrounding space. For instance, relation with the rocks, trees, soil, bacteria, birds and sky in nature, or, wall, floor, light and temperature in interior spaces. The Butoh dancer paints the body white to delineate a clear canvas for a relation to take place, and for the social condition to be erased. The body now can only rely on its own limbs and senses to navigate and ‘dance’ with space. Dancer Akaji Maro states: ‘You have to kill your body to construct a body as a larger fiction. And you can be free at that moment’. By emptying the space of the social body allows the external signals from these relations to enter in. When the body is erased and juxtaposed inside a narrative, it needs support from something that lives inside it. (Bergmark 1991). Could this be a recognition or acute awareness of time? Butoh itself has a special relation to time, it is based on time in the moment and all of time at the same moment. It works in the same interval as *ma time* in which there is potential for a metamorphosis to occur. A conversation between Suzuki Tadashi and Hijikata Tatsumi reveals *ma* as an integral ingredient in Butoh setting up the body to experience a concept, Suzuki states:

‘On the whole, using the body for expression means there’s a gap. There’s a gap between the body and words and also a considerable gap between the body and space. And quite a wind blows between them. So you fill that gap with concepts and a desire to analyse. But the first time I saw Mr. Hijikata’s butoh, I had the feeling that here was a space where there was no need to kill time like that’ (Akihiko et al., 2000, p. 62).

Butoh allows for *ma*, just as it allows for a reflection and metamorphosis to take place. In turn what occurs is that the site becomes the prime agent in making the relation to the body. The body responds to the site. In essence, the site choreographs the performance rather than the dancers themselves.

There is a strong exchange of situated knowledge occurring because the body must respond to the site's will. Bruce Baird elaborates further on this exchange from observing Hijikata's methods, 'He sought to dissolve the strong distinction between the inside and outside of the body – to render the body more receptive to what was outside it' (Baird 2012, p. 179). Dancer Lorna Marshall also illustrates this exchange when she writes,

'We receive all our incoming information about the world via the body's sense organs; through our eyes, ears, skin, nose, and tongue. It is a two-way process; from the world through our physical senses to our inner landscape, and then from our reactions and thoughts back into the world through physical action. And the body stands at the centre of this constant exchange. It is the interface between our inner life (thoughts, feelings, memory, dreams) and the outside world (other people, objects, the physical environment). In a sense, it is the sole mediator of human experience' (Marshall 2001, p. xii).

Paper 2 outlines the practice of Butoh from the perspective of time. In it, I explore the negotiation between body, space, food and time through butoh theory and practice techniques. In addition, three (only two are written about in the paper) interventions take place to further investigate the method as a form of bodily choreographical enquiry. Chapter 4 (section outlines these three interventions which take place during the AHA festival in 2014 (section 4.3): Paperscapes, Butoh performance and Butoh workshop. Using the dancing body in urban investigations is not an unknown concept. Eric Havadi (2010, p. 338), for his dance-house project in Istanbul, looks to dance as generating forms. He views, "dance" as an attitude of spatial determination for both architectural and urban scale interventions... Dance as an architectural concept further offers an alternative theory for inhabiting a public space where 'dance' can be understood as an activity in both a literal and figurative way' (Havadi 2010, p. 338). But, to work with the body is to challenge our behavioural patterns and it is primarily this that motivates the use of such an intense and deep dance practice as Butoh. Can we be free of these patterns if they are detrimental? And in approaching the core key to shift environmental behaviour, necessitates investigation with the body. What memory and behaviours last after the *movement*?

The Butoh dancer can immediately go into position from a simple 'instruction' usually given as a metaphor (see paper 2, p. 7). The ability to follow out the choreographic aesthetic of the instruction is up to the 'dancer.' If we relate a form of instruction by a space, we can consider a foodscape site as an artefact that gives 'instruction' to urban living. Butoh practice can expose this instruction, give a metaphor for movement, and a way to imagine alternate ethos towards food and nature. Choreography, as a word in itself, usually conjures up an image of a script used for instruction. My research is about exploring different embodied scripts for movement that induce a corporeal knowing and transference. In his training, Hijikata used his surrealist poems reflected the world around him and gave his choreography 'instruction' from there. For Hijikata, the body is a metaphor for words and words are a metaphor for the body, that is why his poems were so vital for his art (Nanako 2000). In an interview conducted by Margit Tamas (2000), the choreographer Ron Bunzle states: 'dancing is a physical activity where there is consciousness of how you break up time and space' (Havadi 2010, p.

340). Butoh practice enters into a slowed time by slow progression through space. This cross between body, time and space is important to consider.

*diagrams of intensities
at the intersection of all the scenes of the possible
choreography of desire's throw of the dice
on a continuous line since birth
Becoming irreversible of rhythms and refrains of a
Haiku-event
I dance not in the place but I dance the place¹⁷
(Guattari, cited in Genesko 2002, p. 122)*

In this poem, Guattari discovers Butoh's ability to be choreographed by place, rather than creating a choreographed piece for a place. The butoh dance is instructed and site-specific, allowing place to be danced. The foundations of this art form are intensity, spontaneity, emergence, rhythm and a space-to-body connect. Founders Hijikata and Ohno established unique methods for generating a movement vocabulary and layered choreography for a negotiation of time, space, body and nature to occur – elements that shape my research. In my investigation of Butoh, I found six statures of the technique that link to my research aims. They are: (for further detail please see paper 2, p. 6)

- Corporeal Rebellion – A resistance to authority and established convention. In essence, the butoh body aims 'to free itself.' It is resistance to an overload of information and mass production (Baird 2012). This corporeal rebellion could also be seen as an act against normative urban behaviour and a way to negotiate space with an increased consciousness.
- Three Elements of Interaction – body language, interaction between dancer and observer, and the metaphorical perspective of the dancer during performance (i.e.: from within, aside, or from a bird's eye view)
- Agricultural Roots (Agro-roots) – Butoh has agro-roots as a method, in its origins and in its underpinning. These beginnings have remained in Butoh's close relationship of being practised in and with nature.
- Mimesis – Hijikata's earlier dances were mimetic narrative performances (Baird, 2012). He often used words and metaphors to create a character and narrative-based dance. In my research, mimesis strongly underpins the link to imagineering and biomimicry.
- Transformation and Metamorphosis – Butoh method defines a state of embodiment, emergence and change. A full spectrum dance form with permeable boundaries. 'Butoh metamorphosis or the body that becomes' (Fraleigh & Nakamura, 2006, page 13).

¹⁷ Original excerpt from 'Présentation du programme de danse Buto de Min Tanaka.' (Min Tanaka, The Body Weather)

- Reflection – A technique used for coping with the volume of information and with time progression (Baird, 2012). Such moments entail a reflection, a pause and a coherent filtering of information in order to move onto the next stage. The butoh body offers reflection psychologically and physically brought about by its spatial contact. Creating the potential for choice, value-building and ethical manoeuvring. (Morten Søndergaard’s oblique state – see section 2.1.3)

The research approach is to see how these types of corporeal tensions, time constructs and associations occur in urban-making to incite environmental behaviour. How can I use this corporeal dynamic of situated knowledge when recreating urban space? Butoh is a mode in which to investigate a deep knowing of the body to site relation, however, it accompanies the knowledge that is already present in the body in terms of senso-motoric skill with its complex nerve systems stemming from the brain and spine (figure 15). This intricate system regulates body’s status with environmental conditions but also gives us the capacity to create spatial correspondences about imagined scenarios, spaces and landscapes. Dyrssen (2010, p. 239) views this as a potential to open up for deeper exploration in the field of ArB ‘for a more extensive use of new tools for modelling and imagery, and of making-action-performance...it is through the conscious operations with fiction, innovation and composition that knowledge is produced, and new meaning emerges.’ This links to the next section on imagineering, staging fiction and performativity. When Butoh is put into a narrative state, one which is written as an ‘instruction’ for environmental research, what outcomes can occur?

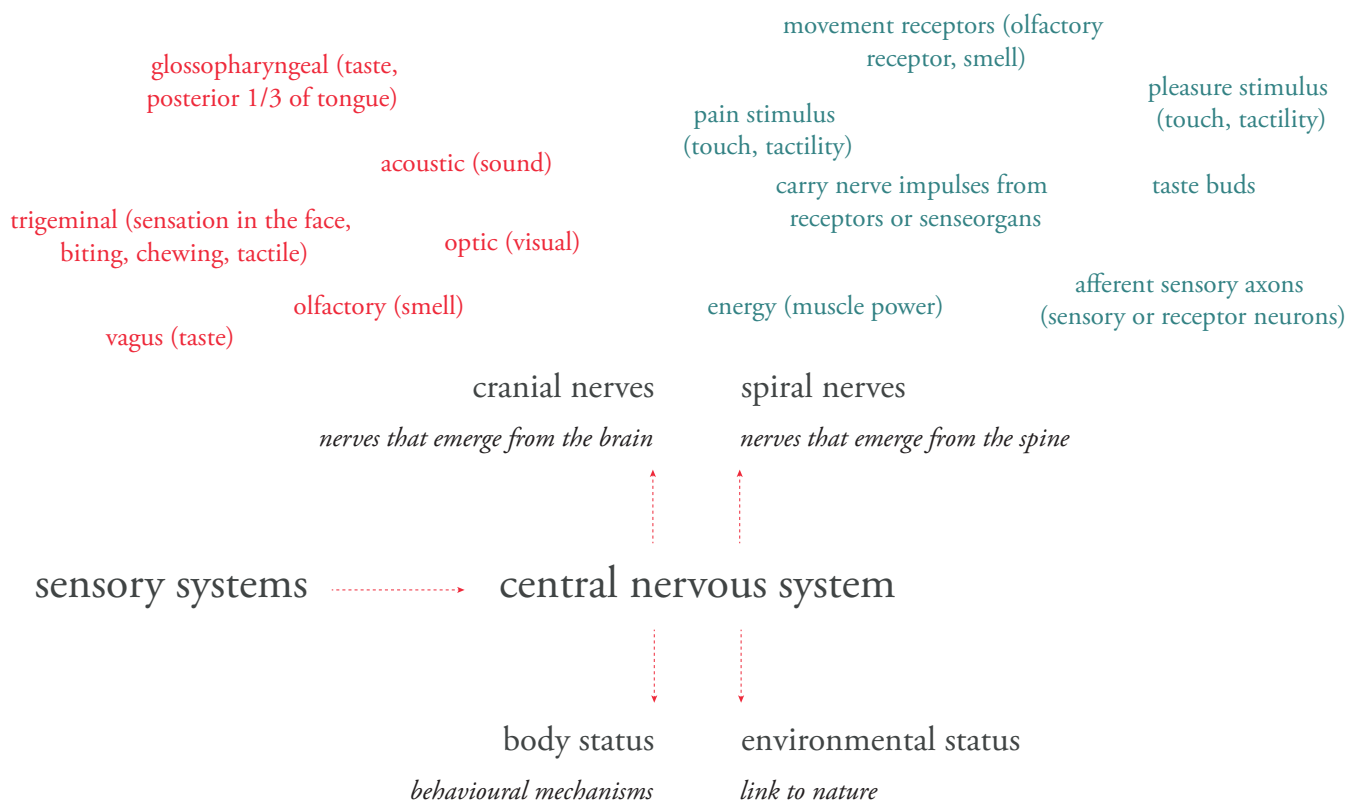


Figure 15 – Diagram of senso-motoric functions linking body to space.

3.2

Methodology – cultivating imagination

'Recognizing, imagining, Relation...

Escape, the problems at our heels?

No imagination helps avert destitution in reality... But imagination changes mentalities, however slowly it may go about this' (Glissant 1997, p. 183).

There is a drive in my work to connect the body to the understanding of landscape as a dynamic and interactive process through a deeper corporeal understanding. The body is placed in diverse relations with the site - walking, biking, eating, surveying virtually, talking, dance etc.. – as highlighted in the research approach section through methods of cartography and choreography. The key models for the methodology include imagineering and staging fiction, metaphor and performativity. These concepts are privy to artistic research and utilised to see hidden connections, switch perspectives and to form and deal with complexities aiming to reach new understandings and behaviour. 'Exploratory actions bring out, or reveal, the unknown and open up for the unexpected' (Dyrssen 2010, p. 236). Instinctively, the models can be activities staging connections to urban green space, nature and an ecological value setting. Below is a short summary of the two phases in the methodology: (figure 12)

Phase 1: Digital and Bodily Cartography

- Gröna Linjen Safari 1 (June 2014) and Safari 2 (September 2014)
- Digital cartography - Urban CoMapper smart phone tool (creation of, testing, and gathering of data)
- Bodily cartography - bodily methodology through traversing urban farming landscapes

Phase 2: Bodily Choreography:

- Making of 'Paperscapes'
- Butoh performance
- Butoh workshop

The two phases put the body into various conditions of *movement* that explore relations and agency via different corporeal assemblages. By placing the body into a sequence of settings and variations to produce learning and situated knowledge, the experiments use discovery as a driving element in the research. Chapter 4 describes each experiment in detail, and the research approaches section has

outlined the use of the methods employed, cartography and choreography. This section goes into the key models behind the methodology: imagineering, staging fiction, metaphor and performativity.

3.2.1 Imagineering and Staging Fiction

Explorative experiments give opportunity to set up and examine research from unexpected entry points, Dyrssen states,

'Explorative experiments should subvert conventional strategies; shake up ingrained patterns of thought; provide quick feedback, increased curiosity, and discoveries of hidden possibilities; reveal possible links and points that need to be mapped; and get the creative process moving forward. The driving forces in the explorative process are invention and discovery' (Dyrssen 2010, p. 229).

The difficulty when using this approach is that, since 'truth' is not the aim, one must remain open but not ambiguous. As a result, there is a certain amount of intuition that drives the research process, at times unsettling and uncomfortable, but it is in this discomfort that creative thinking is engaged. Dyrssen suggests to prolong the 'moment of discovery' which is also challenging because it emerges slowly through insight and continuous creative thinking. Imagineering can be used to help deal with the complexity of these issues. In chapter 1, I described imagineering as a technique used in design to generate an imagined emergence through living systems, designing for evolution rather than solution through narrative forms. The use of narrative, staging fiction, is to inspire and awaken a collective creativity and evoke transformation. Nijs states, 'Dialogically (and strategically) reframing a complex problem in an inspiring way can evoke brain-shifts in individual agents that makes them see a new innovation horizon, which can result in collectively creative dialogues that can lead to breaking routines and inducing transformative actions'. Thereby leading to, 'a better functioning network of actors that is able to cope more effectively with the complex problem at stake' (Nijs 2015, p. 9). Imagineering in the design context is based on reframing existing situations, or wicked problems, into a more desirable direction which Nijs calls an 'adaptive tension engine' (Nijs 2015, p. 15). She employs narrative through a linguistic artefact, whereas in the case of my research, I use corporeal artefact(s). However, both approaches involve a re-interpretation of the everyday and to immerse the body in space or narrative requires an activated imagination to envision an 'other' way of being in the world. Imagination can be evoked to tackle sustainable-solution driven ideas and politically-driven responsibility by putting emphasis back into the body of the urban inhabitant and essentially into their hands. The body remains in a state of reflection and imagination to instigate desirability, awareness and potential. In this manner, via the body as a primary channel for contemplation, we imagine an alternate way and build the desire to act through this reinforcement. Triggering imagination and desire by immersing the body into situated experiences opens up for deeper commitment to emerge.

Narrative, as a piece of literature, is a powerful tool to spark imagination and immerse us in a story, perhaps taking place in another place and time. This paragraph is an example of fiction by diarist John Evelyn is written on his visit to Venice in 1641-42. It is an example of a sensorial

encounter with Merceria:

'One of the most delicious (taste) streets in the world, hung with cloths of gold, rich damasks and other silks (visual) which the shops expose and hang before their houses from the first floor. Passing along the street lined with the shops of perfumers and apothecaries (smell), and innumerable cages of nightingales (sound) which they keep, so as shutting your eyes you would imagine yourself in the country when indeed you are in the middle of the sea; besides, there being neither rattling (sound) of coaches nor trampling of horses, 'tis almost as silent as the field' (Links 1980 cited in Cowan and Steward 2007, p. 4).

When we engage in fiction it seizes us, particularly when the body is immersed in a sensorium of experiences as with the interventions. Dyrssen sees fiction as a tool for knowledge production wherein diverse modes of composing, embodying and making are used for modelling the research to 'create or evoke new meanings.' Fiction, in this instance, is not about a storyline:

'Fiction does not have to be literary or narrative, but can create an imagery that transgresses borders between different media, and goes in and models space, including the various agent's propositions, place-specific narratives, etc. By being aware of the fictions one creates, one can also recognise facts and conditions more critically. Fiction allows for complexity which, in turn, promotes surprise as total overview or control is impossible to maintain. Modelling is spatial and material fiction' (Dyrssen 2010, p. 232).

Using fiction as a tool in architecture is not a novel concept. Visual 3d rendered visions and models (fictions) of a project's concept employ the imagination to see how you and your 'urban neighbours' can use the space. Fiction in this instance is used as a visual tool to help us see something in a new way and sets our imaginations loose into this future rendered space. My research intent is to bring the corporeal into this mode of making fiction. Using ArB models for re-evaluating urban-making in an 'imaginary' mode of thinking needs to be choreographed with intent: desire of ecological behaviour, envisioning an alternate food-landscape in the city, and encouraging a different urban-making ethos linked to body, food and time. Participant's imaginations are triggered by several means through different interventions using embodiment, senses and time as working agents, answering the question - what role does imagination play in the research? Below is a list of each intervention with this question in mind:

- Urban CoMapper: By imagining what is, why and what could be. Having an anonymous say recording a 'place on the map.' For some, seeing a functioning foodscape in the city can be perceived as being so different that the discovery is enough to spark the imagination. For others, the imagination is welcome to soar beyond to envision more landscapes of such kind and what they could be.
- Safari: Imagining is set alongside a collective imagining as part of an expedition wrapped in adventure. This 'Collective creativity is the creativity that emerges from the interactions of ideas of diverse people rather than from the mind of any given individual' (Marion 2012 cited

in Nijs 2015, p. 17). Adventure sparks the imagination, an adventure of another 'worldly' approach to food and in living in the city together. Here urban-making is conceived as a different set of *movements*. An embodied method to produce a collective memory and enable situated knowledge to be developed.

- Paperscapes: The entry point to imagination is a script by natural farmer Masanobu Fukuoka and his permaculture-like approach to farming. Small portions of Fukuoka's 'One Straw Revolution' script come to life. Students construct and model the texts from paper in a 'paper'scape garden reflecting 4 seasons in one moment with a biomimetic approach to explore living systems. Imagineering allows for the learned knowledge to emerge and become visible as a spatial narrative. Nel Janssens refers to this type of knowledge transformation as a 'Poetic expression. This relation between imagination and reality is linked to the relation between expression and perception' (Janssens 2012, p. 86).
- Butoh Performance: Imagination comes in the form of a metaphor and through mimesis by re-enacting inside this conscious-made ecosystem. The Butoh dance becomes a narrative with the space and creates a in-situ commitment to being in an imagined garden. Both the performer and each member of the audience have their own interpretation of the staged script. The performance brings the paperscape stage to life, igniting the audience to imagine a place and time elsewhere and for the performer to 'perform' their Butoh as a dialogue with the garden. Nordic Butoh dancer SU-EN writes, 'the Butoh body is charged by its own necessity. It recycles its environs. It is an organism, not a shape. Butoh dares to transform the initial reality of the body and passes the contagion to the spectator. The viewer again recycles this received statement of existence into owned experience' (SU-EN et al. 2003, p. 169).
- Butoh workshop: Participants train their ability to trust their own imagination through learning and working with a Butoh body set into different configuration of following and leading, touching and sensing perceived objects in the campus environment. The imagination is structured by what the senses communicate.
- Instant Cartography: Participants use imagination to draw lines of memory in various representative forms. They envision routes back to a place they are not going to but perhaps have been or passed by every day. These imaginings are transferred onto paper and followed as guided instructions.

All the above corporeal models use narrative through bodily engagement, activating the senses, and placing the body in a timed condition. If we were to associate foodscapes as 'staged theatrical spaces' in a way that they 'generate different forms of sensory experience' (Chaney 1993 cited in Cowan and Steward 2007, p. 7) there could be a way to bridge the gap between audience (passer-bys) and performers (gardeners) in terms of their positioning in the city. I refer to passer-bys and gardeners because both agents are present in and around a garden. It is important to keep in mind

that not everyone will engage in the act of gardening and that there is a strong requirement to take into account the individuals who merely 'pass by' the site. However, if we return to the idea of garden as theatrical stage, it is clear that the space will arouse an audience due to its positioning in a city. The gardening can be considered a mode of performance in everyday urban life which could be seen to inspire an 'instruction' for sustainable living simply by the aesthetic knowledge it conveys to the public.

The research aim is about generating a transformative behaviour using modes of imagineering and staging fiction. From the perspective of artificial science, Bo Dahlbom (et al. 2002, cited in Janssens p. 187) puts it clearly when he states, 'it is imagination, the capacity to see the world not as it is but as it could be, that makes it possible for us to change the world.' The next section looks further into the concept of performativity along with the use of metaphor in staging fiction, all of which require imagination.

3.2.2 Performativity and Metaphors

A movement, an act, an action, a performance. Each intervention is carefully composed to create a situation of inter-action. Dyrssen's (2010, p. 226) notion of performance states that, 'Performance is both to act in a situation and to make something act, that is, to investigate by making-action as well as composing the set-up. Performance continuously produces examples that can reveal new aspects, meaning and questions. Analysis is accomplished through action, by staging, provoking or changing the situation'. What has been conceived as staging fiction is part of performativity.

The series of interventions are aimed at placing the body at various explorative junctions. The constant situation throughout is the context – foodscape – both as live and imagined versions with each intervention changing to produce divergent corporeal interfaces. For example, the safari placed the body into several actions and movements such as bicycling, walking, eating, sitting, talking, close, far, near, soon...over. The Urban CoMapper intended to make the body stop and reflect into the digital device, a moment of silence and withdrawal from the safari group. The Paperscapes composition engaged the body and hands to actively think through 'making.' The Butoh body, both in the performance and in the workshop, went into a deep connection with the site and the body was thrown into wandering through its internal depths via different external conditions. Such a state of reflection reaches a 'Poetics of depth', a term Baudelaire explored, 'The vertiginous extension, not out into the world but toward the abysses man carries within himself...Inner space is as infinitely explorable as spaces of the earth' (Glissant 1997, p. 24). This is a beautiful mental image because if inner space is as vast as the earth, then embodiment is certainly crucial to investigate that depth and to bridge connections between inside and outside.

As the research progressed from cartography to choreography the approach emphasized more on bodily reflection. As situations changed, there was less in-situ contact with garden sites and more contact with imagined 'scapes.' Standing in real nature is very different from being inside a paper-

made version of it, and the response needs a deeper visceral methodology like Butoh dance. Especially since the dance form is trained by recreating imagined states of nature's elements. For instance, a butoh training instruction may be to be a stone or rough shoreline by the sea. Thus, for me it seemed possible to evoke a 'nature' response from using Butoh even if the imagined space is made of paper. This cross between nature and dance form brings on the model of using biological metaphors as instruments in staging fiction.

Metaphors have been used considerably to illustrate human to nature relations. Terms have been devised such as 'Superorganism' (Girardet) or 'orgasmic metaphor' (Deleuze 2006, p. 8) to describe the relationship of humans to nature in cities and societies but what occurs when the metaphor is re-enacted and immersed rather than merely used as a classification (See section 6.2.3 for Deleuze's term). Two of the techniques used in Butoh practice - mimesis and metamorphosis - are important because they create a way to imagine the 'other' and another behaviour towards and in nature (paper 2). Hijikata's training instructions to his pupils were not just 'how to move, but what to imagine while they moved in order to alter their performances' (Baird 2012, p. 7). In this altered 'imagined' state, he gave his students metaphors from nature such as a rock, wood, wind, mist or light, or from nature's organisms such as a snail, snake, or bird. If one embodies a 'nature', this would also mean that one embodies time-space in a different manner because they are intricately linked. Hijikata explains that, 'Butoh plays with time; it also plays with perspective, if we, humans, learn to see things from the perspective of an animal, an insect, or even inanimate objects. The road trodden everyday is alive...we should value everything. It is a question of tearing down the division in humans and animals and other species.' Therefore, the kind of metaphor used is vital because it sets up a 'relation' with the metaphor and thus the relation to and with nature is also altered. These learning methods for Butoh hold parallels with practice of biomimicry in which nature is seen as an inspiration to tackle challenges sustainably. A brief explanation of the origins of the word Biomimicry is necessary – *bio* for 'life', *mimesis* for 'to imitate'. The term was coined in 1997 by Janine Benyus, whose institute has become a resource for designers, architects, and other disciplines, and who invites biologists to the design tables to sift through nature's solutions for their project challenges. For instance, a design for thermoregulation used by animals from cold climate regions may be inspiration for developing a design for insulating a building. These solutions taken from evolution come from nature's 3.8 billion years of a research and development period (Benyus, 1997). Biomimicry, or biomimicry, uses a design template on three levels – form, process and system (from paper 2, p. 13). However, in comparison, the butoh method adds a new layer of complexity to this relation with nature as a design instrument because it takes the inspiration with nature by re-enacting it. It uses the form, process and system levels as metaphors for understanding space. This becomes interesting when you relate Butoh to biomimicry as a *dynamic* process rather than only as a mimesis. In essence, Butoh does not mimic space, but in its interaction with time and space it can be used to re-articulate, re-formulate, and produce new meaning for architectural space and for everyday urban rhythms. Just like an organism that transforms into its evolved form over a period of time, a process using nature as a metaphor can

also signify a transformation. Butoh dancer Min Tanaka states (from paper 2, p. 13):

‘There are many important aspects to Hijikata’s dance, but for me, the most important was his belief in perpetual change, like in the movement of nature. Trying to bring the earth to life again is my purpose. I want to make dances that are based on natural phenomena. I strive for a sense of fear or danger’ (Blackwood, 1990).

There is a correlation between choreography, Butoh’s conceptual underpinnings, and the potentials for ecological practice within this framework set against parameters of time, space, and nature. The systemic challenges faced with urban food system are highly complex and get more difficult to grasp given the many expertise available. However, using metaphor in performativity could be utilised to help in this endeavour as method to transfer information, suggest behavioural options, and to catalyse action. Lister and Nemeskeri also agree that ‘exploration and metaphor are key’ modes to be exercised especially at early stages of developing a new set of values. They look to Anthony Weston’s work in the field of environmental ethics in which he believed that ‘a great deal of exploration and metaphor is required, from which only later do the new ethical notions harden into analytic categories’ (Weston 1996 cited in Lister & Nemeskeri 2010, p. 110).

3.3

A platform for interventions

In order to investigate the tools and processes in my research, two Swedish platforms are constructed in two cities. The first is a transdisciplinary group called Gröna Linjen in Stockholm. The second is an annual event called the AHA! Festival at the Department of Architecture at Chalmers University of Technology in Gothenburg. Both ‘laboratories’ become an experimental ground for creating opportunities to explore the interface between art and science together on common ground. When Dyrssen (2010, p. 231) refers to ArB as explorative experimentation, she encourages these type of crossover teams and events. And indeed, she has been an advisor and moderator in the festival-making and in my thesis as main supervisor. She regards that ‘This diversity of voices would also open up interesting possibilities for communication between scientific and artistic modes of making-thinking, e.g. by critically re-contextualizing scientific data, or creatively expand a logic argument into artistic, associative experimenting’. Both voices are necessary when considering the complex challenges surrounding environmental ethics.

One further platform I was invited to participate on, but not privy to initiating, is the Living Archives research group. The research group is based at Malmö University and examine various archives as living entities rather than static information stocks that can be vibrant social resources, somatically driven memories, and cases for embodiment. In the next chapter, the platforms and their interventions are described in further detail.

Chapter 4

interventions: workshops & performances

cook

fry, bake, simmer, boil, poach, stir

The Gröna Linjen and AHA festival provided opportunities to stage explorative interventions investigating the methodology: digital and bodily cartography, and bodily choreography. The table on the following page is an outline of methodology, platform, with correlating papers and research questions (table 2).

4.1

Urban CoMapper – a digital tool

The digital cartography interface was a smart phone app designed to explore the urban green potential of urban farming initiatives in existing and potential sites. The tool was developed in collaboration with PhD colleague Hye Kyung Lim, however with diverse research intentions. Kyung's research focussed on mixed and compact cities, whilst mine focused on urban green potential but the design of the tool and collaboration with other developers was joint. The tool has a beta web-based setting where all the gathered data can be stored and used in the planning process or by citizens to find sites for gardening. The intention is to build a virtual platform to connect citizens, the urban environment and experts through an interface for critical mapping (figure 16). In this regard, the tool was intended to provide an option for spatial agency to begin virtually. Via their devices, participants can effectively contribute to the urban green planning process as well as to the expanding urban farming movement. The tool charts existing and potential sites for gardening via a real-time comprehensive survey and aims to extract organoleptic criteria and qualities of such spaces (figure 17).

The interface asks users to log locations and report their perceptions according to several interlinking factors for data collection. These factors include:

- Size – the size of existing sites and location options for potential gardening sites
- Style – the existing design elements of the site, such as soil options and other built elements, along with a sensorial description using visual and audio uploads

Platform	Interventions	Methodology & Format	Papers	Research Question
Phase 1				
Gröna Linjen	Safari 1	Urban CoMapper smart phone Tool, Safari survival kit booklet, different embodied immersions and experiences of urban farming	Paper 1	What is an embodied practice in architectural urban making that can instigate spatial agency and deeper environmental commitment both in individual and collective forms?
	Safari 2			
Living Archives	Instant Cartography	Getting Lost, Finding transient guide, Hand-drawn Maps	none	How can the act of cartography create new forms of social engagement and local know-how? As well as transfer a knowledge to the local community by asking the way?
Phase 2				
AHA Festival	Paperscapes: the imaginable territory of farming	Staging fiction – making of a garden context stage with trace paper by Chalmers BA students	Paper 2	By positioning the singular body in urban-making via way of artistic research in the field of Butoh dance and imagineering, what paradigm shifts in sustainable behaviour could concur by developing and staging new methods of situated contact?
	Butoh Performance: Organoleptic Interfaces	Performance by Butoh performer Frauke on Paperscapes stage with a soundscape by Derek Gripper		
	Butoh Workshop: Bodily Choreography via Butoh	Butoh Dance technique and training		

Table 2 – Research Interventions, platforms, methodology, papers and research questions

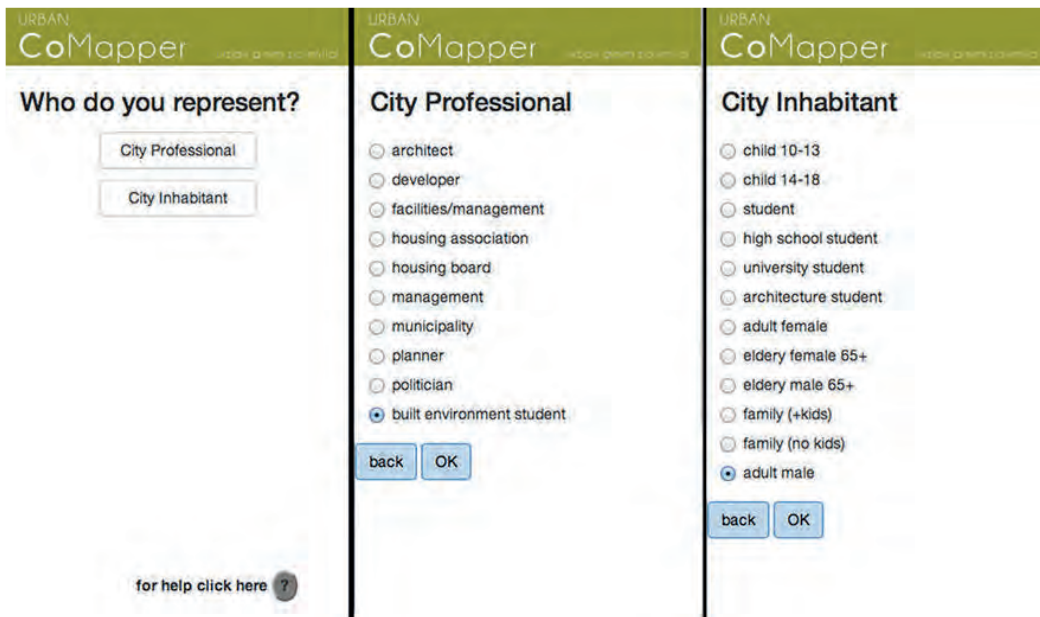


Figure 16 - Urban CoMapper Interface (3 screen shots) - Categories for registration

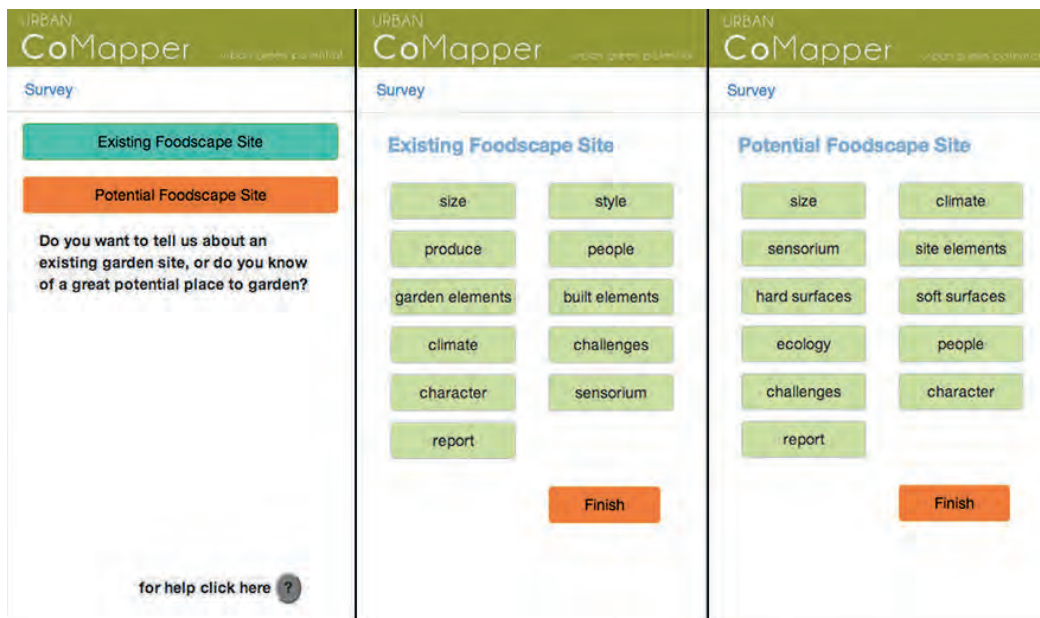


Figure 17 - Urban CoMapper Interface (3 screen shots) - Categories for existing and potential sites .

- Site conditions – elements such as hard or soft landscaping, surface elements, zoning areas and traffic conditions
- Produce/ecology – the existing green infrastructure present and biodiversity
- Climatic conditions - sun, wind, and seasonal perception

The creation of the app was intended as a transdisciplinary process with GIS specialists and software designers from Change Makers, utilizes smartphones and diverse geo-technology to create a versatile urban survey mapping system for a real-time visualization strategy (figure 18) - (see Appendix 3).

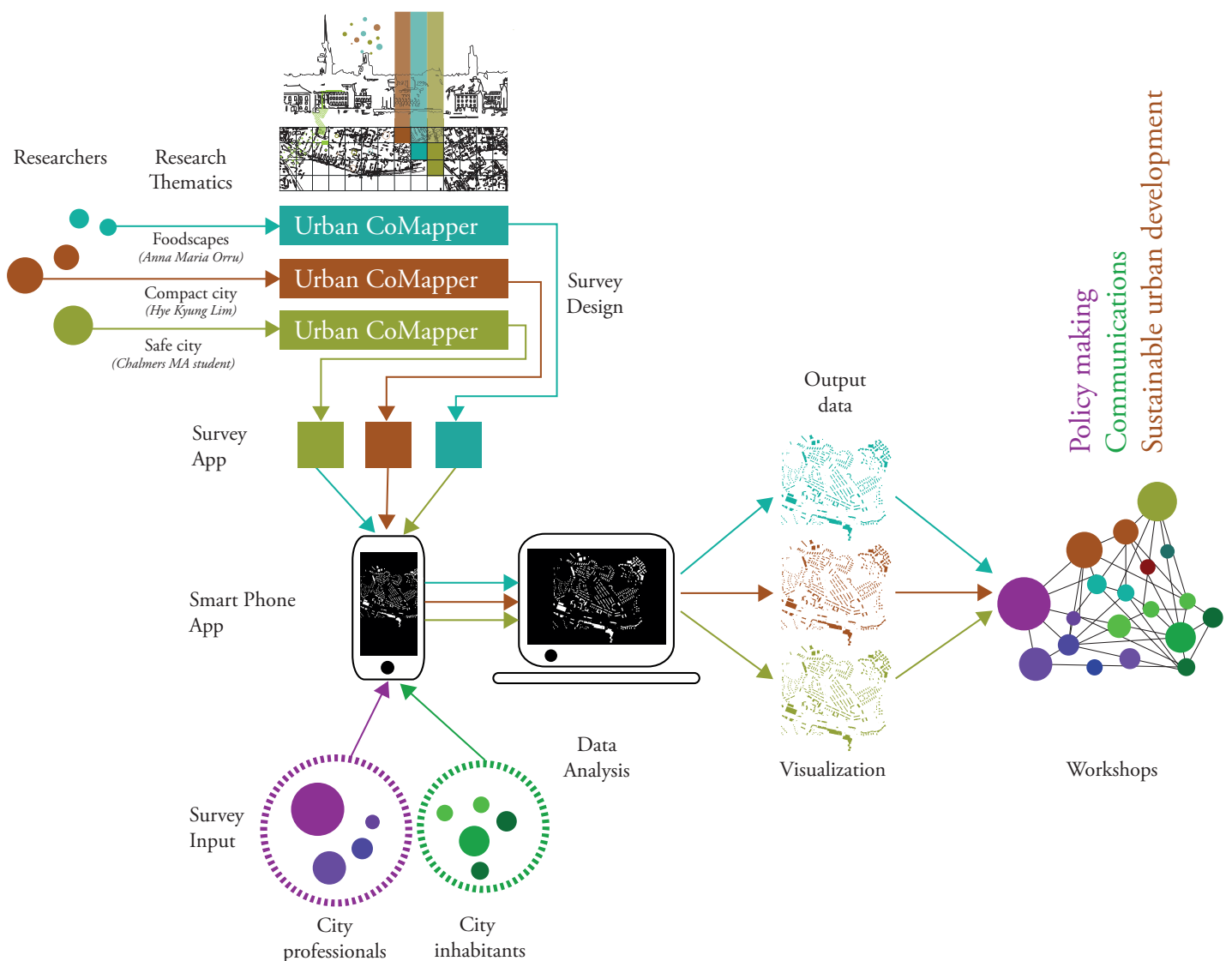


Figure 18 - Urban CoMapper diagram showcasing the system's sequencing framework for data

© Graphic credits: Hye Kyung Lim and Anna Maria Orru 2014

The evaluation and testing of the tools took place in two staged Gröna Linjen safaris with several research aims:

- 1- urban dialogue platform between expert and citizen for co-creative mapping
- 2- location based real-time mapping from the sites
- 3- real-time survey and data collection
- 4- relation building between site, citizen and expert and a situated knowledge transfer
- 5- potentiality towards policy and city planning input for productive urban green spaces
- 6- potentiality for urban lifestyle input toward sustainable food behaviour

The initial intention of the app was to understand the role of food in the urban landscape and its eventual agenda-setting into the green space development and planning.

4.2

Gröna Linjen

The Gröna Linjen is a vibrant transdisciplinary platform that partakes around the theme of urban farming activities in Stockholm. The core of the platform was started by six persons: (in alphabetical order) Ulrika Flodin Furås (journalist), Mattias Gustafsson (landscape architect), Ulrika Jansson (artist), Malin Lobell (artist), Anna Maria Orru (doctorand) and Christina Schaffer (geographer)

The name for the platform has several identifiable meanings. It is a graspable geographic configuration for the study. The platform is named after Stockholm's subway green line #17, coincidentally also the route where most urban farming initiatives are taking place in Stockholm. The aim was to depict urban food in creative and engaging ways. Its intentions were multifold:

- to introduce locals in Stockholm to the various urban farming sites that are present, or could be present in potential underused urban spaces
- to start up urban discussions and create a 'space/place' for the discourse on the challenges of growing food in the city
- to introduce unique methods for critical cartography in same interventions and weave together the different urban farming initiatives along the route and provide them with 'a place on the map', thus introducing the urban farming community to one another.
- to provide artists the opportunity to be engaged in the urban gardening movement
- to highlight the both opportunities and barriers provided by linking art, science, practice and research in creative and engaging manners

- to provide citizens an alternative channel to participate in the urban design process that are site specifically situated and mapped using the Urban CoMapper tool
- to contribute to important research within the urban food movement

The intention was to set up a platform on various scales: virtual, digital and real-life. One scale included real-life presence on different sites and in the soil, whilst another was virtual in social media; the group established a Facebook page with over 200 friends which is still expanding as people discover the initiative. The digital platform has been discussed via the Urban CoMapper tool. The intention with finding different channels for collaboration between the urban food topic and inhabitants, expert and citizens, was to find different methods for disseminating the challenges addressed. These methods, for my research, was to explore different ways of embedding the body with the discourse and context. This included artists on the core team who both work with gardening as a medium and exhibition/intervention space. Ulrica Jansson works with place-specific interventions in public space focusing on sustainability, whilst Malin Lobell works with a focus on participatory art, public art, and political matters surrounding urban food scene. The combination of different exploration provided for a kaleidoscope of interventions that immersed participants in hopes that they would be aware of the potential of growing food in the city. The potential included the ecological resources gained from gardening, but also the social and knowledge gained from all the different perspectives and methods that was present. The aim was to investigate the various forms of agency that could occur with presenting such a platform, some being more engaging and hands-on than others.

The Gröna Linjen staged two interventions that looked into the initial concepts of digital and bodily cartography. The platform held two interventions referred to as green expeditions called safaris; safari 1 (June 15, 2014) and safari 2 (September 21, 2014). Each was staged at a different moment of the summer season so that participants would have the experience of different ‘times’ and aesthetics in the growing activity.

4.2.1 Safari 1 and 2

The Gröna Linjen platform organized two urban safaris which served as opportunities to explore the digital and bodily cartographical explorations. Around 40 participants embarked on the overland expeditions intended to foster interest and know-how about urban farming, encourage a tactile engagement with the neighbourhood’s edible fabric, knit together existing farming initiatives, as well as showcase potential sites for gardening. The body is engaged as the main interface to explore diverse cartographical methods from an organoleptic perspective, meaning that the different events staged intended participants to activate their senses engaging with soil, body and stomach. To recall the definition, organoleptic means to ‘stimulate the senses’ and the intention with the combination of sites and experiences aimed to do just that – stimulate and immerse – in the situated context of study. The immersions presuppose that the capacity of such green spaces stimulate the senses leading to a heightened awareness of ‘food behaviours,’ therefore the aim is to provide strategic engagement with

the sites combining location with sensory-based experiences. Thereby guiding participants on an experience of this kind, introducing them to a growing community, and wrapping the experience in a creative playful envelope; overlapping sustainable living with garden play, composing sustainability into a pleasurable encounter (see Appendix 2 for details and further information).

Both safari interventions traverse through Stockholm on a bike-riding tour set along an agenda of garden visits (figures 19). The intention here is to activate the body on a number of levels: bike riding, eating, hands in the soil, tasting, discussing, manoeuvring etc.. In addition to various bodily experiences, the safaris intended to ‘intersect’ food and growing food also artistically. For each event, artists working within the field of ecology, food, and gardening were invited to further diversify the experience.

Safari 1 took place in the beginning of the growing season in June and traversed through five Stockholm’s sites and met various communities involved behind the growing (figures 20). These sites were along a cycle route that dissected through the centre of Stockholm in some of the most established gardens such as Trädgård På Spåret and Stadsodling Högalid in Hornstull. Participants were given a Safari Survival guide to keep them informed on their journey with a map and further information on the different sites and people involved (figures 21)(See Appendix 2-figure 2d). The event began with the public unveiling of the Urban CoMapper app for the first time and participants were asked to input data during the day. Test runs had already been done by myself and my collaborator Hye Kyung Lim. There were 142 entries recorded. The phone became an interface used for tacit reflection, whilst the body became an active transporter, incubator, and device tracing the landscape on ground and from the stomach. Artists invited included:

- Malin Lobell staged a political exhibition asking ‘are plants political?’ (figure 22)
- Andrea Hvistendahl’s performance on ‘No Waste Cooking’ cooking with expired produce from local supermarkets, and recycling them for after safari dinner (figure 23)
- The safari ended with Hvistendahl’s meal and dialogue about arts role in gardening by Malin Lobell and Ulrika Jansson (figure 24)



Figure 19 - Gröna Linjen Safari 1 map (left), Safari 2 map (right) (See Appendix 2)

© Graphic credits: Anna Maria Orru, David Relan 2014

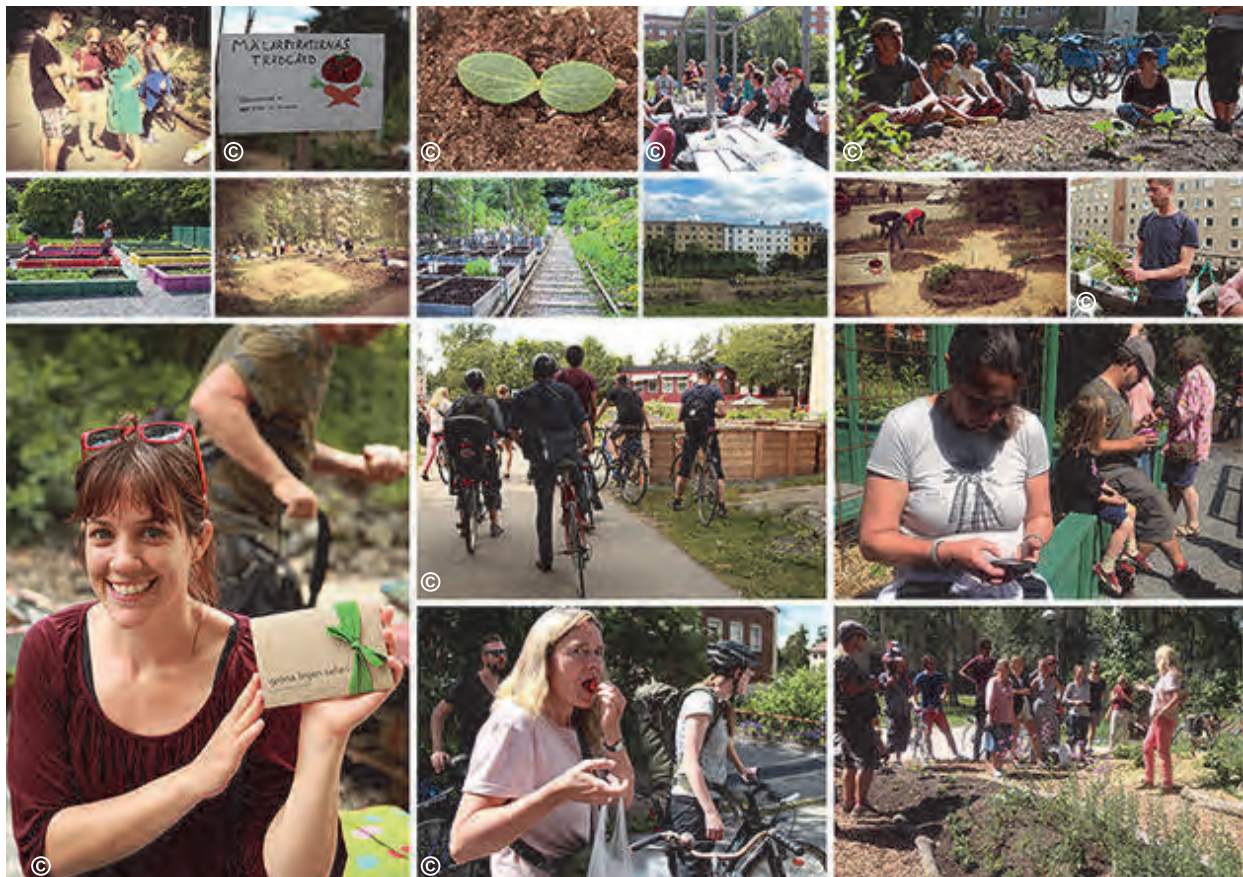


Figure 20 - Gröna Linjen Safari 1, 15 June 2014

© Photo credits for © images: Ulrika Flodin Furås, other: Anna Maria Orru 2014



Figure 21 - Gröna Linjen Safari survival guide booklet

© Photo credits: for first left image Ulrika Flodin Furås, other: Anna Maria Orru 2014



Figure 22- Artist Malin Lobell's exhibition on the politics of plants

© Photo credits: Ulrika Flodin Furås 2014



Figure 23 -Andrea Hvistendahl 'No Waste Cooking' performance reusing local supermarkets food waste



Figure 24 - Artists Malin Lobell and Ulrika Jansson in discussion



Figure 25 – Safari 2, preparations at potential site inspection



Figure 26 - Safari 2 invited artists: Malin Lobell foraged map and the Sunshine Socialist Cinema
© Graphic credits: Malin Lobell. Photo credits: Anna Maria Orru, Malin Lobell 2014

Safari 2, under heavy rain, visited 3 existing gardens and ended at a potential site on top of Fortums utility plant rooftop (figure 25). This time artists invited included: Malin Lobell once again with a map of Stockholm's foraged produce, and the Sunshine Socialist Cinema who would screen old Swedish agriculture documentary on a solar-bicycle run mobile cinema (figure 26).

The main difference in this safari was to show and examine a potential site for urban farming, and with this intention the utility managers and a real estate agent for the area were also included. Of course, the Urban CoMapper tool was once again used to virtually trace the day's events and visits, and another 60 posts were collected (figure 27).



Figure 27 - Gröna Linjen Safari 2, 21 September 2014
© Photo credits: Anna Maria Orru, Malin Lobell 2014

Each nomadic excursion aimed to create a transfer of knowledge, such as information about how to start farming yourself, hands-on practise, information on the necessity for urban farming from a sustainability and social perspective, the tasting of food and getting people to meet their local surroundings and network to see potential for an alternate view of food in the urban context. But also, the agency of who took care of these sites was important and how a potential new site could be induced. There is a need to investigate and disseminate knowledge about places for cultivation and what urban farming entails. The objective of both safaris was to highlight the breadth of urban farming variants in Stockholm and to find potential areas through engaging a diverse audience on the expeditions: citizens, planners, built environment expert and student. The project's audience included:

- Stockholm's gardening stewards that started various urban farm sites that were visited. This includes the sites listed on the existing network Stadsodling Stockholm
- Citizens interested in gardening along the green subway line in Stockholm
- The passive citizen group, the one that passes-by and becomes curious. The one that watches until it feels comfortable enough to say something.
- Planners and policy makers involved in the open green strategy plan for Stockholm. My main Contact has been Katarina Borg – responsible for 'The Walkable Green City report' (Stockholm Stad Stadsbyggnads Kontoret 2013)
- Municipality of the various counties which the green subway line#17 transverses. The safari was also attended by planners from Nacka - Thomas Magnusson, Stockholm - Max Goldstein and Sodertalje – Jordan Lane
- Real estate managers working together with Fortum utility to discuss value of the land with urban gardening potential. This was attended by Anna Lidberg from Fortum, and My Peensalu and Britt Mattsson from Stadsdelsförvaltningen Norrmalm

The aim was to invite interrogation of what we eat and where our food comes from, while also encouraging a certain intimacy to emerge with the urban landscape and a re-evaluation of its seasonal rhythms. The safari was followed by interviews with six individuals about their experience and use of the smart phone app (See Appendix 2 - full transcripts of interviews available upon request).

4.3

AHA Festival

The AHA festival was a platform to investigate the disciplinary borders between art and science in a festival staged at the Chalmers University of Technology hosted by the Department of Architecture. The festival was also an underpinning to highlight the artistic identity of the department further

which was called for by its head, Fredrik Nilsson, and to provide opportunities for collaboration between the architecture department and other departments at the university. It is a three-day event providing enlightening experiences, staging surprises, new thoughts and displaced perspectives that is meant to lead to alternative modes of thinking about the space between art and science. The festival invites scientists (physicists, historians, mathematicians, medical students, astronomers, engineers etc.), artists (dancers, musicians, composers, painters, poets, chefs) and architects from within academia and practice who reside in these borderlands to explore both art and science as key knowledge building devices. The core team of organisers are: (in alphabetical order) Claes Caldenby, Peter Christensson, Anita Ollár and Anna Maria Orru, with advice from a poet-in-residence Morten Søndergaard, Andrej Slavik and Anna Sofia Wannernskog. The festival was an extension of the artistic research taking place in the department of architecture headed by Catharina Dyrssen, my supervisor, also whom we consulted on the program design. There have been two festivals to date: (figure 28)



Figure 28 – Poster for AHA festivals 2014 and 2015

- AHA Festival 2014¹⁸ (October 21-23): the main theme for the first festival was ‘Embodiment’, with sub-themes for each day: feet, head, and torso.
- AHA Festival 2015¹⁹ (November 2-4): the main theme for the second festival was ‘Numbers’, with sub-themes for each day: proportions, poesis, and patterns.

18 A short documentary of the festival can be seen online. Available at: <http://ahafestival.se/2014.html>

19 A short documentary of the festival can be seen online. Available at: <http://ahafestival.se/>

Each invited 'performer', whether in the discipline of art or science, can interact with the other fields to find possibilities to collaborate through improvised performances. During the festival, interventions came in the form of lectures, workshops, conversations, exhibitions, concerts, and performances. The festival had presence on social media and online through Facebook, Chalmers communication forums and with a website.

The AHA festival would provide a stage for three interventions that furthered and deepened the bodily cartography research. These were: Paperscapes, Butoh performance, and a separate Butoh workshop following the performance. The first festival theme on 'embodiment' was particularly vital for carrying out my research explorations. Written by the core team, the theme was described as:

'We turn the searchlight on a fundamental precondition for art and science alike: embodiment as the bedrock of human experience. Not the body as a "thing among things", "a collection of physico-chemical processes" – in the words of the philosopher Maurice Merleau-Ponty – but rather as a "permanent horizon", "a dimension in relation to which I am constantly situating myself". Without such a horizon, both art and science would be devoid of meaning as well as direction. Without such a dimension, neither art nor science would be conceivable as the human endeavors that they inescapably are. And if all this is true of art and science, it is all the more true of architecture. Most at home in the interstices between the one and the other, doesn't architecture boil down precisely to this: a disciplined yet creative exploration of our common state of embodiment?'

The division of the theme into the sub-themes was interesting in order to explore how various components of the body – feet, head and torso – contribute to a state of embodiment and transdisciplinary collaboration. Two international performers, Hamish Fulton and Francesco Careri, invited to the festival were intentionally put together to see what would come from their interaction (figure 29). The aim was to see how the two would use their skill to traverse the Gothenburg landscape using their methodology. Both performances took place on the Chalmers campus. Hamish Fulton, an artist from the United Kingdom, uses walking as his artistic medium to explore different areas worldwide documenting them various formats such as photography. He says, 'What I build is an experience, not a sculpture' (McKibben et al. 2002, p. 16). Fulton's art connects to the environment through an embodied method, encouraging a gentle revisit of individual's personal relationships with it. For instance, he may set a walk at a juxtaposition of seasons, observing the interconnectedness between the wilderness and sometimes the urban environment (Fulton, 1999). Francesco Careri is an architect and urbanist from Italy who uses walking as his medium for research. Careri calls walking 'an instrument of phenomenological knowledge and symbolic interpretation of the territory, as a form of a psychogeographical reading of it' (Careri 2009, p. 11). Historically, walking has been used as a tool for interpreting landscapes, expanding, mapping and understanding them. Both performers had never met but knew of each other's common use of walking as a medium of expression. Fulton performed indoors at the student union building using a repetitive rhythm of walk to trace the same line continuously for 2 hours. After an hour, I observed that participants went into a 'trance-like' state of meditation and bodily movement. Francesco Careri performed outdoors in the green perimeter surrounding the campus with a troop of orange rain-coated participants. Participants in his workshop



Figure 29 - Careri (top row) and Fulton (bottom row) staging their 'walking' interventions

© Photo credits: Milad Abedi

scaled the wet hillside adjacent to the department, found an abandoned piano thrown down the cliff side, and protruded the inner walkways of the dark wooden clad single-family detached homes neighbourhood. Each performer took participant on an experience through a series of interfaces.

Using bodily experiences to understand a context is similar to methods used in performance studies and how to study different ways that a body can be sourced for comprehending an emotion. The term *psychophysical* smudges the borders between mind, bodily interaction and space, where the body in a setting is used for creating awareness.

4.3.1 Paperscapes 'The imaginable territory of farming' workshop

The crafting of this 'paperscape' resembles the making of a symphony as a musical score inspires the act of making of a farm-scape inspired by Masanobu Fukuoka, creator of the natural farming technique.

This farming typology is one which is in-tune with nature similar to permaculture technique but with no tillage, no fertilizer, no pesticides, no weeding and no pruning. Fukuoka grew diverse produce year-round without traditional farming techniques associated with scientific agriculture such as pesticides and fertilizer. Chalmers BA students were given short 'carefully chosen' excerpts from Fukuoka's (1978) book 'One Straw Revolution' and had a three-hour workshop in which they needed to create the stage for Butoh performance during the AHA festival based on these concepts (figure 30).



Figure 30 - AHA Festival 2014: Making of Paperscapes

© Photo credits: Milad Abedi (top 2 images)

The theme on this day of the festival is 'torso', the central bodily motor of movement both for Butoh and for the act of farming. To get the students to understand this scientific construct, I asked them to represent and re-enact the knowledge in a physically built farm-scape of trace paper. The challenge was also to reflect time by representing the four annual seasons in relation to farming. This paper was chosen because of its light weight, translucent behaviour and noisy property. Thereby including the different sensorial experiences both in the making, and afterwards, performing of the farm-scape.

About 30 students were divided into three groups representing different physical boundaries of the space: air, ground and edge conditions. In Butoh, choreography is most often given as a metaphor

'instruction' via a key word. In Paperscapes, students were given keywords for surface materials which indicated seasonality: leaves, crunchy, freshly fallen off, puddles, wetness - (autumn), snow, slush, fresh snow, ice, soil frozen, slippery - (winter), fresh plant, seed, mist, droplets, flowers, fresh soil, mud, moss, fruit, vegetables (spring and summer). These metaphors were supplemented by Derek Gripper's (2014) music installation on Fukuoka with keywords: seeding, constellations, phasing, rhythm, parallel harmony, overlaying permutations, companion plantation, diverse arrangements. Gripper is a South African musician who uses Fukuoka's philosophy in his composition.

What emerged was a collapse of all seasons into one space, in one afternoon, for one performance. The context resembled a food garden paper sculpture which was now a ready stage for the Butoh performance to begin.²⁰

4.3.2 Performance Butoh - 'organoleptic interfaces'

The butoh performance 'Organoleptic interfaces,' placed the body in negotiation with space, time and food constructed in the paperscapes stage. I asked Butoh performer Frauke to enter into a bodily dialogue with the paper-crafted space for a 40-minute performance (figure 31). She entered the space for the first time as she had not been present for the making of paperscapes. This was done intentionally to keep her performance raw from previous prejudices, and she also did not know that the space and soundscape was influenced by natural farmer Masanobu Fukuoka. To recall the definition of 'interface' which refers to a surface forming a common boundary between adjacent regions, bodies, substances, or phases, which is the intention of the Butoh methodology. The interface in this instance is also between the real and the imagined - a staged fiction. Given these interfaces, how would the constructed farmscape be perceived by the butoh body? And what cross-dialogue would occur with the space between Frauke and Paperscapes?

In Butoh form, Frauke activates the voids around her body as she gets to know the constructed world through her body. The senses become her measuring ingredients for this bodily engagement. The space is negotiated and can be viewed as a form of communication, whereas space influences the body and the body influences space. Section 3.1.2 describes how Butoh is not a preconceived choreography but rather emerges from the contact and immersion in a space. In essence, the space choreographs the dancer, rather than the other way around. It is a dynamic process, intimate, fragile and unknowing. My intention to setup a metaphor around the natural farming and a space/time collapse was to explore the concept of metamorphosis that occurs in Butoh and to investigate how this bodily dialogue with space is perceived by the performer. In discussion with Frauke, she clarifies how she views the time, body, space relationship in Butoh:

'Time is considered as a physical experience, and based on a reflective perspective of space. In the practice of Butoh, the body is carried by the space. Butoh dance studies nature's conditions, processes and cycles. To understand a physical condition, the dancers use their body to study the journey of a

20 A short documentary of the Paperscape making and butoh performance can be seen online. Available at: <http://annamariaorru.com/Organoleptic-Interfaces-Butoh>



Figure 31 - AHA Festival 2014: Organoleptic Interfaces Butoh Performance

© Photo credits: Milad Abedi (top 4 images), David Relan (bottom 2 images)

movement. The aim is to master the cycle of arisen conditions - to send out a movement into space and in return, be able to bring it back. The aim is also to know the route back. This is considered one of Butoh's 'invisible' techniques.²¹

The performance in the imagined garden site took on various organism forms conducted by the space. In discussion after the performance, Frauke stated that the site did not conjure images of a farm, but evoked memories of any garden configuration. During her performance, Frauke uses

²¹ An interview was conducted with Butoh dancer Frauke, Caroline Lundblad, on 18 November, 2014.

several techniques to begin dialogue with the space.²² She develops masks and faces including kali and teeth monster.²³ She creates processes known to Butoh that help her such as growth, spiralling, movement from ground to air (and vice versa), and a sense of decaying (and vice versa). She uses the quality of a tree for instance with its twisting power and material properties. Other materials include slime, bacteria, flower, salad and stone that derive certain natural worlds such as bacteria, light, tree, bee or stone world. Each world is conditioned by Frauke's understanding of natural constructs that are then performed in both. For example, the light world is put into a metaphorical construct of photosynthesis, and imagined growth, algae, curling flowers are enacted. Her dynamic actions in the performance are taken from elements such as fire through imagery of a volcano. When I asked her about the medium of paper, she immediately thought of moist and said that it had been a missing element that created drier movements. There was no smell. I also noticed a very interesting tension between the performer and audience at the end. The space between Frauke approaching them, and their held breathe in silence, created a tension of not knowing – was the piece complete?

4.3.3 Butoh Workshop – bodily choreography via Butoh

The aim of the workshop was to allow students to learn Butoh techniques and understand their interpretation into the field of the built environment. Participants were immersed into the interstices of body, movement and landscape to explore how their bodies are motivated by the environment and vice versa. The intention is that once again, the body becomes a device, cartographical tool, tracing the landscape but in this instance it is an artistic exploration into understanding the urban environment and one's own body. In a way, the landscape becomes inscribed into the body, creating the series of movements that follow.

The workshop is organised into three sequenced parts:

- Butoh training with Frauke outdoors in a semi-natural urban environment on the edge of Chalmers campus
- Once participants have learned the basic Butoh techniques, the training moves indoors to rehearse a cyclical performance where the body now choreographs the space and the participants as a group acting in a swarm-like configuration
- Participants are given a set of questions which they were asked to keep in mind during the entire workshop. They disclose their thoughts and we end the workshop in a dialogue about Butoh, organoleptics and urban-making

The environment chosen for the outdoor work was selected intentionally. Adjacent to the Department of Architecture, the space offers different levels of height and perspective to the campus

22 The notes on specific Butoh techniques are taken from an interview with Frauke about her performance.

23 Kali is a Hindu Goddess known for her power of empowerment. This spiritual dimension of Butoh is not the focus of my research, and if you wish to know more, I recommend the following book: (SU-EN, Sandberg M and Kennedy G 2003) posted in references section.

as well as different material and natural properties. The first moments of the workshop take place on the steep wooded hillside that draws a border between the campus and a single-house neighbourhood. The trees are seen as a separating, or joining, interface. As the Butoh begins, I know the technique of teaching as it is similar to how Frauke taught me. The main step is to build trust with your Butoh partner who helps you in building trust with your body and your sensorial instincts through the exercises given. Participants are put into groups of two in which one person is blind-folded with a cloth on their eyes, while the other cares for them so nobody gets hurt, falls or collides into objects. Each participant then takes a turn to be blind-folded and do the exercises. To explain the technique, I will refer to the person who is blind-folded as person A, and to the person who takes care of him/her as person B. The training comes in a few stepped stages (Refer to figures 32 through 35).

- Phase 1 - Frauke lines up all participants in a long chord and slowly leads them up through the steep hill to the top of the wooded area. The intention here is that the participants can slowly get into a quiet and reflective state. There is no talking, and the bodies are slowly silenced into listening.
- Phase 2 - Person A is facing person B. Next, Person B gently leads person A as they hold hands, and B pulls/steers A in a forward direction, followed by a backward direction. This part of the exercise is meant to develop trust between person A and B. In addition, when blind-folded, this means that the visual sense is obstructed and one must depend on other senses to move through the space. This first part of the exercise allows each participant to practice using their other senses to help guide them around and not rely on the visual sense. This phase goes on for about 15 minutes.
- Phase 3 - At this stage, the participants are slowly relying on their sensorial readings of the space. For instance, you hear the whistling of the wind or the rustling of branches which can alert you to a tree on your path of motion. You alter your route based on what you are hearing, almost as if your ears are touching the tree ahead of you. This sounds strange, but when the Butoh body is in a state of alertness, the senses become entangled and perform in different alterations. For instance, touching is replaced with smelling or hearing and vice versa. When participants reach this stage of 'alertness', the second phase of the exercise becomes more challenging. A similar procedure occurs as in phase 2 with the same partners taking turns at being blindfolded. However, in this instance person A does not guide person B, but merely follows ahead and behind to gently, from time to time, nudge person A away from any danger. In this phase, person A moves through the space forward with better sensorial trust, alone and trustfully. At this stage, they have reached a stage of trusting their bodies dialogue with the site.
- Phase 4 - Participants return in a single line to the more hard-scaped area adjacent to the entrance to the architecture building. The context is considerable different from phases 1-3 as they are no longer in the wooded natural area. The workshop group is divided into 2 groups. In each group, the intention is to now experience the urban environment using the skills of



Figure 32 - Butoh workshop: phase 1: leading in silence into nature (Phase 1)



Figure 33 - Butoh workshop: phase 2: butoh training part 1 (Phase 2)



Figure 34- Butoh workshop: phase 3: butoh training part 2 (Phase 3)



Figure 35- Butoh workshop: phase 4: material interfaces (Phase 4)

the Butoh body which have been introduced in phases 1-3. Each participant takes turns in being blindfolded while the rest of the group looks for tactile experiences to immerse them into. The site offers many situations; a sculpture, an emptied fountain, a pebble walkway and other paved areas. There are wet fallen leaves from autumns windy throwings. There is wet moss on the empty fountain and it is slippery and slimy. The sound of pebbles as feet walk on them opens up for a different understanding of the material. The intention of this exercise is to awaken the participants to the experience of material properties from an inverted perspective. The material is now in charge, if I may say so, as it experiences you rather than

vice versa. For the architecture students, they smile because this is such a different experience of materials they work with everyday in their concepts. This time round, the materials are not selected from a catalogue, but rather understood in an embodied manner.

This part of the workshop is now complete, and participants return to the indoor space, where the temperature is more pleasant and their tired bodies, from an overload of sensorial experiences, are on full alert. Frauke now leads them in an internal private performance. This part is an intimate performance on understanding speeds, both on the inside and outside of the body. Participants begin walking in a circle following one another in different speeds, depending on Frauke's momentum. Their eyes are all closed yet they stay in unison and equilibrium in the circle (figure 36).

The final stage of the workshop is to investigate what discoveries were made by participants in



Figure 36- Butoh training with Frauke indoors: a circular performance



Figure 37- Butoh workshop: question and discussion

terms of the following questions (figure 37). The answers given here are summarised from all the collected post-its during this part of the workshop (for full workshop Q&A details see Appendix 4):²⁴

- 1. *Describe your journey into a state of heightened senses (the Butoh state). What did you notice?*

There was a general reaction of attention, safety and calmness. Participants had a much heightened sense of space and used senses to describe elements in the surrounding, such as sound of leaves or rain. A recognition that nature can be experienced through the sense more – ‘knowing the weather’ by touching and listening. One participant started to make a map with the ‘heart.’ The same one understood that his/her senses help in understanding topography.

- 2. *Can you compare this ‘activated’ state of body to your ‘normative’ state (usual being). What is the difference?*

Mostly, participants focused on the activated body in this question. The activated body was seen as awake, aware, focused on the here and now. More calm, more alert to feelings encountered. The alert body ‘saw things that I forget to notice in everyday life.’ The activated body understood the connect between body motion and change. This body got more information and understood surroundings more. The normative body was said ‘hard to be neutral.’ Body does or body cannot do.

- 3. *What was your experience during the material surface dialogues (phase 4 outdoors). What conversations with the urban environment took place? How did the ‘materials’ seem to you?*

The reflection of material properties was linked to an emotion such as joyful, inviting, grateful or to the properties tactility feel such as sift, hard or wet. Some noted a feeling of safety for material properties when they were inside a sculpture. There is an understanding that material properties reveal and make the world around us and ‘locate’ us in the type of space we are in. One participant encountered plastic waste and the immediate reaction was ‘why didn’t someone throw this away?’ There was a response of something out of place, and an ecological behaviour emerged. Finally, some material properties evoked memories. One participant touched a bicycle and immediately recalled how difficult it is to ride a bicycle in the rain.

- 4. *When focusing on your internal speed (indoor exercise), and in the butoh technique of erasing of oneself, what occurred?*

This question only provided one answer - ‘Tension, everything feels’. Perhaps the question was too difficult in such few hours of Butoh practice but nevertheless it is provoking that the experience is one of ‘tension.’ This is a better word than alertness.

In the discussion that followed, we reflected on how different it was to learn about architecture from the perspective of using other senses besides the visual. Participants were very inspired by the use of the body to do architecture, especially in terms of touch. They understood how the body was carrying the space, and in return the space is carrying the body. Students said that earlier misconceptions of using the body in architecture seen as dangerous and overtly emotional were dissipated. Students connected the use of the body to a re-valuing of space and one’s internal perceptions of it.

²⁴ I have reflected on the participant’s answers and provided short summaries

4.4

The Living Archives

In this short intervention, I was invited by the group to contribute with a workshop for their symposium in June 2015 entitled 'From soil to structure.' The event was a two-day programme that looked into the archival memories associated with soil and urban memories. Their driving questions were: What memories sleep in the soil? Who created them? And how are they shared and transmitted, between people and across the intricate layers of space and time?

The frame for the intervention that the symposium organisers, Elisabet Nilsson and Veronica Wiman in partnership with Mitt Odlå, Stena Fastigheter and local residents, asked for was to leave the site – Leonard terrace. Leonard terrace is a social housing estate on the edge of Malmö which has a vibrant gardening community but you would never guess it. The terrace is located on the raised first floor, off street level, and can only be accessed with a key. It is a true mystery how the gardening initiative became so known, run and started by Mitt Odlå with the intention to handover to residents once interest has been established. The project intervenes with different forms of open data, where new and diverse stories can be expressed, captured and recorded. In this instance, we uncovered the relationships between urban memories, soil, urban gardening actions, people and the city. All the meanwhile, artistically de-constructing cultural heritage of today, and the pathway into the future for our green cities and everyday lives. We archived for the future.

4.4.1 Instant cartography - 'can you show me the way to Leonard Terrace?'

The intention of the intervention was about discovery, memory and way-finding. When we understand where something is, how do we draw a map to it for a stranger? Participants were given a google map with directions to a green space 15 minutes' walk from the symposium site. Once they reached their destination, they were asked to throw the map away in exchange for a hand-drawn one from a stranger. They needed to ask a person(s) to draw a map directing them back to Leonard terrace? Maps are not only drawn but they are spoken too, so I asked them to also record in some manner spoken directions or explanations for their route back. Similar to eating, 'showing the way' is a basic human condition. We enjoy making lost strangers find their way again. And in this age of GIS mapping on smart phones we have less excuses to ask for directions with the opportunity to talk to people we do not know (figure 38)(See Additions - Digest Series 03).



Figure 38 – Finding guides for Instant Cartography
© Photo credits: Living Archives Group (middle image)

Chapter 5

preliminary results & discussion

eat

taste: sweet, sour, salty, bitter,
savory (umami)

The contextual underpinnings for this research began with food gardens in the urban space - foodscapes - both as makers of a diversified public urban space, of instigating community agents, and as contextual mediums for my artistic research. Public gardening spaces 'create flexible and more adaptable public spaces which reflect the fluidity of society...attempts to translate the contingent and contextual life of urban space, its fluidity and innovation, into guidelines for responsive forms of construction and regulation of public space are still very marginal and relational approaches do not inform place making' (Tornaghi 2012). As a response, the experiments look into creative practices from the viewpoint of embodied methodology rather than as case settings or data collected.

In essence the body becomes a 'connector'. A connector between body and space, everyday rhythms and ecology, and between humans and plants. There is an apparent concern of reconnecting what has become disconnected in the research; reconnecting food to nature (hence nature), architecture to food, science to art and the body connect to the environment hence through the senses. There is also a reconnection of the research approaches to one another; the individual and collective to planning processes, planner to city agent, and science connected to narrative through Imagineering. This is seen as a drive in my work, a motive – connecting disparate parts through the use of body, or at times through several bodies and assemblages.

What began as methods for cartography becomes a kaleidoscope of different methodological approaches to inform the general public about urban food production (phase 1), and to reflect on the body's situated knowledge in such spaces and in this activity (phase 2). There is a two-fold results frame; one is based on bodily engagement, whether through performance, dance, workshop, bike rides, eating etc.. Another one is about disseminating knowledge in different forms such as device phone apps, performance, stage building, small book press, film, photography etc.. Table 3 on the following page outlines the experiments along with their produced results, methodology and format, papers and research questions. It outlines this for phase 1 and 2, but also the other results in the form of a small book press - the digest series (see Additions).

Platform	Interventions	Methodology & Format	Papers	Results	Research Question
Phase 1					
Gröna Linjen	Safari 1	Urban CoMapper smart phone Tool, Safari survival kit booklet, different embodied immersions and experiences of urban farming	Paper 1	Survival Guide Booklet. Photo's. Interview transcriptions. Collected data from Urban CoMapper.	What is an embodied practice in architectural urban making that can instigate spatial agency and deeper environmental commitment both in individual and collective forms?
	Safari 2				
Living Archives	Instant Cartography	Getting Lost, Finding transient guide, Hand-drawn Maps	none	Collection of Hand-drawn maps, Digest 03 – Instant Cartography	How can the act of cartography create new forms of social engagement and local know-how? As well as transfer a knowledge to the local community by asking the way?
Phase 2					
AHA Festival	Paperscapes: the imaginable territory of farming	Staging fiction – making of a garden context stage with trace paper by Chalmers BA students	Paper 2	Photos and short documentary film	By positioning the singular body in urban-making via way of artistic research in the field of dance and imagineering, what paradigm shifts in sustainable behaviour could concur by developing and staging new methods of situated contact?
	Butoh Performance: Organoleptic Interfaces	Performance by Butoh performer Frauke on Paperscapes stage with a soundscape by Derek Gripper		Photos and short documentary film	
	Butoh Workshop: Bodily Choreography via Butoh	Butoh Dance technique and training		Photos and short films. Butoh workshop questionnaire results.	
Other					
Digest Series	Gröna Linjen (Green Line),	Experimental book-making and audience dissemination. Started self-owned press. Berlin Art book fair – book making and Digest Series exhibition to Public	self-published	01: Green Line 02: Urban CoMapper 03: Instant Cartography	What occurs to the research when the result are re-made into small book artefacts and given to the public eye?

Table 3 – Phase 1, 2 and Other results

5.1

Results from Phase 1

5.1.1 Gröna Linjen

Gröna Linjen project allowed for several assemblages to emerge at the same time:

- Audience assemblage - between gardeners, experts, city officials, neighbours, children etc..
- Tool assemblage - discussion, smart phone app input, Urban CoMapper testing, Exhibition of gardening as a political art form, edible research in the form of a meal by Artist Hvistendahl, foraging, cycling, walking
- Site/Context assemblage - existing, potential
- Season/time assemblage - spring end, summer end, autumn beginning, rain, sun, puddles, sun-ray
- Movement / Embodied assemblages - bicycle, walk, sit, talk, distance differences, close, far, soon, near
- Communication assemblages - English and Swedish (understood, misunderstood), survival kit cards, smart phone, eating plants, taste, map
- Value-created assemblage - food as politics, food as art, food as survival, food as urban space maker, site as productive garden

Paper 1 outlined the comparative methodology of the digital and bodily interfaces, building up to a continuation for further embodied methodology in its conclusion. All these endeavours have created opportunity for intervening within the various sites of interest and also to build and connect a research and participating 'community' around the project. Working with the digital interface was a way to engage people physically and also give a way to meet around the issue at hand – food production in cities – within an activity. In addition, people who are usually not privy to be involved in urban issues, came and participated giving a very diverse representation of society. Therefore, the app succeeded in opening up to a larger collective and also in bringing in a diversity group of people from gardeners, local neighbours of all ages, and planners.

The driving questions in the paper were: what is the role of artistic research to unearth transformed behaviour when it comes to food and growing practices? And, how do we identify with green spaces in cities, specifically urban gardening and new forms of creative and artistic user participation and civic dialogue at early stages of urban design processes? Both questions are situated under the umbrella research question: What is an embodied practice in architectural urban making that can instigate spatial agency and deeper environmental commitment both in individual and collective forms?

Both Safari events were followed through with conducted interviews with a select number of participants from various backgrounds.²⁵ The interviews mainly queried about the Urban CoMapper but many of those interviewed also spoke about the safari events. Interview questions steered around the following points:

- Initial reaction: what are your initial thoughts?
- Concept: What do you think about the concept of the app?
- Collaboration: In terms of collaborative mapping, the question of involvement. Do you consider this a participatory process? Collaborative? participatory + collaborative?
- Perception: How does mapping your 'perception' of these spaces make you experience the space differently or not? Did it change the way you perceived the built environment due to this kind of mapping exercise? how it was changed a. More involved? b. More conceptually understanding? etc.,
- Change: Do you see how the space could be changed in a more concrete way?
- Questions asked: Did it feel like we were asking the right questions and categories? Anything we missed?
- Potential: What are the potentials for using such a device?
- Better design: what could have been done better?
- Safari event: what did you think of the event combined with mapping?

Based on feedback and experience of the intervention, the digital interface Urban CoMapper fell short to understand the transformative nature of these food spaces and the attempt to relate site to food consciousness as originally maintained in the questions. However, when the garden site was experienced through movement and the body was activated and involved, the site in question became a negotiating surface between the subject and his/her relationship with the environment. This discovery again was difficult to capture solely on the smart phone survey, and became more apparent through interaction and dialogue with participants after the safari and in the interviews. In phase 1, it was the process rather than the collected data that was the focal point in my investigations therefore the final google generated map of output was only to show that the input was channelled to a disseminated form of language that could be useful for urban planning (figure 39). The aim was to provide a strategic engagement with the sites, combining location with sensory-based experiences such as foraging, talking, eating and engaged participation.

Many limitations occurred with the smart phone app design phase of the project. The app designers, partially due to limited funds and an outsourcing of work load, had a very passive approach to the design of the app interface. We felt that the interfaces should have been more playful and

²⁵ The Urban CoMapper interviews took place between 2014-06-26 and 2014-07-04 in an individual meeting with selected participants (8 total). A copy of full transcriptions for these interviews is available upon request.

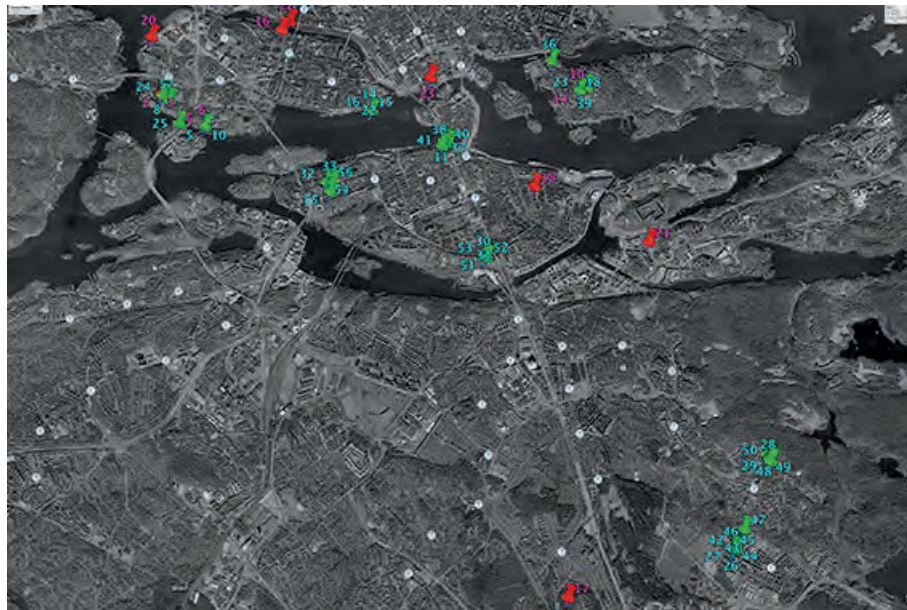


Figure 39 - Urban CoMapper - Safari 1 google maps data output (Red = Potential / Green = Existing)
 © Image Credit: courtesy of Google Earth Maps 2014

creative, given the purpose of the safari events which aimed to appeal to creativity and imagination. The intention had been that the app was to be as playful as the event itself, but this was not the case. The aim had also been to use the app afterwards with a municipality planning authority, but the funding required for this was impossible to find (estimated at one-million Swedish kroner). We did however receive interest from Nacka and Södertälje municipalities but this show of interest did not go further. Given the fact that my research is not about interface design, I did not apply for further funding nor follow up rigorously on the municipalities. The intention of having a demonstration prototype and event around the ‘mapping’ was itself successful in drawing the varied audience and creating an agency around urban farming through the information transfer. However, it would have been nice had the effort continued as, according to the planners I interviewed, there is a lack of this kind of specific tool for urban farming interventions. Table 4 below and on the following pages are brief summaries from the Digital app interviews for each category of questions.

Category	Answers
Initial reaction	(1) kept participant from exploring the site because you he was asked to map into the phone. No opportunity to develop a relation to the site (1) the tool was too instrumentalised. (2) good idea to have event with app introduction and use (4) good to show garden exists and it CAN be done in the city (6) should be optimized for mobile platforms (7) what is nice is that you have only positive voices. In Planning, we hear a lot of complaints usually (8) For being a prototype, it was really user friendly

Concept	<p>(2) good to have privacy to say what you want to say. Democratic because of its neutrality</p> <p>(2) extend the tech side – include a social media platform during mapping like Facebook or twitter</p> <p>(3) useful for planners to get ‘contact’ with urban inhabitants. Makes community consultation an easier process</p> <p>(4) find ways to ‘exaggerate’ the quality. If site mapped once, what more info can another mapping of site give</p> <p>(6) concept great, but not execution of it</p> <p>(5) Great to have the evidence already and to call planners with</p> <p>(5) great to have invisible knowledge given of secret spaces</p> <p>(5) You need unused spaces, not planned</p> <p>(7) get the city more involved, like they choose spots to map based on what needs local intervention</p> <p>(8) beautiful idea, the problem is how to spread it out. How do you reach people that don’t know that they want to garden?</p>
Collaboration	<p>(1) How dialogue are started are really important</p> <p>(2) mapping individually, but as a group, Needs more ‘group’ activity</p> <p>(4) less people mapping at the same time. Need dialogue also</p> <p>(5) as a group, good broad exchange of questions and knowledge. More gets known and transferred</p> <p>(8) how could you use the place without growing things. Elements that could bring people into urban gardening without gardening. How can you make a more multiple use of the area?</p> <p>(8) the biggest memory was meeting, talking about spaces and talking about how to do it.</p>
Perception	<p>(4) perception really changed because you had to think hard on what you were doing and where you are</p> <p>(5) putting in information was too controlled. Not much flexibility</p> <p>(7) My perception was not altered for me personally when I was mapping. Gardening might work.</p>
Change	<p>(2) app is an extractive experience. Perhaps more information should be handed over</p> <p>(4) communicate the values behind it and values of city</p> <p>(4) nice to have a ‘short’ lecture, deepen the knowledge</p> <p>(6) avoid typing too much. Have scenarios</p>
Questions asked	<p>(2) (4) sensorium category very difficult to do</p>
Potential	<p>(2) use ‘Starbucks approach’ – one (food garden) on every corner</p>

Better design	<p>(1) Better to show a demonstration site than to ask specific figures on square meters of site.</p> <p>(2) make opportunities for ‘staying’ in the space (i.e.: taking action or a social activity)</p> <p>(3) results need to be more visual for planners</p> <p>(4) anonymity is important</p> <p>(6) lack of design. Too expensive for the ‘interface’ you got.</p> <p>(5)(7) Some questions could not be answered if you did not have the knowledge of the place</p> <p>(5) Needs to be able to continue and keep putting data in on the places you map. Rather than user-based input results, you have info-based results. One plot of info for each site</p> <p>(7) Great if it was a cooperation with schools or preschools. A more pedagogic tool.</p>
Safari event	<p>(1) Cycle ride with discussions was great</p> <p>(2) great trend to jump on tours of gardens with bicycles. A certain type of ‘audience’</p> <p>(4) very nice idea, have a bike kit next time for flat tires</p> <p>(5) Great card set for the safari and event</p> <p>(7) The art/gardening lectures were great.</p>

NOTE: 8 interviews total. The numbers are associated with the interviewed person: (1) an artist/activist. (2) architect/planner. (3) planner. (4) industrial designer. (5) landscape architect. (6) IT programmer. (7) planner. (8) landscape Architects.

Table 4 – Brief summary of points from Urban CoMapper interviews

From interview comments, some of the important remarks about the interface were important when it came to a bodily contact connect. One interviewer stated that the digital cartography also became a type of dialogue with the space, but it was through observation and the mind, rather than the body. Others felt that the app experienced removed you too much from the group and from the garden, and that you could almost feel a frustration at having to do the ‘survey.’ Everybody agreed that it was a good idea to create an ‘event’ around the survey mapping as you could discuss with other people and share answers. For the planners involved, they enjoyed hearing positive voices from participants as they are usually used to receiving complaints from urban inhabitants. They also felt that the information gathered would be very useful for planning as it was information from diverse age groups of people, usually difficult to collect. The event and mapping assignment created a good ‘contact’ between planners and city inhabitants around a shared purpose. The designers and architects present felt that the app’s data made it easier to approach planners with design concepts for green spaces in their projects. They felt that having ‘evidence’ of crowd-sourced information for unused spaces was important in including such spaces in urban-making. The app also gave opportunity to initiate conversations with spectators during the event and discuss issues in their local neighbourhood.

Participants also noted that they enjoyed the lecture and discussion on artist's role in gardening and suggested that such discussions should extend to different topics on urban farming – nutrition, growing certain vegetables, preparing the soil etc.. Mapping as a group was crucial because more information could be reflected in dialogue with others than if you were by mapping by yourself. Also, the app could create opportunities for 'staying' in the place longer. (i.e.: social activities and taking action). Most of the criticism for the app was on the interface design which is something that could be resolved with more funding and better IT design team.

The app survey itself not only 'takes' information from the user but also 'gives' the user information through the questions it asks. The safari event would have been very different if the app had not been there because it allowed certain topics to arise periodically which would not have come up if the questions had not been asked. Each site conjured up a different focus of questions. It was also not clear how the senses were to be investigated as it was difficult to capture participant's thoughts on this even though there was a 'sensorium questionnaire' in the survey. This could have been because of the forced intention to rationalise with the mind something that was experienced by the body. It leaves me to ask, if the senses do play a vital role in our environmental identity with urban space, how are they to be written about? It was also not clear how the senses were crucial in order to form a collective awareness, nor, whether the bond between the senses is strengthened by acting in a community rather than by oneself? These questions come up because there is not necessarily a logical solution that will emerge but rather, through the artistic experiments, the body will be put in a state of alertness where the senses can be explored further. This became clearer with the bodily choreography for in the Butoh workshop.

Interestingly, paper 1 brought up the study of the 'collective' entity, something that I had not researched prior to the events. The digital interface helped in bringing the subject of the collective to the foreground. In creating new collective processes, how do such processes of activating a body(ies) relate to the act of cartography and experience? Part of the answer lies in that shifting individual behaviour usually comes in line with collective behaviour. Having said this, it is important that policy and planning work alongside the citizen. Participatory planning is one way but falls short to engage the citizen in a deeper commitment and agency on their part. The body must be included. To lecture citizens on sustainable behaviour is not enough. The Gröna Linjen found diverse and creative ways to involve citizens in a playful gesture. This aspect of play as an active pedagogic intervention behaves as a catalyst to spark interest, contact with others, learning and eventually, potential participation and commitment. When looking at the Gröna Linjen intervention; all experts were present and all gardens had successful management groups. What was not present was that they didn't know each other, and the weaving of skill, expertise and knowledge could not be shared. By conducting an activated introduction via the green safari, these groups of growers had a chance to finally meet. Reading and *knowing of* is one form of awareness, but what happens when this awareness becomes embodied and an experience through situated knowledge with critical discourse. *Knowing how* produces an entirely different approach that could enhance deeper commitments to environmental urban behaviour which entails the body to be fully present.

5.1.2 Digital Starvation

However, I found that there are limitations to researching the senses in the digital format. Many participants had trouble with the survey when it came to the sensorial part of the questions. The only possible input was through video or photo, which still traps the sensorial experience in a two-dimensional format behind a screen. Though the sensorial experience is prevalent in the moment of collecting the data it loses its thickness once it is put into a 'data' format. I have called this digital starvation because the senses are replaced by only a visual experience and memory of what can be experienced. In this sense, digital space has no time. The only indication of time is on the date is the file of log-in time. Space is flattened behind a screen where the hand cannot enter and the senses are obliterated, unused and un-sensed. Even with 3-d development in computer technology, the body is absent and space does not exist within the digital galaxy. The digital body is a flattened body, inaccessible behind a screen and timeless. The digital cartography by itself as a tool was inadequate, but with the safari event, it could be enlivened to serve as a recording device. However, the recorded real-time data, wrapped in a mesh of events with other people, transforms the data to have a kind of 'thickness.' This would not have happened had it only been recorded in isolation. Lister and Nemeskeri (2010, p. 107) relay the same starvation when they refer to digital tools and suggest a form of narrative to happen alongside these devices. They state,

'This situatedness is contingent upon a 'local-technology' of self-reflexive or heuristic action, wherein the challenge to architectural representation takes place through a fundamentally creative and individual act which re-reveals the qualities of everyday life. When it comes to representing architecture, the challenge remains to situate the representational technology within a limited set of creative principles, so that when it comes to a form of representation like parametric architecture, we're mindful of the implications of generating architecture through script.'

Staging fiction through an adventurous expedition proposes a new way to approach cartography of urban space and methods for urban-making. It is a cartography that is not passive but rather one that engages, creates movement, and has potential to instigate an action beyond the simple exercise of mapping.

5.1.3 Living Archives

The end result of the mapping exercise was a collected archive of memory tracings - maps with symbols, sketches, conversations, arrows and stories. Each map is presented with a short narrative of the experiences. I call this 'instant cartography' as it is a form of agency wherein an expert is not needed to draw a map. The second concept behind the intervention was to see if people know about the farming intervention at Leonard Terrace, or whether there were a few transient guides who wished to join the symposium and see the garden for themselves. Out of the 12 collected maps, two transient guides knew about the terrace garden as they lived in the same building complex and offered our participant an introduction to the real estate agent who rents out the apartments for they were so

proud to live there and wanted her to move in (map 1 in Digest 03). What an offer! (see digest series in additions)

The maps produced had varying results. Directions were not followed properly, as some cartographers drew maps themselves as they walked the path asking for directions (map 9,10,11). Other guides could not relinquish their smart phone guide and traced a GIS google rendition path from their phone (map 2). Asking for drawn directions is not as simple as I imagined and the results that came back were surprisingly creative. Each situation prompted a moment of 'performance acting' and negotiation of way-finding. The participant's script was to pretend to be lost and ask for the way back. For those that knew the way back, they pretended for the sake of receiving a hand-drawn map. Is this false cartography? However, the intention was to form a moment of dialogue and to instigate the touch of the hand. Forced maps?

This experiment is a start as I would like to gather more collected maps of different kinds and gather the narratives that come alongside. The reason for the cartography exercise is to extend the art of drawing maps into the public domain. Anyone can draw a map, not just a professional. Anyone can create cartography. The narratives collected along the way are however not provided by just 'anyone' because they are individual with personal knowledge of the place itself because they dwell there. The cartography is not so much about the lines that are drawn but more-so in the stories that are told and the relations evoked.

5.2

Results from Phase 2

5.2.1 AHA Festival

The next stage after Gröna Linjen in the research closed the chapter for the digital investigations so that I could make way for the bodily research, thereby looking into research-through-narrative (imagineering). The AHA festival opened up to a diverse audience and thinking.

After her performance, I asked Frauke to explain her understanding of the paperscape setting and whether she had been able to pick up the farm-site conditions that the students created. She had not but said that the setting provoked a 'memory of a garden.' The imagery that Frauke did receive and described was bees, slime mould, salad, light, tree, algae, sunflower, curling flower, fire, ash and volcano. Her responsive metaphors were completely different from the ones given to the students which illustrates the notion that Butoh can generate multiple understandings and transformations. As the metaphor readings were different for myself (producer), the BA students who built the stage, and for Frauke who performed, it leaves me to conclude that a partial mindset for the food challenge should be conditioned more literally into the metaphor used for Butoh prior to the performance. This

will be a next step in the research too. However, both the making of the Paperscapes and Frauke's performance summoned up organic states. The power of imagination and to the imagery that it can evoke can create empowering pedagogical methods for enabling the understanding of ecological impressions both for students and artists. The intention of the paperscape stage was to set up a space-time context which would be examined through Butoh techniques. The students themselves created the idea of dividing the seasons into 3 frames of air, ground and borders. They had an embodied three dimensional understanding of the text which they came up with themselves, based on only reading some of Fukuoka's text.

From the performance and in dialogue from Frauke I can understand that the use of the Butoh body to capture sensory properties is located in the staged context and transforms sensorial reactions into a movement. The study conjured up more future research strands instead of providing answers which in itself is part of an artistic research process. The video released with the paper also conjures up a discussion about what the actual method does for space when you put aside the highly aestheticized quality of Butoh. In her performance, is she more concerned with the concepts underlying the research work or in her skill and performance style? As an observer, it was difficult to understand without staging a performance myself. From this position I might have been able to make clearer assumption and draw stronger conclusions. My assumption, after reading the theory around Butoh, is that the Butoh body critically analyses the distinction between time and space as it is an enactment of both simultaneously. Almost behaving as a 'ma,' Butoh can deal with the perception of interfaces between time and space since the body's rhythm is already cyclical and metabolic. And because behaviour is essentially embodied, it is the body that allows for transformation to take place depending on the perception received. This is difficult to assess in terms of results and drives me to think that the Butoh work needs to be trained by me in order for the theory to be understood, as well as, the potential of using the methodology itself for understanding space. The separation between being an observer and producer of the performances was far removed from performing in the space and understanding the delicate sequence of movements.

5.3

Other Results: Digest Series 01, 02 and 03

Author: Anna Maria Orrù

Publisher: Vegetable Lamb Press

Digest is a collection of 'actions' and experiments in artistic research.²⁶ The aim is to release explorations freely and transparently so that another discourse can begin outside of academic

²⁶ Digest 1: ISBN: 978-91-88249-00-5 , Digest 2: ISBN: 978-91-88249-01-2 , Digest 3: ISBN: 978-91-88249-02-9 , Digest 4: ISBN: 978-91-88249-03-6

publication. The Digest Series is a collection of interventions where the ingredients, recipe, and instructions are laid out to be devoured and digested. It speaks to the open public; including artists, performance studies, environmental studies, architecture, urbanists and as an agenda setting for alternative methods. The intent to disseminate my research and to encourage others to proactively seek interaction with the food/nature /body relationship.

Vegetable Lamb Press is a self-initiated press from mid 2015 (Orru 2015). In 2015, the Press has produced a small series of books which is an ongoing compendium entitled Digest, a metaphorical reference to the digestion of my research. The series thus contains: (see Additions-Digest series)

- Digest 01 - Green Line: Green Line (*Gröna Linjen*), is a group of artists, architects, performers, geographers and more, but also an edible route through Stockholm. In two overland expeditions, Gröna Linjen safaris 1 & 2, we weave together urban farming initiatives in Stockholm along the #17 metro line in an effort to give them 'a place on the map.'
- Digest 02 - Urban CoMapper: This is a digital interface for a democratic transfer of spatial agency. An attempt to bridge a lapse in communication between city professionals and inhabitants about productive foodscapes. Those that exist and ones that should. Urban CoMapper seeks to unearth the role of food, its production, and potential tied to community, place, activity, quality, and ecology in the city.
- Digest 03 - Instant Cartography: Similar to eating 'showing the way' is a basic human condition. Instant Cartography is a somatic cartography recording memories and directions. The negotiation is between a professional cartographer and the transient guide found on the streets of Malmö. These memory maps are an instantaneous understanding aimed to making lost strangers and their way again.

The intention of these publications is to explore the dissemination of the PhD interventions as an experimental non-academic press. Each book was hand-made and bound, giving a reflective moment for me to think further about the published text. They are intended to be art books, and as the series continues to develop throughout the PhD, so will the format and aesthetic expression of the small books. In the process of making the knowledge into a further artifact for a public audience, I had to think about how artistic research could be disseminated to another audience outside academic frames. This press will continue with upcoming interventions throughout the PhD. At this moment, the small booklets are seen as artefacts from the research and a type of performativity as well. This could be seen as another form of intervening with the collective audience. Paper 1 had safari participants. Paper 2 had an audience and students. Here, the audience is anonymous and the physical contact is removed, however the reflection is present and occurs in private reading. In a way, this is another form of reaching and disseminating knowledge about a collective commitment to urban food behaviour.

5.4

A preliminary discussion

In phase 1, there was not enough careful distinction on the words cartography and mapping. Mapping and cartography were used interchangeably but they are not the same. Mapping is observational, whereas cartography is more value laden and opens up to be used as a creative instrument. In this sense, cartography can become an embodied act. You see a map and there is a body drawing it, but there are hardly any maps being generated in this project. Another issue is the question of time and scale that is touched upon in phase 1 and in paper 1 but not thoroughly discussed. Time comes up only in regards to season, but how can the discussion on time be expanded in order to think of it in relation to evolutionary time? Phase 2 and paper 2 attempt to address this shortcoming but further work is needed especially in terms of theoretical framing. If the urban environment is viewed as a time consideration, then the different scales of experience change the way space is used and lived everyday which links back to the behavioural aspect of my research aims. Instead of observing, the engagement has been a constantly relational activity which changes both behaviour conceptualization and experience. The question remains on what does this engagement imply on cognition, the body, and the understanding of the world? What do Lakoff and Johnson (1999, p. 6) mean when they say, 'Because our conceptual systems grow out of our bodies, meaning is grounded in and through our bodies.' This necessitates further exploration.

Chapter 6

preliminary conclusions and next steps

digest

metabolize, compost

Georges Perec in his novel 'The Void' writes without using the letter 'e' (Perec 1994). His challenge is fascinating because this letter is one of the most commonly used vowels in the French and English languages. This brings me to set up a similar challenge for myself – how to write about the environmental issues by not exploiting the commonly used 'Sustainability' word. In section 1.1, I began by stating that the terminology was overused and politicised to the extent that it has lost its value and meaning. My challenge has been to explore the underpinnings of what an 'ecological' critical practice is without using terminology short-cuts. It was indeed perplexing at times not to use the 'S' word because it served as a place-marker and I did not always succeed. Furthermore, for me, Perec's (1994) text is also about disappearance and investigating. Within my research, there is a concern about the disappearance of the *organoleptic* in architectural practice. Because the organoleptic relates to a sensorial reaction, one that is embodied, this disappearance navigated me to use a bodily approach to uncover it.

This chapter provides preliminary conclusions via way of further discussing the results from chapter 5. Then returning to the three theoretical gateways, I open up to the theory in more detail as a way to move forward into the future research. I finish off the chapter with next steps in the theory and research.

6.1

Preliminary Conclusions

In comparing the Butoh experiments to Gröna Linjen's aim for agency, it is the 'slowness' present in Butoh (making and performing) that allows reflection and awareness to emerge. In a certain sense, this is the 'agency' being created from another more embodied methodology. Another way to look at agency is through the lens of engagement and narrative. Gröna Linjen provided a narrative for adventure. Instant cartography provided a narrative for the underlining lives present in the mapping lines. The festival interventions provided another fiction that focussed on the bodily understanding of space. As paper 1 discussed, the act of digital mapping as a physical real-time activity, participants

could not have been there without their physical and very bodily presence engaging with the site. It was a creative method to get people to the site and for them to reflect on their experience while they were there with others. The Butoh performance in paper 2 had similar intentions from an alternate perception. It draws the audience into the space and into the topic, and through its slowness, creates an atmosphere that opens up for reflection. The Digest series comes in the form of a personal intervention with an unknown audience. In a way, this audience and their agency fill in the gaps of an audience not captured in phases 1 and 2. However, the unknown and the hidden body is as important to include in ecological dialogues as the present and engaged body. And, the form of disseminated knowledge takes another role as artefact that can be carried around in the pocket.

The different sets of methodology utilized discover the body in a state of sensing. Within this alerted condition, a dialogue occurs with the urban environment through our inner ecological dialect to nature (food, eating, walking, browsing etc.), and our perceived external surroundings. The methods provided a variety of bodily set-ups – a bodily view of a situation. The garden and our relationship with nature become agents and zones for creating meaning and commitment. This brings me to a quote from Arno von Roosmalen, Director of Stroom Den Haag, I heard prior to initiating the PhD when working on the Foodprints publication.

‘Art can play a role in this process through its capacity to create unprecedented situations, present parallel worlds, and make the invisible visible. In these ways, art can spark individual awareness of ethical, social and political issues and speak to the motivations, convictions, or emotions underlying rules or laws’ (Stroom Den Haag 2012).

At times, my research has been an uncomfortable process, a state of discomfort, with nothing to grip on for concrete results. However, this I have experienced to be the intention that, through artistic research, processes emerge intuitively. In staging the experiments, I had to let go of them in order to see what came back from the participants. In the process, awareness and reflection came to the surface that had been otherwise invisible and the opportunity to have a dialogue surrounding them was key to catalyse action of some kind. As I stand at the other end of the interventions, I see that they came together into a wholesome fruit which provided a variety of methodology to tackle the complexity of the topic on urban food. In the midst of chaotic yet monitored endeavours, I uncover new approaches that I could not have decided on in the beginning.

To reinforce von Roosmalen’s assertion, I refer to Bourriard (2002, p. 92) citing Guattari (1989) who signifies that *art* can help to ‘invent new relations “to the body, to fantasy, to time passing, to the ‘mysteries’ of life and death”, and helping, too, to withstand the uniformization of thinking and behaving.’ Stepping away from a market driven language and processes, such as consumption, production and sustainability, is key to reach the aims outlined thus far. Dyrssen (2015, p. 25) speaks of artistic research within the academic framework,

‘In today’s knowledge society, artistic endeavours and forms of communication play an active and necessary role in critically examining contemporary phenomena through practice-related

perspectives and capacity for re-interpretation. Artistic research and artistic practice contribute to innovative forms of expression, cultural output, critical examination of and new thinking on issues such as democracy, the development of industries and services, globalization, and not least issues touching on values, quality, learning, and processes of knowledge and innovation.'

The various explorative experiments provided ways in which to investigate the theoretical gateways – relations, agency and assemblages. Though the driving theory in phase 1 had been spatial agency (see Paper 1), phase 2 brought about a more intuitive realisation that went beyond agency. This is a symphony of relations that needs to be engaged and put into movements in order for a transformative emergence. These relations were activated by doing, making, imagining and performativity, and in return the urban space is created through embedding diverse relations. The research aims had been a twofold manifestation: how to get urban bodies to take a deep commitment to ecological food behaviour in urban living. And, how to inspire them to do this, and continue doing, through embodiment and self-motivation.

Through imagineering and staging fiction, the individual actors through a collective creativity and collective action created meaning and commitment. Imagineering aids in dealing with complexity based challenges, such as urban food issues, and does this from a perspective aiming to evoke a systemic innovation by igniting a collective creativity. Within this methodology, a shared purpose comes out from it and this is why working on both individual and collective levels is vital. The shared purpose depended on the 'instructions' that I came up with, and in giving a gentle structure to the interventions, the boundaries for the explorative experiments still remained open enough for imagination to pierce through.

The various 'instructions' in each intervention were made in such a way that the 'quality of the experiences' remained a key component and this was further improved by the diversity of each intervention experience. The challenge was not to predict what the outcome would be in terms of a determined behavioural change, but rather to make instructions or channelling devices that people could anticipate on what was going to happen. This anticipation was vital because it is different from an approach that is about prediction. To anticipate something means that it appeals to creativity and beckons an artistic approach. For instance, the Butoh dance is a perfect example of instruction. It was a structure in which I could improvise and generate a whole range of experiences. The cartography exercises are also an instruction in this case but came in a much more prescribed manner, opening up for further artistic embodiment. Both instructional approaches connect to the understanding of landscape as a dynamic and interactive process, a key point around which all activities have been based. Therefore, producing different modes of relating to the environment has been a key drive in my research.

Glissant (1997, p. 152) writes about an ecological vision for relation but warns of not falling into a trap of territorial thought. He states that an ecological self-sufficiency can happen only if it does not start to create exclusive conditions of territory. As resolve, he puts forward a solution of 'reactivating

an aesthetic of the earth' (Glissant 1997, p. 150). He states that by,

'Finding the fever of passion for the ideas of "environment" (which I call surroundings) and "ecology," both apparently such futile notions in these landscapes of desolation. Imagining the idea of love of the earth-so ridiculously inadequate or else frequently the basis for such sectarian intolerance-with all the strength of charcoal fires or sweet syrup... An aesthetics of the earth... Aesthetics of rupture and connection (Glissant 1997, p. 151).

6.2

Theoretical detail

The critical methodologies, imagineering, staging fiction, performativity and metaphor, paved the ground for the dual approaches to use cartography and choreography. I have worked in close explorative interaction with embodiment, food, time and the senses within each intervention. In establishing this symphony of relations, a deeper look into the three entry points of theory is necessary in order to comprehend the next steps in the research that establish further assemblages for relations. To recall, the three entry-points into the theoretical frame are: relation, agency and assemblage.

6.2.1 Relation

'Relation is active within itself...For movement is precisely that which realizes itself absolutely. Relation is movement...Not only does Relation not base its principles on itself (rather with and through the elements whose relationship it conducts), but also these principles must be supposed to change as rapidly as the elements thus put into play define (embody) new relationships and change them... because its work always changes all the elements composing it and, consequently, the resulting relationship, which then changes them all over again' (Glissant 1997, p. 171-172).²⁷

Neither space nor relation is static. They are in a constant dynamic interaction according to a supposed 'encounter' with one another. This interchange is based on numerous relating elements: the body(ies), time, weather, resources etc.. These elements, if assembled reflectively, have the potential to instigate environmental care. Glissant supposes that relations relink, relay and relate. He views relation as an exchange and thus a changing situation. I talk about relations in this context because they are what connects all the elements of my research together – body, food, site and transformation.

As space relies on relations, the key is to explore how such space can be understood through relational space theory. Geographer David Harvey offers two ways; relative and relational. Harvey's (2008a, p. 121) conceptions of relative and relational space is in agreement with the assemblage concepts which foodscapes adhere to. He states that, 'Relative space proposes that space be understood

²⁷ Édouard Glissant is a key figure in post-colonial literature and criticism from Martinique who takes on social conditions and challenges them in poetical ways. His writings on the 'poetics of relation' have been an important revelation for me in approaching on the theme of relation.

as a relationship between objects which exists only because objects exist and relate to each other.’ Relational space is defined, ‘space as being contained in objects in the sense that an object can be said to exist only insofar as it contains and represents within itself relationships to other objects.’ And furthermore, Harvey (2008a, p. 123) goes on to say that, ‘The relational view of space holds that there is no such thing as space or time outside of the processes that define them.’ For relative and relational space, the subject(s) and object(s) have interrelations that have the capability to produce meaningful links and thus the *relational* constructs are key to embedding the desired commitment and behaviour. In this instance, behaviour becomes a relation as well. I find this so intriguing, as the word *relation* becomes an activity, a link, a subject and object, all in the same time. Relation also becomes a process because it requires a special attention and commitment in itself, but also because of its strong link to time – through repetition and rhythm. In Chapter one I spoke of the importance to have a seasonal considering of space, Harvey supports ties of space-to-time, (2008a, page 123-124) he writes,

‘Processes do not occur in space, but define their own spatial frame. The concept of space is embedded in or internal to process. This very formulation implies that, as in the case of relative space, it is impossible to disentangle space from time. We must therefore focus on the relationality of space-time rather than of space in isolation. The relational notion of space-time implies the idea of internal relations; external influences get internalized in specific processes or things through time. An event or a thing at a point in space cannot be understood by appeal to what exists only at that point. It depends upon everything else going on around it.’

Time acts as an agent for it is a signaller of how the space, in the example of the foodscape, should be used. These processes embedded in time are discussed in Chapter 2 when I looked into the body relating to time. The next item to consider are the agents and agencies at play connecting to the grounds for ‘relations as a series of agencies.’

6.2.2 A Desire for Practicing Agency

‘The question of what kind of city we want cannot be divorced from that of what kind of social ties, relationship to nature, lifestyles, technologies and aesthetic values we desire. The right to the city is far more than the individual liberty to access urban resources: it is a right to change ourselves by changing the city’ (Harvey 2008b, p. 23).



Figure 40 – A desire for agency

Do I detect a changing role of the 'expert' and therefore a changing combination of skills? (figure 40).²⁸ The role becomes a creative agency in itself, one that requires space and inhabitants as co-creators and collaborators. An agent that brings back collective forms of action, of relating, of socialization, of ecological welfare, of awareness, of belonging, of urban narratives and dialogues that promote relational space. An agent? Is this a type of spokesperson? Someone who speaks on the behalf of space, species and inhabitants? Indeed it is more for it involves a larger role. Doina Petrescu - architect, activist and researcher, member of Atelier d'Architecture Autogérée - uses spatial agency as a main driver in her practice. She queries on 'what are the architect's roles and tools in a relational practice?' (Petrescu 2012, p. 135) Petrescu (2012, p. 136) highlights a practice that acts "with intent and purpose" to create critical difference and take social responsibility...we have chosen instead to not act for ourselves or on behalf of others but to act with others, by empowering them to become agents themselves and to take collective responsibility. Rather than an elitist profession, architecture becomes as such a shared activity and a relational practice.' She envisions a practice whereby the role of the expert is to create the conditions for collective spaces of urban activities that occur seamlessly everyday. The activities she lists coincidentally revolve around food – 'gardening, cooking, chatting, making, reading, debating etc.'. These activities are seen as alternative practices in the urban everyday, that require certain relations and agencies to be set up. Petrescu states that, 'The aim is to create a network of self-managed places by encouraging residents to gain access to their neighbourhood and to appropriate and transform temporary available and underused spaces. It is an approach that valorises a flexible and reversible use of space, and aims to preserve urban 'biodiversity' by allowing a wide range of life styles and living practices to coexist' (Petrescu 2012, p. 136). In the urban-making of such self-managed spaces, Petrescu embarks on a mapping of *relationscapes* where the 'spatial agents' involvement which may begin as solely an initiator, transforms to user and co-manager, and then eventually to an observer and advisor. This role is a transfer of agency and empowerment to local citizens who take a collective responsibility as co-creators of the urban space.

These activated spaces are an approach for an urban commons. In her study on the emergence of a new public space and urban commons through the practice of urban agriculture, Tornaghi (2012, p. 351) states, "This term the "commons", is intended to cover a wide range of resources that are collectively owned and/or shared and of the benefit to a community, and which includes environmental resources, such as land, water and air, and cultural resources such as specific forms of knowledge and technology.' As such, 'an interdisciplinary perspective is fundamental in enhancing the understanding of the evolving and interrelated conditions that make possible the successful maintenance and management of the commons' Tornaghi (2012, p. 352). The artistic based methodology in my research gave way to explore the body(ies) in relation with food and space. Hajer and Reijndorp (2004, p. 52), in their investigation to redefine the public space, offer another way to view relations in the public domain, they say, 'The core of successful public space thus lies not so much in the shared use of space with

28 'I want to be a spatial agent' ransom note-style was part of a study on relations and agency during a Philosophies Resarc course at KTH. Resarc is the National Swedish Research School in Architecture. (Resarc.se)

others (let alone in meeting them) as in the opportunities that urban proximity offers for a shift of perspective: through the experience of otherness, one's casual view of reality is subjected to some competition from other views and lifestyles'.²⁹ These moments of experiencing the other can offer enlightenment, and in some cases, a drive to acting as an agent. Mikey Tomkins (2012) illustrates this in his literature through examples of how the neighbours react to urban food productive sites, as they walk by and finally approach the gardeners. In one London example, he speaks of a gardening steward who has gardened for years in the in-between space of his housing land, and in instances when a local person approaches with questions and curiosity, he usually offers his patch to the interested neighbour to have a try. Keeping the patch, holding on to the tended space, is not as important as multiplying it and offering it up for the potential of new gardener in the neighbourhood. He sees it as a worth sacrifice. Similarly, in the Stockholm Mälarpiraternas garden where I gardened, we would have people stopping by to ask if they could join in the activity – short term and long term. As a result, two main gardeners (Linda and Petra), who lived several blocks away from the actual housing complex, joined the gardening group. What these instances show is that the agency of relations has the potential to extend beyond the actual site of activity through a curiosity of the 'other.'

Most foodscape spaces are begun by locals from a grassroots initiative. These gardening groups usually have individuals that are versed in horticulture and sometimes in spatial relations. In our gardening group, we had a geographer, an architect and a MA student studying environmental planning, I think this was an exception that was welcome in order to maintain a certain aesthetic and to remain long term, but the essence of how these places are initially formed springs from a 'desire'. The role of the expert needs to be re-considered. Petrescu finds that this role can be included but for a different rationale for agency. She states that,

'Spatial agency is about a different understanding of the production and dissemination of knowledge. This entails opening it up to the architecture's outside, through acknowledging the contribution of non-experts and through disseminating it in an accessible manner' (Awan, Schneider, & Till 2011, p. 63).

A spatial agency entails a transmission of agency and an extension of practice to the citizen. This requires a revisit to how cities, in this case specifically green spaces, could be produced in alternate methods. The citizen as 'co-creator' becomes a spatial agent, along with other agents having a collective visioning about their shared space and resources. A collective relation is constructed that at times reinterprets the relation each agent has with their everyday local space of dwelling. Suddenly, the invisible becomes visible, simply through their physical engagement, know-how and interest. In paper 1, I write on this topic of collectiveness,

'Simultaneously, such modes of collective visioning can increase green areas in the city and promote biodiversity especially in underutilized urban spaces, for example, unused grass patches between housing complexes. In such areas, local involvement is a vital ingredient in the maintenance and setup of a productive foodscape as it requires vigilant care to keep them running, thus strengthening

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the bond between caretaker and their garden. The vulnerable nature of such food-productive spaces requires this spatial connection to have agency, as the ongoing-costs are usually not included in urban landscaping budgets. In conversation with a Stockholm planner, she mentioned that the main opposition towards community food gardens is maintenance, who takes care of them or their associated costs, is fundamental to their existence. Therefore, having citizens seize agency and accountability of their foodscape spaces gives them responsibility to maintain them, especially if they are in close proximity of their homes' (Orrù 2015, p. 51).

When agency comes in contact with space it becomes an activated intervention. The making of such spaces is just as vital a task as the construction of the relations. Both conditions rely on one another for a rewarding *fruitful* foodscape. Awan, Schneider, and Till (2011, p. 32) make a point in this relation between action and vision towards urban-making and resulting spatial solutions, they point out that 'spatial agents have to be responsible for all aspects of their actions, from their initial relationship with others to enabling the production of physical relations and social structures. Spatial agency is here as much about modes of behaviour as it is about modes of making.' Making is on par with behaviour, meaning that embodying the space is crucial to its success. The foodscape becomes a *taskscape*, a term used by anthropologist Tim Ingold to speak to spatial agency. Jaschke (2010, p. 81) cites Ingold's use of the term *taskscape*, 'to denote a spatiality that emerges through agency (human and non-human) and is the constantly changing correlate of social activity... The concept of taskspace repositions humans in their lifeworld.'

In the task to become an agent, or having agency, means practising the ability to be self-sufficient and inter-dependent simultaneously. There is also a certain amount of rebellion against cultural norms as this act of agency is considered a rebellion against market-driven structures to a certain degree. Awan, Schneider, and Till (2011, p. 31) remind us that Anthony Giddens (1987) considers that 'agency presumes the capability of acting otherwise.' The most effective way is to form an assemblages of agents to help steer ahead.

6.2.3 an assemblage for transformation

The theory of assemblage was created by philosopher Gilles Deleuze in partnership with Felix Guattari. Manuel DeLanda views it as an approach to social ontology, whereas world things are seen as objects that are in a processes of assembly. DeLanda (2006, p. 3) explains, 'This theory was meant to apply to a wide variety of wholes constructed from heterogeneous parts - Entities ranging from atoms and molecules to biological organisms, species and ecosystems may be usefully treated as assemblages and therefore as entities that are products of historical processes.' The inclusion of historical processes brings in an aspect of time which is also included in the assemble. Earlier on in my research, I had endeavoured to comprehend the complexity of food structures through the micro to macro levels of social reality. In my practice, I have been involved in systems thinking, consequently teaching on the systems design course at Chalmers architecture department, however I have done this mostly from nature's perspective through biomimicry. The initial diagram I used to explain the translation between

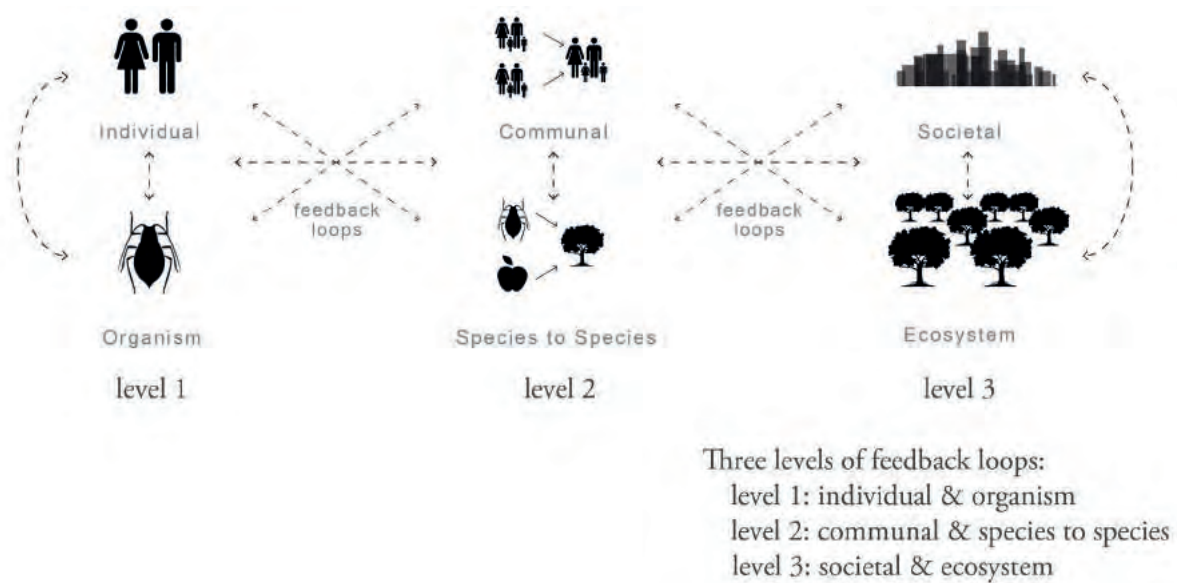


Figure 41-Three Gradients of Human / Nature Lenses & the micro/Macro levels of my research

human and animal species divided the perspective lenses micro to macro into 3 scale levels: 1. human and organism, 2. community and species to species, 3. urban and ecosystem. The scale grows larger and more complex from level 1 to 3, as does the impact, although all are interdependent. The lenses are a necessary form of transformation towards ecology to occur. Both human and organism do not live in isolation but are part of an entire urban and ecosystem. (Figure 41-Three Gradients of Human / Nature Lenses) The diagram applies a systematic scaling to food. Level 1 looks at individual behaviour with food which takes place in the garden, at the table, on the plate and from the fridge. Extended to the body, this scale extends to the metabolic level of diet and health. Organism behaviour in the garden; plant, cellular and metabolic transitions. Included are; diet, food attainment, choice and seasonal understanding. At this micro level there is also a practice included not just the micro level entities. Here, my research deals with the qualitative aspects; the bodily engagement and perception of space. The sensory interaction with space, and the cognitive aspect of coming into contact with a foodscapes. In the micro end, the focus would be on the tools, methods and processes used in these investigations. Level 2 looks at collective behaviour around the home, garden and neighbourhood. On the bodily level you could view the organs attaining a relationship in the body based on nutrition. Here the contact in nature is species to species; plant to insect, soil to plant etc.. 'Attached to the ground, functioning like a sort of bridge between the earth that nourishes them and the air that surrounds them, plants develop as non-finite forms. Whatever its dimensions, a plant has the totality of space around it to grow in' (Bailly 2001, p. 28). Level 3 looks at mass culture behaviour around food at the urban scale. This includes restaurants, food markets and stores supplying the city. In the body, the larger picture here extends to metabolism and health. Nature functions as an ecosystem; a community of living and non-living organisms interrelated and interacting as a system. Food becomes the architecture that inhabits the body, minds, urban space and activity. It stands at the centre of

urban life. The macro end of my research practice recognizes a cyclical system and time. There is also a recognition to policy agenda setting and shifts to the urban planning process, whereas food becomes an urban infrastructure in urban-making. In chapter 1, I mentioned the potential of viewing food as an energy source on par with solar and wind which could be an inlet for it as a viable infrastructure for urban-making. Here the method of a transdisciplinary framework can help to understand the in-between spaces of this 3-level frame. DeLanda (2006, p. 32) rightly warns that ‘the terms ‘micro’ and ‘macro’ should not be associated with two fixed levels of scale but used to denote the concrete parts and the resulting emergent whole at any given spatial scale.’ Meaning that, the relations between the micro and macro scales can happen at any given level and also at any particular scale and time. Therefore, there is again a micro to macro setup on the micro scale, and so forth. These intermediate scales are vital to the assemblage and are relevant to provide meaning and change – or as my research aims to do, transformative behaviours.

Within this context, there is a need to refer to DeLanda’s (2006, p. 8) reference to social ontology as an ‘orgasmic metaphor’, which he views as an obstacle partially due to its reduction of a very complex form to a superficial analogy between society and the human body. I have mentioned this also in the work of Herbert Girardet with his analogy of ‘city as a superorganism.’ For DeLanda, these levels can fall into the trap of reductionist view of the world if not reflected on carefully. He maintains that there are 3 frames: micro-reductionist, meso-reductionist, and macro-reductionist. The micro-reductionist stage takes into account not only individual rationality, but also ‘routines and categories that structure individual experience’ (DeLanda 2008, p. 4). The macro-reductionist includes individuals ‘socialized by the family and the school, they have internalized the values of the societies or the social classes to which they belong that their allegiance to a given social order may be taken for granted’ (DeLanda 2008, p. 5). Finally, the potential for understanding an assemblage lies at the meso-reductionist stage which is intermediate and ‘the true core of social reality, with both individual agency and social structures being by-products of this fundamental level’ (DeLanda 2008, p. 5). While I can understand the critique, I also think that as a metaphor it is inspiring to make this direct connect between nature and humans because it helps in stepping away from this division of ‘us’ (humans) and ‘them’ (nature), to form an organic assemblage working towards a common ‘we.’ The three gradients of human to nature lenses in the figure should be viewed with all its meso-level interactions.

The figure above was an attempt to construct a preliminary assemblage of a metaphorical setup and feedback looping between the individual and organism. DeLanda proposes to construct ‘assemblages’ to formulate and frame all the intermediate entities that are contained between the micro to macro from a visceral level. In this case, the binary trap of micro to macro can be avoided and instead be expanded into an interconnected kaleidoscope of connections, relations, properties, agencies and experiences. Therein he states, ‘the intellectual habit to privilege one or the other extreme will become easier to break’ (DeLanda 2006, p. 6). My interpretation is that grasping at the visceral level means to understand the assemblage via way of the body and activating the assemblage into a dynamic entity.

The relational encounters, described in the relation section, are connected through assemblages which have emergent properties that cannot be predicted precisely, but, can be crafted for an emerging potential or meaning. So far, I have shown how these assemblages have potential to alter everyday lifeworlds, perceptions, patterns and relation to each other, ourselves and the environment. In a transformative practice, however, the challenge is what components are necessary in the assemblage to allow for these conditions to emerge. And in my research, the intent is to explore these combinations, and components, through interventions that engage the body(ies) as driving agents.

In the compendium on the Body in Architecture, Hauptmann (2006, p. 10-11) points out the possibilities of what a 'body' is in an assemblage. She states,

'A body, in Deleuze, can be most anything; it can be an animal, a body of sounds, a linguistic corpus, a social body; yet, a body must be defined as a unity of parts, parts held together relationally and having a capacity to affect and be affected both internally and externally... we agree with Deleuze in that it is necessary to understand that there are many bodies: individual, collective, mystical, corporate, institutional, animal, even the body of the world; and the heavens... However, what bodies may become, what new molar organizations take place...what can a body do?'

It is useful to return to the terms 'organoleptic interfaces' which indicated the ability for the senses to be stimulated by the components in a given context. In Portuguese the word for 'interface' is 'interchange', creating a more dynamic language. A language that indicates that one is 'doing' and 'interchanging'. This blurring between the interface (matter) and interchange (action) is the aim of my explorations - an interchange between body and space.

6.3

Relational Interfaces

In Bruno Latour's (2004, p. 205-206) article on the concept of the body, he calls it 'an interface that becomes more and more describable as it learns to be affected by more and more elements.' The bodily interface begins to *operate* when it encounters with urban entities around it and becomes a space for interaction. The intensity of this encounter depends on the relations it upholds with the context. Relations are in essence what creates and upholds this inter-facing, for,

'there is no sense in defining the body directly, but only in rendering the body sensitive to what these other elements are. By focusing on the body, one is immediately –or rather, mediately – directed to what the body has become aware of...Acquiring a body is thus a progressive enterprise that produces at once a sensory medium and a sensitive world.' (Latour 2004, p. 206-207).

This brings in the concept of perception as a component in an assemblage. Perception itself is formed by the particular act that is taking place and by the use of space in question. This becomes experiences, 'that inform our perceptual sensibilities and shape both the perceived environment

and bodily dispositions' (Degen, Rose & Basdas 2010, p. 67). Degen, Rose and Basdas assume that 'experience is not an individual or subjective state of mind, nor simply an act of perception, but that many entities become part of and aid moments of embodied experience. Experiences are thus not only situated in specific moments of time and space but are also underpinned by particular bodily dispositions and objects' (Degen, Rose & Basdas 2010, p. 69). A foodscape entails an envelope, or assemblage, of perceptions in and around it. However these perceptions emerge in stages, the first of which is observation, but the way in which to create a stronger experience is to immerse the body directly inside the context – with all its relations.

Relation is learning more and more to go beyond judgments into the unexpected dark of art's upsurgings. Its beauty springs from the stable and the unstable, from the deviance of many particular poetics and the clairvoyance of a relational poetics. The more things it standardizes into a state of lethargy, the more rebellious consciousness it arouses (Glissant 1997, p. 138-139).

And in the rebellion that arises, a new form of behaviour follows too.

6.4

Next steps and future research

Luce Giard (1998 p. 199), in *The practice of Everyday Life*, ponders on the next meal:

'How can one choose words that are true, natural, and vibrant enough to make felt the weight of the body, the joyfulness or weariness, the tenderness or irritation that takes hold of you in the face of this continually repeated task where the better the result (a stuffed chicken, a pear tart), the faster it is devoured, so that before the meal is completely over, one already has to think about the next'.

The societal challenge began with an analysis of the rotten foodscape and seasonal connect, but following licentiate discussion and the experience of developing this text it is vital to stage a stronger critique on sustainability in terms of changing behaviour, changing theoretical framing and changing concepts. One crucial topic that needs development is nature. 'Nature' is not an innocent concept and thus it needs to be further discussed and challenged, primarily within the relational context we have with it. Straying away from a market driven concept such as sustainability, nature holds a thicker potential for exploration and for generating meaning, because in essence, aren't we also nature? Breaking down the dichotomy between humans and nature is a vital endeavour, given that the aim of my research is to nourish relations with nature from the perspective of urban-making.

Phase 1 and paper 1 conclude with an intention to investigate swarming to further explore the collective and relational assumptions. Working with a systems approach under the inspiration of living systems, such as swarming, allows for working with people, and designing for evolution instead of a solution (paper 2). The problem of working with social issues is that it is a complex problem for

which no final solutions exist. Within a living systems framework, we can design for evolution and for transforming behaviour which stands at the core of these issues around environmental dilemmas. The difference is that the solution is not just a design problem, but rather an evolution orientation for urban-making in which the imagination can be the most appropriate tool to use because it appeals to the imagination of the individual actors in the collective (paper 2). Therefore, next research must also tap into more methods that arouse imagination and change, and a clearer methodological and theoretical distinction between imagineering and imagination in terms of staging fiction. Looking to narratives and metaphors as linkages and relation builders will need further developing especially since they are essentially the 'tools for thinking' in the explorative experiments. The research will also continue probing at the thematic of movement using reflexive Butoh Practice.

Whilst the first phase of the PhD focused more on practice and open discussion the second phase with emphasize more on theoretical underpinnings. Further development into linking theory to the practice of embodiment is needed. Returning to the main research question: What creative processes within urban-making practice can develop an embodied methodology that instigates deeper commitments in forms of diverse agencies and transformation towards environmental behaviour with food and with the body?

What I have found is that the operative driver of agency, though a well-known and respected approach, has become too passive to use in the explorative experimentation. In writing the theoretical gateways in detail, the idea of a 'poetics of relation' opened up a more active and appropriate theoretical base to continue with, along with a study into affect theory and affordance. In addition, relation also opens up to the idea of using swarming as a concept and its link to the formation of assemblages. The 'relational' concept also allows for a wider opening into continuing artistic research. In re-formulating the main research hypothesis, the next phase of work could look into the relation between assemblages and swarming. How do these two masses of relations associate with one another? Swarming provides more sophisticated and interrelated relations than assemblages do which tend to remain vague. But, both are necessary to study, especially if they can inform one another on a theoretical and dynamic level. Could there be a new way to envision assemblages as swarms that 'instruct' ecological commitment to urban living and making?

In preparation for these questions, I have hinted on the next intervention studies. During the AHA festival in 2015, I staged an intervention called 'Transit: a swarm in five acts' in which I used resilience study as an instruction for a performance, a simple embodied symphony of repetition and bodies (see Digest 4 in Additions). This intervention will be written up in the second phase of the research. In creating such an intervention, what became clear is that further bodily work is necessary. However, the bodily work this time should not be outsourced to a professional dancer and will require self-practice by me. The gap between observing the Butoh dance, and performing it myself, is too large to grasp. In preparation, I have set up a Butoh retreat with three instructors: a landscape architect turned Butoh dancer Carmen Olsson in the summer 2016, Suriashi dancer and PhD Ami Skånberg Dahlstedt, and choreographer and Professor at Malmö Univeristy Susan Kozel who works with

somatic body memory. A continued probing into Butoh work, and bodily immersion, is necessary. I believe that with this embodied practice and knowledge, it can serve as springboard in combination with swarming for instigating further methods for collective creativity.

What this leaves me with is a 'Butoh swarm' for a new attempt at evoking a poetics of relations for a renewed ecological commitment to urban making and living when it comes to food. The next AHA festival for 2016 is already in planning phase with the thematic 'Uni-verse' which provides optimum sub-themes to investigate the contiguity of relations that allow such compositions for exploration. This further research will continue to explore what the embodied corporeal process via diverse bodily exposure can do for the creation of a relational aesthetics in urban green space? The term 'relational' has emerged in the contemporary intellectual debate in the late 1990s with the work of French art critic Nicolas Bourriaud (2002) who coined the term 'relational aesthetics' to speak about artworks in terms of the inter-human relations which they represent, produce or prompt. What better footing to have when embarking on the space between humans and nature within new methodologies to examine urban-making.

As I tie up this portion of my research, I look out the window to find my next door neighbour starting her own food gardening patch (figure 42). It has taken her a month of observation and curious visits to our garden to arrive at this junction of action. It gives courage and inspiration to continue further in exploring imaginative ways of urban-making and staging to create the potential for spreading a transformative behaviour when it comes to food.

∞



Figure 42 - Pietrasanta garden

Additions

references, appendices, papers, essay & digest series

utensils

kitchen tools, crockery, cutlery,
appliances

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Appendices

1, 2, 3 & 4

Appendix 1

Ekolåden Experiment Set-up

Arrival of Veggie Box from Ekolåden weekly. The category chosen was Swedish local produce and seasonal. Active research process included:

- laying out the ingredients of the box onto the floor upon arrival
- using the ekolåden website and newsletter included in the box, I labelled each produce to understand the sourced farm
- next step was to map out the produce to see where it came from with kilometer distances
- I researched other box schemes in Stockholm and I did a comparative analysis to what we were growing in our garden in Högalidsparken odling
- documenting what is grown in the garden and what can be harvested
- finding the nearest supermarket location to my apartment (coop)
- comparative analysis of what was available in a neighbourhood supermarket (Coop) that was also Swedish produce which compared with items delivered in the veggie box scheme
- comparative pricing of same organic items Swedish based as delivered in box, and sold at supermarket. Findings were that there was a very small difference in price from supermarket to veg. box.

Questions to Ekolåden:

What determines the change in suppliers of certain produce year to year?

What determines your choice of Swedish supplied produce each week? Suppliers?

Do you think you could extend your services to 'educating' consumers how to eat locally and seasonally?

How much is the diversity of your supply effected by increase in demand?

What has been increase in demand the past years and how have you responded? More farmers? Higher yield?

Why don't you set up relationships with farmers closer to Stockholm?

What do you consider the benefits of a Swedish vegetable box?

How do vegetables get transported? Air, water. etc..

Appendix 2

Gröna Linjen Safari Experiments Set-up

Step process:

1. **Mapping** - First step was to create a map which would include the green line #17 route. I wanted also to get an understanding of the administrative borders (municipalities) which traversed this area. So I set a border on which gardens to study, so that Stockholm could become manageable. Contacting Stockholm stad authorities for a map was a bit of a task, and the files sent were only operable on a Microsoft platform. Chalmers did not have data for Stockholm, as it was Gothenburg based. The next resort was to get help from a KTH student on the Kartago system for me to have a map of Stockholm...the map included contact details and information about each garden, taken from Stockholm stadsodling site (See figure 2a).

2. **Contact list** - every garden was plugged into a contact list sheet with details for contact, address etc..

3. **Safari route proposal** - the next step was to draw a programme of the gardens (a diverse range) close to the Gröna linjen and easy to bike through (See figure 2b and 2c).

4. **Safari budget** - A budget proposal for safari 1 was sent to Mistra Urban Futures for approval, and approved.

5. **Participation** - The next step involved contacting each of the gardens and asking them to join the safari. This step also included inviting participants to the event, and to test the Urban CoMapper app.

6. **Interview** - in preparation for the safari, I wanted to create a small 'safari survival guide' for each participant so that they could navigate their way, know who was involved, and read a bit on the artists, gardens involved (figure 2c).

7. **Safari survival guide** - the card set included: (see figure 2d): only for safari 1

- a card on each garden with a short text about the people there
- a card on each artist staging an intervention during the safari.
- a card on the Urban CoMapper, and its goal in urban food production
- the safari route and map
- the safari day program
- contact details

8. **Safari dry run** - May 25, 2014

I decided to do a dry run with the app on the planned route with phd colleague Hye Kyung Lim. The purpose for the dry run was to check the state of the gardens for the route, get initial imagery

and perception of the garden. Ofcourse, one of the main tasks was to test the CoMapper app at each garden and do a pilot test of data input and timing. About the app: we noticed that the battery drained extensively on the app due to gps location services being turned on the whole time. Other remarks included that the survey time needed to become shorter, with fewer categories to navigate through. Further, giving the app to non-architect friends to test, we were suggested that the language needed to be simplified for a less academic audience. The challenge was also how to redesign the survey's interface so that it is less of a survey and more of a virtual experience. Corrections were made and sent back to the IT developers.

9. **Gröna linjen safari 1 & 2** - June 2014, September 2014

The second safari included 5 gardens, one of which was a potential site. This safari was planned and mapped by Gröna Linjen members Malin Lobell and Christina Schaffer. My intention was to invite participants for testing the Urban CoMapper app once again, especially to receive input on a potential garden site. Afterwards, I organised private workshops with 3 individuals separately to map other potential sites.

10. **Post safari interviews** (*transcripts of interviews available upon request*)

(Conducted between 2014-06-26 and 2014-07-04) - amo – Anna Maria Orru

Interview was steered around the following points

- Initial reaction: I would also very much enjoy hearing your feedback and thoughts. Keeping in mind that this was an early test pilot, and you are part of helping is make it better, we have a few more design and technical kinks I suspect. However, what are your initial thoughts?
- Concept: What do you think about the concept of the app?
- Collaboration: In terms of collaborative mapping, the question of involvement. Do you consider this a participatory process? Collaborative? participatory + collaborators
- Perception: How does mapping your 'perception' of these spaces make you experience the space differently or not? Did it change the way you perceived the built environment due to this kind of mapping exercise? how it was changed a. more involved? b. more conceptually understanding?
- Change: Do you see how the space could be changed in a more concrete way?
- Questions asked: Did it feel like we were asking the right questions and categories? Anything we missed?
- Potential: What are the potentials for using such a device?
- Better design: what could have been done better?
- Safari event: what did you think of the event combined with mapping?

Figure 2a - Stockholm Urban Garden Mapping 2014

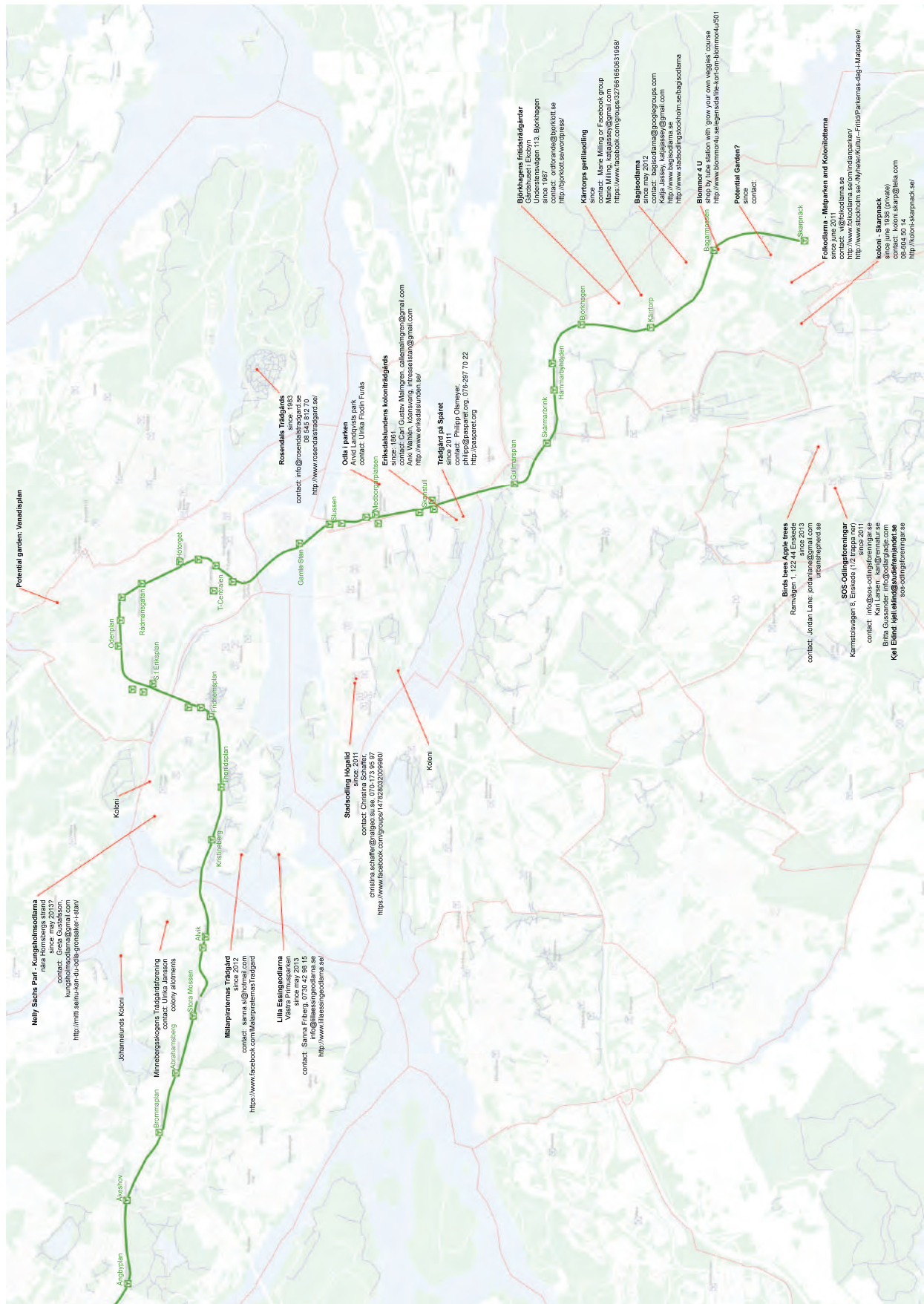


Figure 2b - Safari 1 route proposal

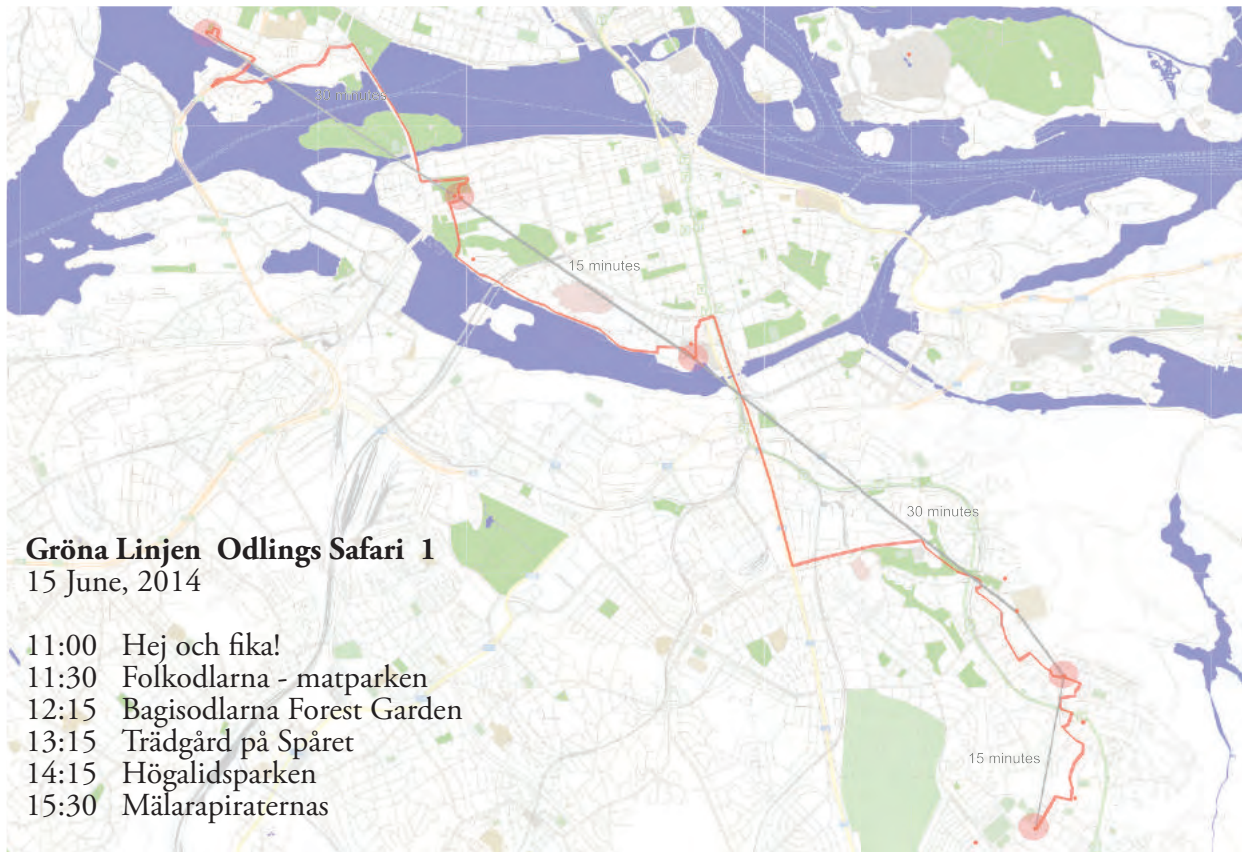


Figure 2c - Safari 2 route proposal

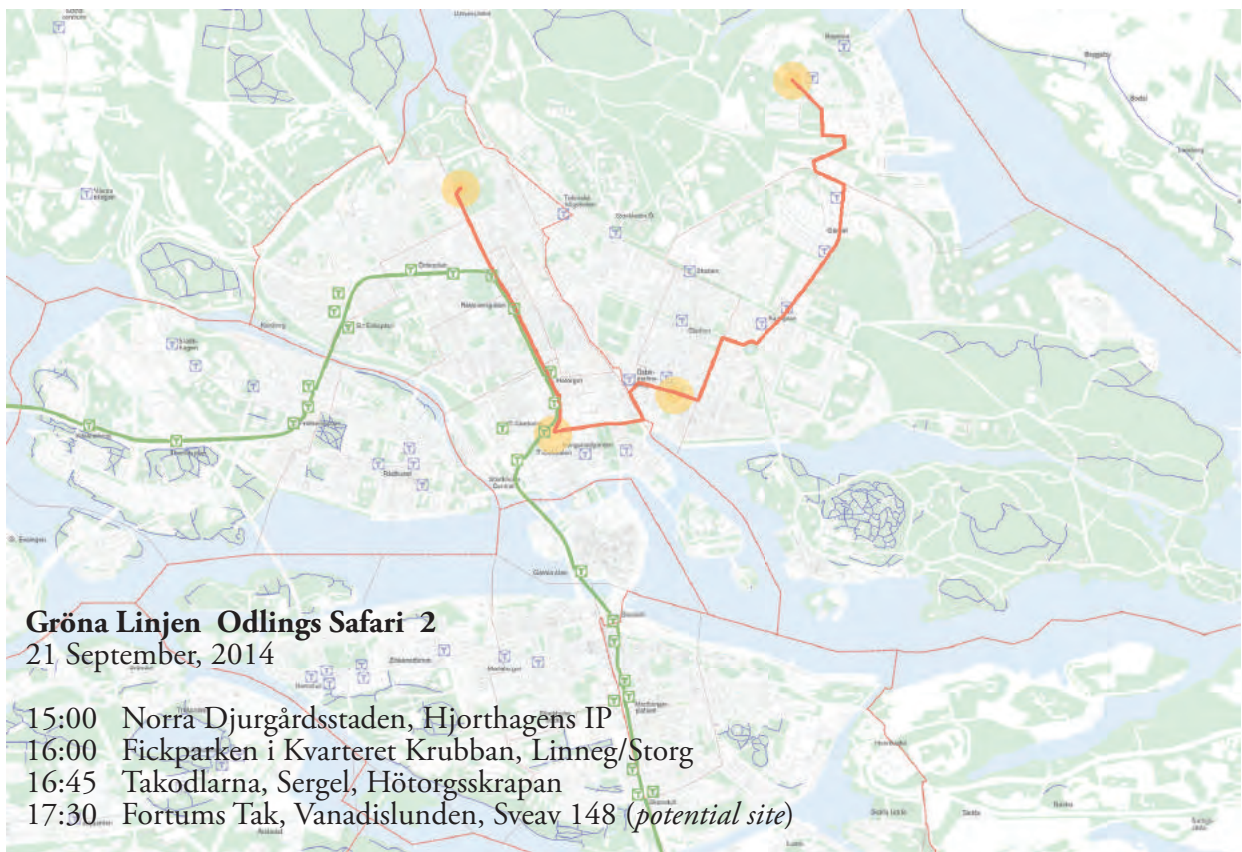
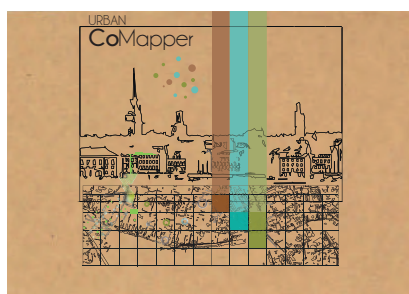


Figure 2d - Safari 1 Survival Guide booklet

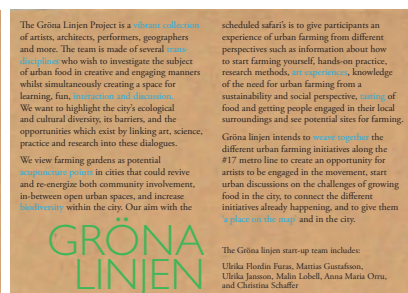
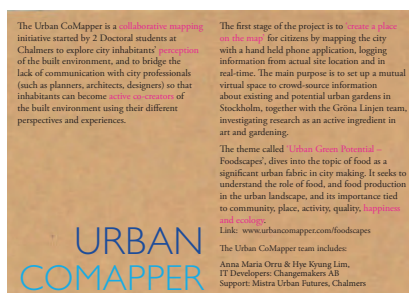


card fronts
1,2,3

safari 1 map & programme

Urban CoMapper app

Gröna Linjen platform



card backs
1,2,3



card fronts
4,5,6

artist 1

artist 2

artist 3



card backs
4,5,6

card fronts 7,8,9,10,11



card backs 7,8,9,10,11

neighbours
stop by,
ask questions...
that's nice too.

SINCE 2011

FOLKODLARNAN
MATPARKEN

59°15'56.47"N 18°07'26.07"E

We began in June 2011 as we wanted a place to gather in. It is not so much about the food production for us, but much more of a 'visning trädgård' (teaching garden), where people can learn how to garden and have something to do! For us it is about cultivating a place to hang in and talk together, we want a little more than just a grass patch to sit on and anyone is welcome. We mostly enjoy growing vitlök, so we dedicated 2 big raised beds to it as its healthy and delicious to eat! We try to explore with companion planting, but we find it hard to be so meticulous about it.

garden 1



it is also
a place
of joy for
our small
pollinator
friends

SINCE 2013

BAGISODLARNAS
ODLARGRUPP

59°15'23.18"N 18°04'21.7"E

Everywhere in Bagarmossen people are busy greening up their neighbourhood. So, in response to this popular demand, the council decided to support a community garden project in 2013: Bagisodlarna. Our modest beginning included growing traditional crops in raised beds and a herb garden, which allowed the group to find their feet. By winter 2014, feet were found and an open course in forest gardening was arranged. On May 18, 2014 the whole of Bagarmossen was invited to participate in different urban gardening activities as well as the creation of the new forest garden. The group meets every second Thursday in the evenings, and aims to transform the whole area of 3,000 square metres given to them by the council. The glue that holds us together is that we take our "fika" seriously!

garden 2



it feels
like
a small
paradise
out here!

SINCE 2012

TRÄDGÅRD
PÅ SPÅRET

59°18'22.17"N 18°04'26.27"E

The two initiators Max and Phillip were so inspired on a visit to Prinzessingarten in Berlin, that they wanted to create a similar place. A garden where you could learn-by-'doing' by actively growing things yourself. For us, it is not about the quantities of food grown, but rather about the variety and diversity that we can grow. For example, we grow 5 varieties of beans. We are about 200 members, but 30 of us are actively involved. It is fantastic to see things grow in the middle of the city and simultaneously meet new friends. We especially like growing little red tomatoes, its fun to do this in a Nordic climate. Their smell reminds us of southern Europe – a bit like being in the Mediterranean in the middle of Stockholm.

garden 3



a way to turn
'green
thinking'
into practical
action

SINCE 2011

HÖGALIDS
STADSODLING

59°18'45.27"N 18°00'01.37"E

The garden began in 2011, taking on the task from the 100 Hus initiative. We are 25 members, mainly living in the neighbourhood, with different ages and garden knowledge. The aim is to get more experience of the social benefits through doing things together, and to have the time and opportunity to grow vegetables as a private person in an urban area. Hopefully it gives an awareness and inspiration of eating healthier, creativity and open up minds for the fantastic world of the joy of growing your own vegetables together. Gardening brings the knowledge and awareness on how to take care of ourselves, through food, and of our surroundings. The aim is to cultivate joy, a sense of community, and try to make Högalidsparken a pleasant place, showing the potential of unused urban space to become something beautiful and important. Self-grown food is fantastic, but also the beautiful flowers, bees, other pollinators, sun flowers and small birds. We not only grow plants, flowers and food, but also awareness!

garden 4



we love
the
coziness
of growing
grönkål

SINCE 2011

MÄLARPIRATERNAS
TRÄDGÅRD

59°19'45.27"N 18°00'01.37"E

Ten of us grow together with local neighbours living around our yard; 2/3 live here, and 1/3 are from the surrounding neighbourhood. Our local permaculture enthusiast Annevi inspired us to start, and the main purpose is the togetherness of growing food. Our favourite parts are: the social bit, that we think it looks great, and that it also gives us food. We feel we can be a part of something, but not take all the responsibility. It's very social, people often stop by to ask questions. We love the coziness of growing Grönkål, but chinese Kål was an exotic task too! One year physalis and tomatoes appeared out of the compost we used, a nice surprise and example of resilience!

garden 5

Appendix 3

Urban CoMapper Design

The following pages show the Urban CoMapper interface sequences. ¹

List of figures:

- Figure 3a - This was a systems ER mapping showing the navigation through the Urban CoMapper Urban green potential app.
- Figure 3b - Urban CoMapper Smart Phone interface screen shots
- Figure 3c - Urban CoMapper: existing foodscape site survey questions
- Figure 3d - Urban CoMapper: potential foodscape site survey questions
- Figure 3e - Urban CoMapper: interface screen examples and finishing of survey sequence

Participants were asked to map a minimum of 5 garden sites. The survey sequence went as followed:

1. Participants registered with a username and password. At the same time they registered whether they were a city professional or city inhabitant, and how they came across the garden site in question (figure 3b).
2. A welcome screen announced the survey and participants were asked to log in their location on site (figure 3b).
3. Participants were asked to log whether they were surveying an existing garden site, or a potential site for gardening (figure 3b). Participants filled out various screens using text, checking the appropriate answer, and uploading photos, videos or sound.
4. They were then guided through a series of survey questions pertaining to existing or potential site conditions (figure 3c and 3d).
5. After the entire sequence of questions was filled out for the garden site, participants could choose to finish and log out, or continue mapping with more sites. Participants could also look back at the information entered thus far (figure 3e).

¹ The web-app for Urban CoMapper – Urban Green Potential was hosted by a server maintained by Change Makers. The original host was located on <http://216.66.81.48:8080/foodscapes/>

Figure 3b - Urban CoMapper Smart Phone interface screen shots

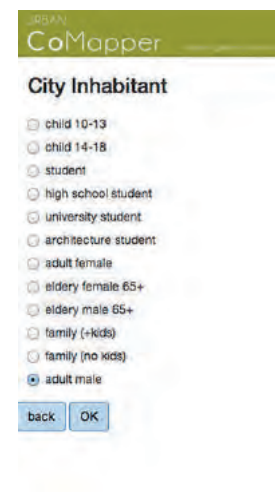
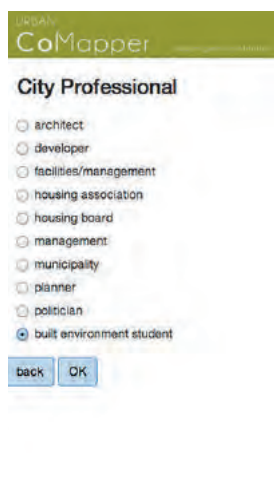
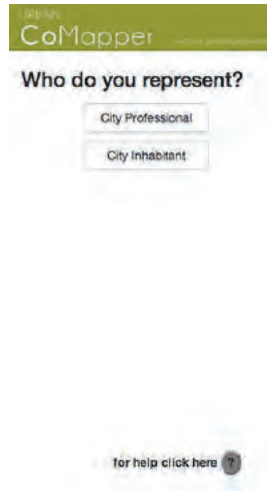
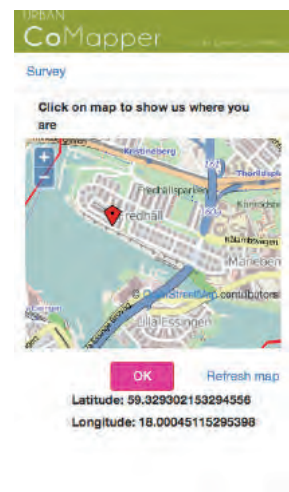
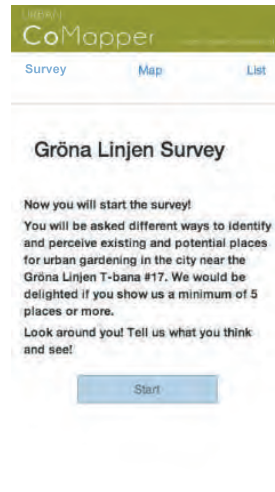
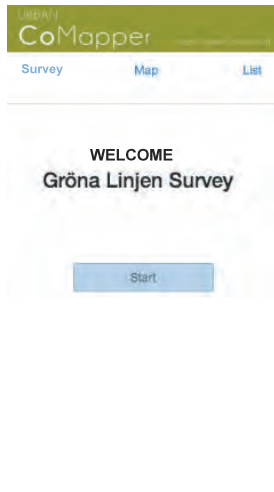
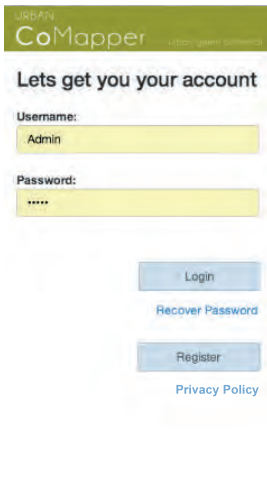


Figure 3c - Urban CoMapper: existing foodscape site survey questions

Existing foodscape site

Tell us about a place that already is growing food. It may be private allotment, a public community garden, or even a green edible roof! Look around you and help us to catalog them!

Size

Text

Please add short description about your perception of size. i.e.: square meter footage (max 200 characters)

Upload: Video Photo

Style

- soil growing
- raised beds
- hanging beds
- vertical beds
- plant pots/planters
- window sills
- roof garden
- sloped site
- other

Produce

- root vegetables
- vegetables
- herbs
- salad beds
- fruit
- berries
- fruit trees
- other trees
- other

People

- head gardener
- garden enthusiasts
- neighbours
- families
- children (next to school)
- public
- commuters
- members
- other

Garden elements

- signage
- message board
- food compost
- dry compost
- worm compost
- garden tools
- manual water supply
- irrigation system
- other

Built elements

- garden shed
- community hut
- terrace
- benches
- place to eat
- preparation area
- sink/washing area
- gate/fence
- other

Climate

Please describe your climatic perception of the space.

- Sun
- Wind
- Shade
- Exposure
- Seasons

climate_sub categories

Sun

- site gets a lot of sun
- site gets a little sun
- there is very limited sun
- its quite a dark site

Wind

- site is quite windy
- site gets a little wind
- there is very limited wind
- No wind exposure, its calm!

Shade

- site is quite shaded
- site gets a little shade
- there is very limited shade
- its quite an open site

Exposure

- site is open on all sides
- site is open to one side
- site is open to two sides
- site is open to three sides
- Site is closed in

Seasons

Text

Tell us about your seasonal perception and memories (max 600 characters)

Upload: Photo

Challenges

- little animals eat my food
- mean neighbours
- industrial site = bad soil
- our land lease ends soon
- we need more space
- we need more funding
- we need soil and supplies
- vandalism
- heavy traffic nearby

Character

- very nice garden
- its very organised and tidy
- this garden seems abandoned
- its a bit scary here
- what a mess!
- nothings going on here

Sensorium

text

Please add a description about your sensory perception of the site. Think about what you can smell, hear, feel, and taste a little treat while you're at it! (max 600 characters)

Upload: Record

Site description

would you like to tell us more? feel free to add more description or information about the site (max 600 characters)

Upload: video sound record

Figure 3d - Urban CoMapper: potential foodscape site survey questions

Potential foodscape site

Tell us about a place that has great potential for gardening food. Look around you and help us catalog them so we can get more urban gardens in your city! Become a green city co-creator!

Size

Text

Please add short description about your perception of size. i.e.: square meter footage (max 200 characters)

Upload: Video Photo

Site elements

- flat area for building/grow
- water resource available
- near housing zone
- near business zone
- near pedestrian route
- near busy road
- near side road
- can be secured (fence)
- other

Hard landscaping

- concrete floor
- tarmac floor
- paved floor
- steps
- gravel/small stones
- short walls/fences
- high walls/fences
- fountains/water
- other

People

- interested gardener
- interested steward
- interested neighbours
- interested school
- interested public
- interested commuters
- interested members
- interested businesses
- other

Soft landscaping

- grassy area
- dirt area
- existing planted area
- bushes/hedges
- trees
- park area
- playground
- other

Ecology

- park area
- near water
- trees
- plants
- bushes/hedges
- potential for biodiversity
- birds
- other wildlife
- human pets

Climate

Please describe your climatic perception of the space.

Sun

Wind

Shade

Exposure

Seasons

climate_sub categories

Sun

- site gets a lot of sun
- site gets a little sun
- there is very limited sun
- its quite a dark site

Wind

- site is quite windy
- site gets a little wind
- there is very limited wind
- No wind exposure, its calm!

Shade

- site is quite shaded
- site gets a little shade
- there is very limited shade
- its quite an open site

Exposure

- site is open on all sides
- site is open to one side
- site is open to two sides
- site is open to three sides
- Site is closed in

Seasons

Text

Tell us about your seasonal perception and memories (max 600 characters)

Upload: Video Photo

Challenges

- mean neighbours
- industrial site = bad soil
- who owns this land?
- we need funding/supplies
- vandalism
- heavy traffic nearby
- needs some design care
- there's no place to sit

Character

- its got a great view
- its very peaceful here
- its quite noisy
- its a bit scary here
- its an underutilised space
- perfect for gardening

Sensorium

text

Please add a description about your sensory perception of the site. Think about what you can smell, hear, feel, and taste a little treat while you're at it! (max 600 characters)

Feel like telling us more or recording?

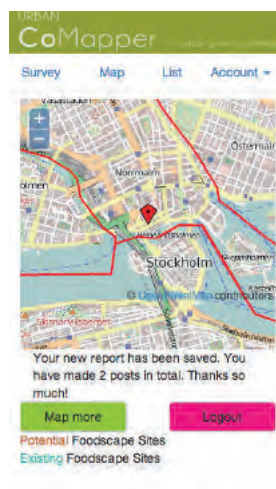
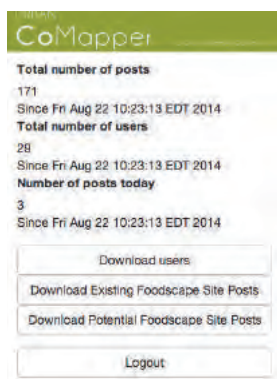
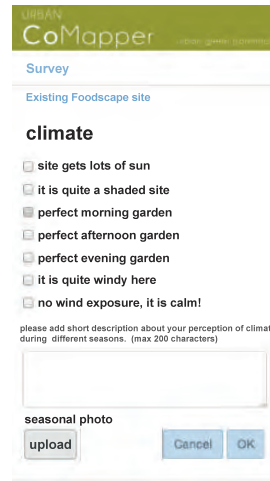
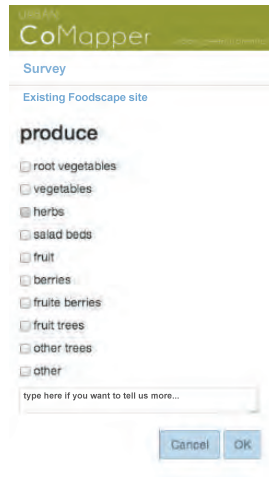
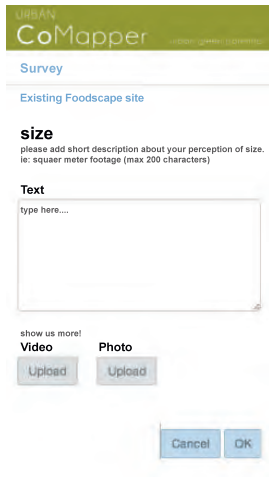
Upload: Record

Site description

would you like to tell us more? feel free to add more description about the site (max 600 characters)

Upload: video sound record

Figure 3e - Urban CoMapper: interface screen examples and finishing of survey sequence



Finish (last screen after entry)

Thank you for completing your sites!

Click on 'Map more' to move onto your next site.

Click on 'Finish' to end.

Click on 'Exit' to exit the survey.

Thank you for your time! You are becoming an important spatial agent in your city!

Go to 'list' to check out your sites

Appendix 4

Butoh Workshop

(Questions & Answers)

The butoh workshop took place on the 23 October, 2014 following the Butoh performance ‘Organoleptic Interfaces’ by Frauke. In a moment of reflection in which participants were asked to record their answers to the questions given to them at the start of the workshop. The answers are anonymous and were pinned to the wall, but I have managed to locate each participant’s answer based on their handwriting. However, I do not know who each one is.² The questions/answers at the butoh workshop were:

1. Describe your journey into a state of heightened senses (the Butoh state). What did you notice?

Participant	Answer
A	Tactility of: soil, pavement, branches, moss leaves
	Sound: of leaves, rain, distant cars, of steps, wind
	Steps are stupid
	Vision blind us
	Attention
	Connected to the ground / soil
B	Want to reach much higher space Close my eyes to feel other senses clear
	Wood bridge Trees passed Leaves falling down from somewhere high
C	Sound of the nature and environment. Each step becomes much more careful and sensitive, since you try to know the surrounding by your feet and hands. I can know the weather by touching and listening. Easily get lost of the direction. I start to make a map in my heart about the surrounding and my path.
D	The calmness. The mind was empty. I heard, I felt, I did not think. The breathing. Warm, calm, secure state of mind. Everything is okay. I am okay.

² Participants who remained for this part of the workshop included mostly Chalmers MA students of architecture except for one butoh dancer who collaborates with Frauke. They are: Brynhildur Thorarisdottir (dancer), Zhao Wu (MA-Arch), Johannes Lulhmuh (MA-Arch), Xue Han (MA-Arch), Chin-Yuan Fan (MA-Arch).

	<p>1. The ground level that I'm stepping on, some are very soft with grasses alive, some are little bit hard with dead bodies of grasses, leaves, branches.</p> <p>2. How the territory/topography changes up and down</p> <p>3. There are so many different heights of things in the forest that you can sense with my feet walking on body encountering; hands touching, and head knowing</p> <p>4. The sound is mixed by the wind in the forest ad the construction/traffic noise from outside</p>
--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

2. Can you compare this 'activated' state of body to your 'normative' state (usual being). What is the difference?

Participant	Answer
A	Awake, Aware, Attention
	More in the situation, less in mind and thought
	Relaxed, Less worried, Trustful steps
	Focused on what is here now, less thoughts
B	It is my first time that I tried to be blind but opened my other senses. It's weird but real.
	I could feel more about my actual feelings and focus more on my thoughts
C	I started to take more attention on the surrounding environment, like the sound, the steps, the light, the feeling of the smelling etc.. I got more information from the environment
D	Erasing oneself: to fight the usual small gestures one makes when meeting another, smiling, move your fingertips in small strokes when holding hands. To not small talk. To not to say small words like 'hi', 'wow', 'sorry' It is hard to be neutral
	Illustration: This post it was a small mapping diagram with the words – body, rain, breathing, love, sounds. Text: It's just me and my body I saw things that I forget to notice in everyday life
	More connecting to the surroundings in a physical level What I sense is coming from the experience of my own body – feet, hand, head, ear, nose - rather than from my mind Normal: envision – mind conscious – body do or can't do Activated: feet/hand/body – body motion change

3. What was your experience during the material surface dialogues (phase 4 outdoors). What conversations with the urban environment took place? How did the 'materials' seem to you?

Participant	Answer
A	Cold, rough, wet, still, enjoyable
	Hard, soft, welcoming, inviting, grateful, joyful
	Temperature tactility of fingers on 'structure's shape'
B	Different scales of stones / grass, but wet, kind of disgusting / bicycle – it is difficult riding a bike when it is raining
	plastic stuff – why didn't people throw it in the garbage

C	Sometimes I don't know what is in my hand, it is interesting to know the material by touching. The material itself reveals the world and what it is. / where it might be / sharp, hard or soft, sound, smell
D	To cuddle up in a big stone sculpture was interesting. The stone was hard and cold but because of the raining and cold outside it felt warm and embracing. A roof over the head. I felt that I could stay there.
	I can smell the leaves, it is not totally dead, but a little bit alive / the rough surface of the sculpture, not very friendly to my hand skin, but shapes or forms in a way which is attractive for me to experience / the interface that my feet walking on tell you what kind of territory you are within

4. When focusing on your internal speed (indoor exercise), and in the butoh technique of erasing of oneself, what occurred?

Participant	Answer
A	Tension, everything feels

Papers

Paper 1

Extracting Urban Food Potential: design-based methods for digital and bodily cartography

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ABSTRACT:

Sweden's recent report on Urban Sustainable Development calls out a missing link between the urban design process and citizens. This paper investigates if engaging citizens as design agents by providing a platform for alternate participation can bridge this gap, through the transfer of spatial agency and new modes of critical cartography. To assess whether this is the case, the approaches are applied to Stockholm's urban agriculture movement in a staged intervention. The aim of the intervention was to engage citizens in locating existing and potential places for growing food and in gathering information from these sites to inform design in urban agriculture. The design-based methodologies incorporated digital and bodily interfaces for this cartography to take place. The Urban CoMapper, a smartphone digital app, captured real-time perspectives through crowd-sourced mapping. In the bodily cartography, participant's used their bodies to trace the site and reveal their sensorial perceptions. The data gathered from these approaches gave way to a mode of artistic research for exploring urban agriculture, along with inviting artists to be engaged in the dialogues. In sum, results showed that a combination of digital and bodily approaches was necessary for a critical cartography if we want to engage citizens holistically into the urban design process as spatial agents informing urban policy. Such methodologies formed a reflective interrogation and encouraged a new intimacy with nature, in this instance, one that can transform our urban conduct by questioning our eating habits: where we get our food from and how we eat it seasonally.

Keywords:

Critical cartography, spatial agency, bodily engagement, design-based methods, artistic research, urban agriculture

Citation

Orrù, A.M., 2015. Extracting Urban Food Potential: design-based methods for digital and bodily cartography. *Future of Food: Journal on Food, Agriculture and Society*, 3(1 Special Issue: Finding Spaces for Productive Cities), pp.48–62. Available at: <http://fofj.org/index.php/journal/article/view/147>.

Introduction

Gröna linjen is a vibrant transdisciplinary urban platform formed to investigate alternate participation for citizens in the urban design process. This paper responds to several knowledge gaps highlighted in Sweden's report on urban sustainable development, and furthermore, on urban food discussions in the Netherlands. One gap in the report calls for more research into the urban design process where the citizen is viewed as a 'co-creator' in designing the city merely through their participation. Another gap links urban agriculture to well-being, and a third beckons for new participatory and dialogue strategies. Furthermore, the discussion on food in the 2012 exhibition Foodprint in the Netherlands calls for a paradigm shift for individuals' conduct when it comes to food, and creative and artistic practices can play a vital role for this change. (Stroom den Haag, 2012) The investigations take place in Stockholm, Sweden, where a growing desire to grow food has emerged and a number of productive foodscapes are appearing. A foodscape refers to an urban food environment devoted to food production, distribution and/or consumption, but in the context of this research it refers to urban food production. Urban Agriculture, a term more commonly used, seems too vast as some of these productive foodscapes are small in size, but nevertheless, immense in their community impact. Therefore, in response to the highlighted gaps, can the role of the citizen be strengthened and enacted through new practices in the urban design process? The research investigated methods to transfer spatial agency to the citizen as 'co-creator' and tested new modes for critical cartography. Gröna Linjen staged a *safari* intervention, an overland green expedition, for locating existing and potential places for growing food by orchestrating encounters with five foodscapes and the community surrounding them. Meanwhile, testing the methodologies for gathering data from these sites, that could be used to inform policy on urban agriculture was also done. The approaches gave way to a mode of artistic research in the study using design-based practices with digital and bodily interfaces for cartography, along with inviting artists to be engaged in the dialogues. The digital interface, the Urban CoMapper app, was a tool for hand-held devices that captured perspectives through crowd-sourced mapping in real-time.¹ The bodily interface used the participant's body to gather data from these green spaces, as an individual and in a group, via their sensorial perceptions of tracing the sites with their bodies. The methods encouraged an intimacy with nature and formed a reflective interrogation of our eating habits: where we get our food from and how we eat it seasonally. The challenge remains whether assigning spatial agency, via innovative methods for critical cartography, can develop an urban design approach that integrates citizens as agents and informs policy for urban agriculture.

Swedish Research in Sustainable Urban Development

To begin with, the motivation for these projects has been the 2011 Formas Report on Urban

1 Urban CoMapper app was developed during 2014 by PhD candidates, Hye Kyung Lim and Anna Maria Orru, with two varying research thematics: Urban Green Potential-Foodscapes and Compact Mixed City.

Sustainable Development, which identified several knowledge gaps in the relationship between citizen and city. The report maintains that 'there is an unquestionable link between built environment and living conditions. Therefore the urban space tends to be understood as something external by which people are affected, while it is forgotten that man, by acting in and appropriating the built environment, is also its co-creator'. In essence, 'the place is created by the people using it in a reciprocal interplay with the place itself.' (Swedish Research Council Formas, 2011, 36) This changes our view of experts as being the only ones creating the urban environment, and includes citizens as design agents in the urban design process. More research is needed into this 'co-creating' role and how citizens' effect could shape the urban environment towards sustainable means. This paper responds by examining methods for spatial agency and critical cartography as templates for further enforcing this role.

The Formas report (2011) goes further to highlight a gap in urban agriculture: 'another neglected research field concerns the link between people's wellbeing and urban growing, which is a big topic internationally but not in Sweden.' The aim of the research also accentuates this food-related lifestyle of urban farming and its influence on strengthening citizens' relationship to nature in the city through the act of growing food. The gaps mentioned above are interlinked and it can be assumed that citizens, as creators of productive foodscapes, become designers of the urban landscape. In sum: a transfer and democratization of spatial agency. But how do we incorporate these design concepts? The report identifies a need for 'new forms of user participation and civic dialogue at early stages' of the urban design process using alternate methodologies. (Swedish Research Council Formas, 2011, 61) Further dialogue into urban agriculture is needed, and how to include it in the city. The approaches outlined in the paper specifically answer this call with the Gröna Linjen intervention which explores unique methodologies in critical cartography: the digital and bodily to allow both citizen and expert to seek alternative ways to record their contexts, perceptions, and how they engage with green spaces. Therefore, allocating a bridge for the exchange of ideas, information and dialogue towards a practice of '*co-creation*' is important.

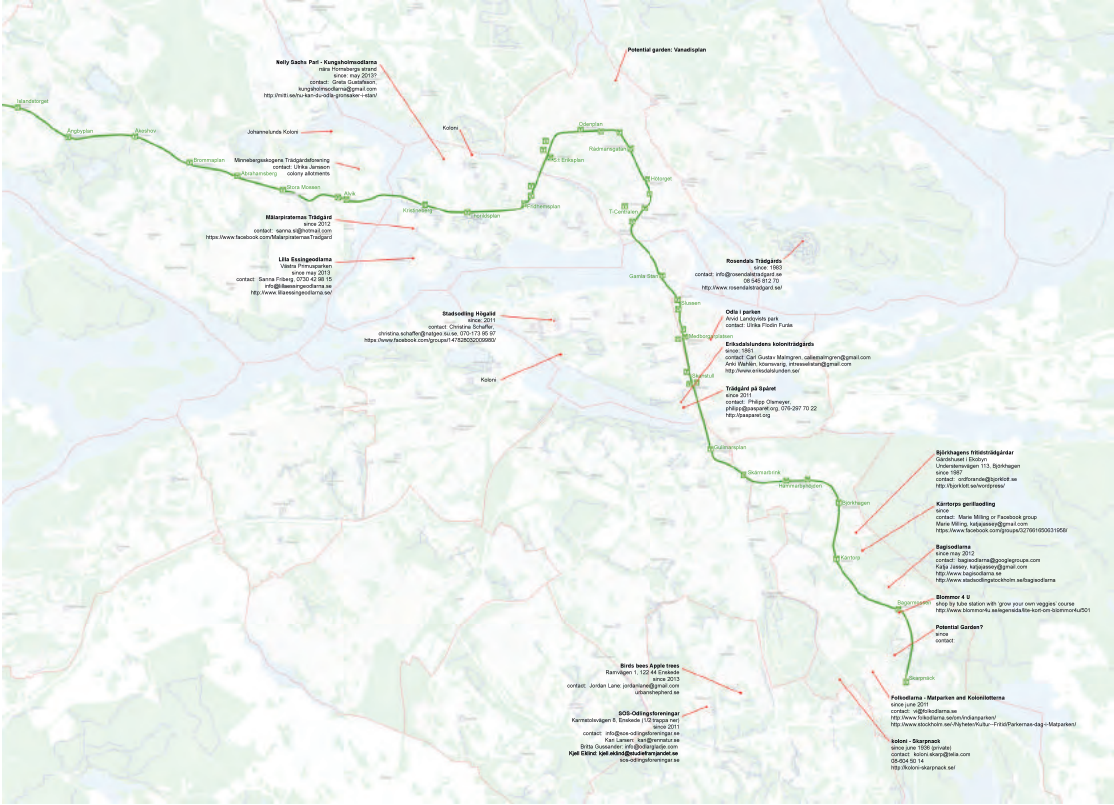
Spatial Agency in Foodscapes

Actively engaging citizens as design agents in the urban design process by providing a platform for alternate participation provided the base for a transmission of spatial agency. The citizen as 'co-creator' becomes a spatial agent, which necessitates an alternative way of looking at how buildings and cities might be produced, through citizen rather than only expert involvement. The Gröna Linjen platform, created in January 2014 by 6 enthusiasts including the author of this paper, intended to identify Stockholm's gardening community and offer new forms of participation.² The network's title also has a recognizable geographic configuration as it is named after Stockholm's green subway line #17, coincidentally also the route where most urban farming initiatives are currently taking place in the

² The Gröna Linjen platform was initiated by Christina Schaffer, Ulrika Flodin Furås, Mattias Gustafsson, Ulrika Jansson, Malin Lobell and Anna Maria Orru.

city. (Figure 1) The group is a vibrant transdisciplinary alliance between artists, architects, gardeners, performers, researchers, geographers, cooks and more, who highlight the barriers and opportunities of urban agriculture provided by linking art, science, practice and research. The network gave opportunity to explore spatial agency as a citywide concept, tied together by the concept of growing food.

‘Spatial agency is about a different understanding of the production and dissemination of knowledge. This entails opening it up to the architecture’s outside, through acknowledging the contribution of non-experts and through disseminating it in an accessible manner.’ (Awan, Schneider, & Till, 2011, 63) The task of designing an urban space is handed over to citizens who wish to participate in the design development, cultivation and implementation of these foodscape sites. They are now *agents* for the space, which gives way to an alternate and more activated mode of participation and creation.



Data Credit: Initial data courtesy of Stadsodling Stockholm 2014
 Graphics credit: Anna Maria Orru 2014

Figure 1. Map of existing gardens in Stockholm.

‘In spatial agency, their agency is effected both through actions and visions, but also through the resulting spatial solutions; and spatial agents have to be responsible for all aspects of their actions, from their initial relationship with others to enabling the production of physical relations and social structures. Spatial agency is here as much about modes of behaviour as it is about modes of making’ (Awan et al., 2011, 32). Simultaneously, such modes of collective visioning can increase green areas in the city and promote biodiversity especially in underutilized urban spaces, for example, unused

grass patches between housing complexes. In such areas, local involvement is a vital ingredient in the maintenance and setup of a productive foodscape as it requires vigilant care to keep them running, thus strengthening the bond between caretaker and their garden. The vulnerable nature of such food-productive spaces requires this spatial connection to have agency, as the ongoing-costs are usually not included in urban landscaping budgets. In conversation with a Stockholm planner, she mentioned that the main opposition towards community food gardens is maintenance, who takes care of them or their associated costs, is fundamental to their existence. Therefore, having citizens seize agency and accountability of their foodscape spaces gives them responsibility to maintain them, especially if they are in close proximity of their homes. It also gives them the opportunity to be more engaged in urban discussion, as they become keepers and voices for their foodscape by way of their experiences. The eco-urban network called Ecobox, is an example of establishing opportunity for spatial agency to occur in a neighbourhood, set up by Atelier d'Architecture Autogéérée (aaa) in 2001. (Atelier d'Architecture Autogéérée, 2009) The network started a series of food-productive gardens in the La Chapelle area of northern Paris, and is a successful example of setting up spatial agency that created a platform for social participation, collaboration, engagement and action. The project included mobile raised beds, constructed from recycled materials, giving the possibility for food cultivation, production and consumption. However, it also gave the potential for urban dialogues to form around local activities and discussions. The project, though started and curated by Atelier d'Architecture Autogéérée, was fully operated by local residents who also took the primary role in advocating a new site when the garden was evicted from its original location. Likewise, the Gröna Linjen network is aimed to explore spatial agency within urban agriculture movement on a city-wide urban level, rather than only a neighbourhood. Its' intentions were manifold and responded to what was needed for the Stockholm context: to start up urban discussions on the challenges of growing food in the Nordic city, to weave together the different urban farming initiatives along the #17 route, and to provide them with 'a place on the map' and within the urban fabric. Furthermore, the platform also allotted artists the opportunity to be engaged in the gardening movement, and in discussions about sustainability within the context of food. All intentions gave the possibility to inform policy where experts and citizens gathered for discussion in demonstration sites.

Hence, there is particular weight given to production of a community around this activity, and how individuals come together around gardening that is directly linked to their agency. The question remains, where should these productive foodscapes be located in order to craft this close tie and psychophysical relationship to the farmed site? Both site and interested groups need to be clearly identified for a relationship to be nurtured and to ascertain their potential impact – politically, socially and ecologically.

Critical Cartography through Community Mapping

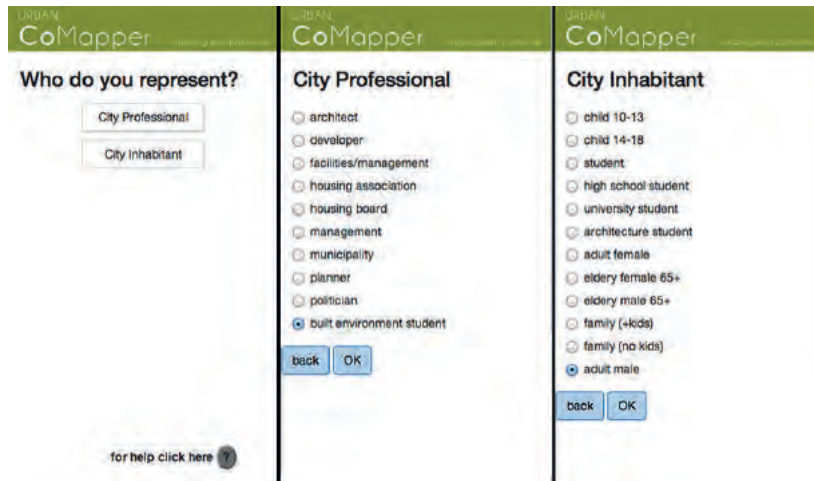
This paper investigates new modes of critical cartography for locating and allocating foodscapes and their agents. Critical cartography is a contemporary approach incorporating both theoretical and

practical underpinnings for the mapping of 'new societies'. Here, the theoretical parameter questions the social relevance of mapping: its knowledge, ethics and power relations. The practical aspect is associated with new mapping capabilities, including development of open-sourced and pervasive tools. (Crampton, 2006)

Within this research context, this relevance is further extended to include an inquiry into the anatomy of urban agriculture. Urban food production is not a new phenomenon in Swedish urban contexts with its long-standing tradition of private allotment gardens called koloniområden. There are however not enough allotments to meet the current demand in Stockholm, coupled with long waiting lists, up to 15 years in some cases, for citizens wishing to have a space in the centre for growing food. Hence, the design challenge will be to find and create communal spaces that meet the desires of people who want to grow in them. Opportunities surface in underutilized urban plots, at the same time, producing potential for different forms of integration and participation.

Community mapping is a method within the practice of critical cartography, which could identify suitable sites, simultaneously reinforcing the project's ambition for a transfer of spatial agency. Between 1978-1986, the Calcutta organization Unnayan prepared maps to detail and locate informal settlements that did not exist in official and commercial city maps. The maps rendered the communities visible, whereas official maps labelled them as 'vacant land', illustrating how cartography can be used to gain basic rights for dwellers to '*have a place on the map*'. (Mogel & Bhogal, 2007) Similar to revealing communities, maps can also render invisible practices, such as urban agriculture, visible within the urban fabric. Chris Perkins defines community mapping as local mapping, produced collaboratively, by local people and often incorporating alternative local knowledge. Such democratized mapping offers new possibilities for articulating social, economic, political or aesthetic claims. He further states that 'expertise in participatory techniques is shared at the grassroots level, and that wider social influences are fundamental for all community mappers.' (Perkins, 2007, 136) Critical geographer Brenda Parker (2006) states that community mapping is often centred on the allocation of local resources, or at least the judicious reallocation of resources. (Parker, 2006, p. 470) She argues that these mapping processes serve as an empowering process, where local capacity is built-upon with the emergence of a particular 'community' around a mapping activity. Parker (2006) considers community mapping to employ three themes: inclusion, transparency, and empowerment. For inclusion, she suggests two dimensions: the involvement of populations formerly excluded from mapping, and diverse involvement within local communities. (Parker, 2006, 472) She affirms Denis Wood's reference for transparency which 'considers the lucidity of the goals, context and authorship of community maps.' She turns to Christina Drew who sees transparency as being 'associated with many concepts - including clarity, accessibility, accountability, and openness'. (as cited in Parker, 2006, 472) Parker refers to Maeve Frances Lydon who states that 'Community Mapping is not mapping for or of a community, it is mapping by the community of their values, assets, and visions for the future.' (as cited in Parker, 2006, 477) Furthermore, in terms of empowerment, Parker offers one viewpoint from varying sources, Freidmann, Elwood and Kyem, on the topic that describes empowerment

as ‘building capacities or human capital for collective action, in which communities acquire skills, politicised consciousness, or knowledge that informs or inspires collective action.’ (as cited in Parker, 2006, 477) All three mechanisms allow community maps to provide a medium for interaction, consciousness-raising, and conceivable action. By mapping their land, communities reclaim the territory for themselves, figuratively and literally. (Parker, 2006, 479) As a result, they are better equipped to make decisions about allocation of resources, such as redefining green areas in cities to be allotted for growing food. She concludes her study on critical cartography and community mapping by stating that: ‘what seems most crucial then is that scholars and practitioners draw on multiple methodological and theoretical approaches to critically evaluate community-mapping projects in a sustained manner. This effort can help sort hyperbole from politically and socially embedded “realities” of mapping agendas, and can contribute to the production of a more robust and reflexive cartographic counterculture.’ (Parker, 2006, 482) This statement serves as a springboard for the cartographical modes used in the Gröna Linjen intervention, where diverse methodologies endeavour to engage the community around growing food and to provide space for these green encounters. These alternative cartography practices enable new forms of urban green space to emerge, and a transfer in spatial agency to occur for a co-creative urban planning. The digital cartography tool Urban CoMapper, with the thematic of urban green potential, was designed to reveal places of and for urban food production. The tool provided participants the opportunity to map a green Stockholm through the lens that he/she would like urban agriculture to be understood. (Figure 2)



Source: Urban CoMapper 2014

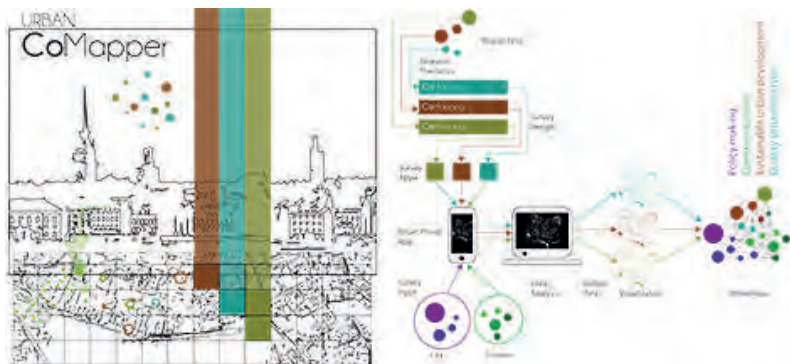
Figure 2. Urban CoMapper Interface (3 screen shots) - The survey offers city inhabitant and professional registration.

Citizens involved in the allocation of these green spaces take pride in being included in the dialogue concerning the allocation of green spaces in the urban fabric. In critical cartography, ‘social movements employ spatial and cartographic knowledge in order to analyse and transform existing spaces and prefigure alternative ones’. (Herb, Häkli, Corson, Mellow, Cobarrubias, & Casas-Cortes, 2009, 339) Their daily experiences and contact with the sites generate knowledge that could be used

in the planning of urban agriculture.

Digital and Bodily Cartography – An Introduction:

The proposed strategies explore new methods for locating and allocating foodscapes. Both cartographical approaches provided for data collection, however it is the methodology and not the data that is the focal point in these investigations. Each method was diverse in its approach and documentation. The digital cartography, a smartphone app called Urban CoMapper, was used for a tacit reflection and tracing of the sites to input data in real-time from the site. (**Figure 3**) In the bodily cartography, the participant's body was used as an interface and became an active tool for reflection. This bodily experience provided a tracing of the foodscape sites on the ground, via a bike and foot tour, with the stomach and mouth for further sensorial examination of the *grown* data – the produce.



Graphics Credit: Hye Kyung Lim & Anna Maria Orru

Figure 3. Urban CoMapper diagram showcasing the framework for data gathering and communication

The intervention was a bike-riding tour safari through the city along a set agenda of garden visits. (**Figure 4**) In the tradition of a safari, participants were invited to an overland green expedition through five Stockholm's sites and met the various communities involved in the growing. (**Figure 5a**) The intention was to have them meet gardeners, but in the process of organizing the event, it also became apparent that the gardeners did not know each other. In preparation for the safari, participants were given a small 'survival guide' booklet for their journey which outlined the timetable, route and involved persons. (**Figure 5b**)



Photo credit: for © images Ulrika Flodin Furås, other: Anna Maria Orru 2014
 Figure 4. Gröna Linjen Safari, 15 June 2014



Graphics Credit: Anna Maria Orru, David Relan 2014
 Figure 5a. Gröna Linjen Safari map: A day agenda for 5 sites

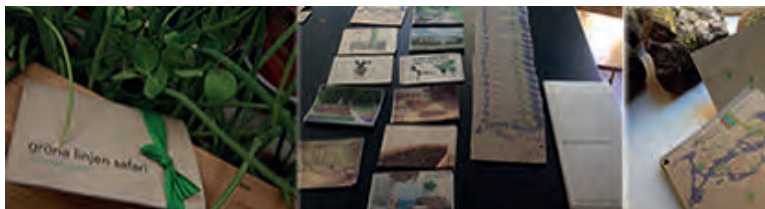


Photo Credit: (first left image) Ulrika Flodin Furås, other: Anna Maria Orru 2014
 Figure 5b. Gröna Linjen Safari survival guide booklet

Digital Research Cartography - Urban CoMapper:

The digital interface, Urban CoMapper (UCM), created a web-based setting for allocating and mapping urban agriculture which could be used in the urban design process. In report for the World Future Council, authors stated, ‘In order to set up an urban agriculture programme, we need a framework of policies.’ (Girardet & Bree, 2009, 14) Today, many cities worldwide have instigated food councils to contemplate urban agriculture, but it is still unclear how to implement food as a seamless building block for the making of green spaces in cities. For instance, the city of Stockholm has indicated a vision for urban agriculture as part of their Green Walkable City report from observing engaged and involved citizens who currently, through their own initiative, have started gardening in Stockholm responding to a lack of available private allotments and long waiting lists for such spaces. (Stockholm Stad Stadsbyggnads Kontoret, 2013) But Stockholm has yet to draw up policy for the effective inclusion of urban agriculture, or a technique for collecting data on existing and potential sites. Currently, a citizen-initiated map-blog called Stadsodling Stockholm/City-farming Stockholm, provides a map of existing farming initiatives with data collected spontaneously through word of mouth or yearly harvesting/gardening events. (Stadsodling Stockholm , 2013) However, there is a need for gathering this information in real-time on site by citizens themselves, keeping it regularly updated, and linking it to urban planning by feeding data directly into the design process.



Source: Urban CoMapper 2014

Figure 6. Urban CoMapper Interface (3 screen shots) - Survey categories for locating existing and potential sites for urban agriculture

The majority of these gardens are grassroots initiated and spring up where interest is assembled and implemented, which is difficult to keep track of. Therefore, how can the support be implemented and available land be allotted? The intention of the UCM tool is to connect communities to a site that is being farmed or could be cultivated, based on collected crowd-sourced data. The aim is also to connect the gardening communities to each other, through the emergence of a real-time database identifying these areas and creating dialogue between citizens and planners. The tool explores the

collection of data for locating both existing and potential sites. It locates the user and asks them to report their perceptions according to several interlinking factors. (**Figure 6**) These factors include:

- Size – site size (existing sites) and location options (potential garden)
- Style – existing design, site and built elements, its sensorial description
- Site conditions - hard and soft landscaping, surface and site elements such as zoning areas and traffic conditions (potential garden)
- Produce/ecology – existing green infrastructure
- Climatic conditions pertaining to sun, wind, and seasonal perception

The aim with this range of data is to create a holistic mapping of urban agriculture that can provide adequate input into the urban design process. The collection of data via smartphone momentarily pulled participants away from the 'safari group' into their digital task, creating a reflective space to enquire the site intricately. The UCM tool becomes an interface between the users experience and their perception, along with setting up a link to urban design experts. Martijn de Waal (2014) sees urban media devices as an interface to the city, especially into the making of new urban public spheres and specialized communities. It's the stage or platform where city dwellers show who they are (make their way of life public) and, as a result, become acquainted with other people's ways of life and compare themselves with them. City dwellers can recognize like-minded people and, together with others, be absorbed into new collectives (new publics) or distinguish themselves from other city dwellers. (De Waal 2014, 14) Furthermore, the UCM tool becomes a 'territory device', explained by de Waal as 'an appliance or system that can influence the experience of an urban area'. (De Waal, 2014, 19) This is a vital association into agriculture that establishes alternative forms and scales of the green landscape that are not mainstream urban lifestyles. This research explores whether this alternative and effective approach to identifying, greening and engaging with the city, can perhaps transform our urban behaviour around food. The challenge is whether this short exposure to gardening sites is transmissible and can arouse non-gardening individuals living close to a site, to become interested in 'growing communally'. UCM tracks such occurrences of contact, locates them, and hopes to increase the possibility for more to emerge.

In sum, the UCM tool by no means claims to have worked out themes highlighted by geographer Brenda Parker because of project limitations, such as finance, time and media design. There was also a problem of the smartphone app to reach a wide enough audience. However, the app managed to instigate a platform of research that highlighted sites, engaged citizens and experts in dialogue, and connected existing gardening communities. (Figure 7) Continued design efforts are needed for such urban agriculture digital platforms, as are staged events like the safari, in order to promote and remedy issues associated with such tools. Here a prototype has been executed which could be used to go further into discourse with municipalities, who could develop such tools further, making them seamless and more useful to urban planning.

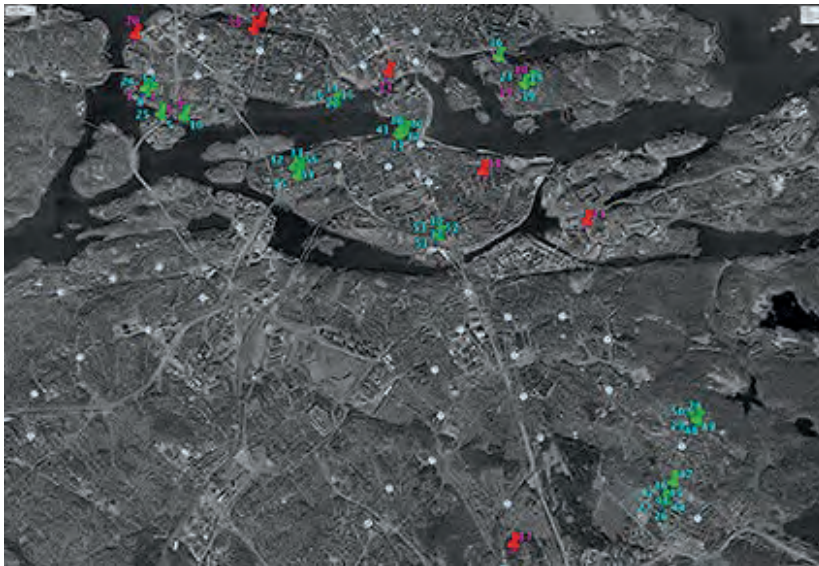


Image Credit: courtesy of Google Earth Maps 2014

Figure 7. Urban CoMapper - Preliminary visualized map after Safari. (Red pins = Potential gardens. Green pins = Existing gardens)

Bodily Research Cartography:

The bodily cartography experience allowed participants further reflection based on their bodily contact with the sites, something that could not be achieved only through the digital device. The UCM provided an opportunity to capture the perceived experience of the site but could not provide for tracking the sensorial aspects that are integral to fostering a deeper relationship with urban gardening - a bodily act in itself. The bodily tracing of the site gave opportunity to activate the bodily senses, and provided a 'lived experience' rather than only a perceived one. Its aim was to become a sensuous immersion and encounter, but how was the bodily cartography staged? The safari activated the body in a number of ways: the cycle ride from garden to garden, the tour on foot in each garden, the act of planting a seed and seeing others that have grown, and the simple act of tasting something from the garden and eating food amongst growing produce. All these experiences viewed the body as a catalyst for a food-related awareness because of its direct connection to an embodied experience. Notwithstanding that, creating an awareness of sustainable urban eating through growing, touching and eating becomes a playful act, one in which citizens are more likely to participate.

Traversing a landscape using your body, such as walking or biking is a known and used concept in the artistic world. Artist Hamish Fulton utilizes walking as a medium to explore many different areas around the world documenting it in various formats. He describes his work as 'What I build is an experience, not a sculpture' (McKibben, Tufnell, Scott, & Wilson, 2002, 16), and believes that walking, unlike objects, has a spiritual dimension to it that cannot compete with an experience. (Vettese, Hapkemeyer, & Messner, 2005) Fulton's art is connected to the environment in some manner, encouraging us to gently revisit our personal relationships with it. He may place his walk

at a juxtaposition of seasons in order to experience them, observing the interconnectedness between the wilderness and at times the urban environment. (Fulton, 1999) Another example, where walking is used as a device and research, is by architect Francesco Careri. He refers to this as 'an instrument of phenomenological knowledge and symbolic interpretation of the territory, as a form of a psychogeographical reading of it.' (Careri, 2009, 11) Using bodily experiences to understand a site is synonymous to how performance studies looks into different ways that a body can be sourced for comprehending an emotion. The term *psychophysical* blurs the border between mind and space, where the body in a particular physical space can be used for creating awareness, in this instance, a body in a space that grows food can create an awareness of our food-related behaviour. This extends to a lived understanding of food in different seasons. Nordic winters pause food gardening, and thus an experienced physical understanding transpires of what is available to eat through the lack of it, or non-act of it. The body in essence becomes a political body with knowledge to give. This does not assume a Cartesian approach to the subject, where the body is transformed only into an object of knowledge, because the body is also a *lived experience* or entity. Here, the research is underpinned by phenomenology, developed by Maurice Merleau-Ponty, who described this sensorial based experience of the world. He stated that 'sense experience is that vital communication with the world, which makes it present as a familiar setting in our life. It is to it that the perceived object and the perceiving subject owe their thickness. It is the intentional tissue which the effort to know will try to take part'. (Merleau-Ponty, 1962, 61) Likewise, Constance Classen (2010) argues that, 'A full bodied experience of the world requires all the senses. If we are to counter the domination of sight in contemporary culture, Classen suggests paying attention to touch. By cultivating tactile values of intimacy, interaction, and integration - values that promote engagement with our physical and social worlds - we can more effectively sustain both our cities and ourselves'. (Classen, 2010, 69) Both Classen and Merleau-Ponty support the association between the sensorial bodily experience and psychophysical awareness. Performer Ladron de Guevara clarifies this 'lived body' to senses connection further. He states, 'we experience and make sense of the world through the interplay of a wide range of senses, systems, internal and external stimuli. Merleau-Ponty refers to this dynamic grouping as one's being-in-the-world. Our perception not only filters (and therefore articulates) reality but also, it necessarily implies as active engagement with the world surrounding us'. (Ramírez Ladrón de Guevara, 2011, 25) One can argue that it does not only *imply*, but rather *mandates* this bodily engagement to take place, 'because our conceptual systems grow out of our bodies, meaning is grounded in and through our bodies'. (Lakoff & Johnson, 1999, 6) For it is in this activated role that we develop a relationship with the outside world, and with our ecological values, gesturing us to engage or not and perhaps change our behaviour.

Another difference between the bodily cartography from the digital is that it was an activity done in a group rather than by oneself. Whereas the digital interface made participants input data into a smartphone in an isolated practice of concentration, the bodily experience was conducted with other participants together in a group. 'Sensuous encounters between individuals and environments

are produced and structured, not just by their material features, but also by the particular social and cultural contexts in which encounters take place'. (Cowan & Steward, 2007, 2) The experience of these spaces was changed when it was done within a group tracing the route. Activating a body by oneself is a reflective and intimate encounter, however activating it within a group dynamic allows for the 'act' to become a peer interaction and critical conversation to take place. What becomes interesting is that through the bodily group experience, versions of spatial agency occur. As Martijn de Waal referred to digital tools as territory devices, where like-minded people recognize and create collectives with each other around an activity, could this collective bodily experience also be seen as form of collective and territory making? In essence, both the bodily and digital exercises could not be conducted by themselves if they are to commit larger questions of sustainable behaviour.

The Role of Artistic Practice in Urban Agriculture

Though both methods of cartography differ in their approach, it could be said that their complimented combination, along with the Gröna Linjen and safari experience, makes way for new forms of artistic research into cartography. The bodily tracing and experience of urban agriculture lends to strengthening its impact and longevity into mainstream lifestyles. The way to get participants is to guide them on an experience of this kind, introduce them to a growing community, and wrap the experience in a creative playful envelope. In essence, the aim of the Gröna Linjen safari was to overlap sustainable living with garden play, composing sustainability into a pleasurable encounter.

To this extent, the research interventions not only intended to take participants on a nomadic excursion but also to 'intersect' food artistically. The safari invited several artists to investigate food through artistic performance and discussion. One artist, Malin Lobell, discussed the politics behind urban growing. Her art piece entitled 'kan växter bli politiska?' (can plants be political?) was exhibited in the Hogalidsparken garden in the Hornstull neighbourhood. (**Figure 8**) In addition, at the Mälarpiraternas Garden, Lobell together with artist Ulrika Jansson moderated a discussion on the role of art in urban gardening. (**Figure 9**)



Photo Credits: Ulrika Flodin Furås 2014

Figure 8. Artist Malin Lobell's exhibition on the politics of plants



Photo Credits: Anna Maria Orru 2014

Figure 9. Artists Malin Lobell and Ulrika Jansson in discussion

Finally, artist Andrea Hvistendahl conducted a glimpse into the bodily interface with her performance ‘No Waste Cooking.’ Her artistic practice engaged participants to trace their neighbourhoods using their stomachs by bringing up the discussion of wasted food in society. Participants were welcomed to ingest the delicacies from the Mälarpiraternas garden in the neighbourhood Fredhäll and from local supermarkets’ that had volunteered their expired produce. (**Figure 10A and 10B**) The body once again took on a reflected internal journey of what nature provides in the city, and how we consider this prospect.

All these performances gave yet another dimension of an artistic approach to food-related behaviour in the city. They assembled dialogues into what role artists and creative urban practices play in urban agriculture and its dissemination. In the book following the Foodprint exhibition, Louise Fresco, a Dutch scientist was quoted from her 2005 Cleveringa Lecture, ‘food stands at the beginning of all moral awareness. Food implies many dangers: not only health risks, but also challenges to values and ways of life. We need a new paradigm, a coherent set of rules of conduct for individuals, government bodies, businesses, and civil society, so that food can once again become central to a fair and sustainable global society.’ (Van Roosmalen, 2012, 10) Arno van Roosmalen (2012), director from the art centre stated: ‘art can play a role in this process through its capacity to create unprecedented situations, present parallel worlds, and make the invisible visible. In these ways, art can spark individual awareness of ethical, social and political issues and speak to the motivations, convictions, or emotions underlying rules or laws’. (2012, 10) It can be said that sustainability needs a more creative approach, combining art with science, in order to make citizens participate and take agency for their cities.



Photo Credits: Anna Maria Orru 2014

Figure 10A. Andrea Hvistendahl performance with ingredients from local supermarkets set to be thrown

away.



Photo credits: Ulrika Flodin Furås 2014

Figure 10B. Andrea Hvistendahl - 'No Waste Cooking'

Concluding statements

In summary, this paper responded to several research gaps as highlighted in the Swedish Formas report on urban sustainable development. The proposed strategies offered a platform for alternate participation for engaging citizens into the urban design process with underpinnings from critical cartography and spatial agency. An urban platform called Gröna Linjen was formed to stage an intervention safari through Stockholm's urban foodscapes. Methodologies for digital and bodily cartography were used to locate existing and potential sites for urban agriculture. The digital approach designed a smartphone app for locating and allocating space for urban agriculture through a perceived experience of the site. The bodily approach used the body as a device for recording the sensuous encounter through the lived experience of the site. At the start of the research, it was assumed that the two cartographic modes were in opposition to each other. What came through after the intervention was that both modes complimented one another, and if we are to include citizens in the urban design process, both are needed for a holistic approach. The purposes behind these experiments are clear and motivated: the first was to create new engagement processes into the urban design process, forming new practices for citizens' contribution into urban policy and to build a bridge for dialogue with experts. Another was to give alternative opportunities and platforms for citizens to have spatial agency for their green spaces. Finally, it challenged our rapport with the natural urban environment and our food-related behaviour in the city. All these notions bring urban agriculture into the forefront as necessary alternative ways of making urban green spaces because of its ecological, social and political impact. Future research will broaden the use of artistic research into studying food in urban sustainable design. The intervention strengthened the author's intuition to use the body as an interface and cartographical instrument because of the sensuous information it can gather which the digital interface could not. The next set of research experiments will use a form of Japanese dance called Butoh to further intervene with urban agriculture, as its choreography is taught through the act of farming itself. The question remains: what paradigm shifts in urban sustainable design and behaviour could concur from positioning the body in recreating urban space?

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Paper 2

Time for an Urban (Re)evolution: Negotiating Body, Space and Food

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ABSTRACT:

This paper explores the artistic method of butoh dance in order to bring the body into the process of shaping the urban environment through techniques such as: rebellion, interaction, mimesis, agro-roots, transformation, metamorphosis and reflection. Placing the body at the centre of my methodology, through performance and an experimental-making of the stage, I explore its negotiation with time, space and food. The Japanese spatio-temporal concept *ma* – an interval, awareness – is used to understand the relationship between temporal and spatial progression, awareness and the potential in this ‘interval’. From within architectural research I pose the question: How can the interaction of the body in butoh practice and food production, set in relation to one another, improve understanding and handling of urban space where time is an aspect in design? The use of butoh exposes a ‘time’ orientation in space, and on the transformation of everyday ‘rhythms’ and behaviour with food.

Keywords:

Critical cartography, spatial agency, bodily engagement, design-based methods, artistic research, urban agriculture

Citation

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Introduction

Food reoccurs everyday in urban lives. It is rhythmical and occupies a major part of everyday life, yet it is rarely considered in the urban design process. A further knowledge gap appears when we extend the link between food and time to encompass space. The food-to-time rapport within urban space, and how the body relates to it, creates an opportunity for architectural investigation. This paper explores and evaluates the artistic method of butoh, studying how the inclusion of embodiment within imagineering can emphasize the timely aspect of urban space and food production as a cyclical process. It looks at how the interaction of the butoh body can articulate space in a physical manner, in its time/space and rhythmic aspect, and as a (re)creation and (re)establishment of meaning and values for urban green space. The concept of temporality has been concealed from daily experience. This becomes clearer when food is examined within the context of urban space: where it comes from, when it arrives, what is offered to eat, and when it is eaten.

By placing the body at the centre of my methodology through use of butoh dance, I explore the negotiation it takes with space, food and time. I pose the question: How can the interaction of the body in butoh practice and food production, set in relation to one another, improve the understanding and handling of urban space, where time becomes an aspect in design? Similar to the transformation technique used in butoh, imagineering is a technique in design used to generate an imagined emergence through living systems, designing for evolution rather than solution through the form of a narrative.

My approach is framed in micro and macro perspective lenses in a case conducted at the 2014 AHA Festival hosted by the Department of Architecture at Chalmers University of Technology in Gothenburg, Sweden: a workshop and a butoh performance. Each lens resides in the overlap between art and science, positioning the time|space|body rapport in an 'evolution' orientation, where the artistic form of the butoh body is brought into the process of urban design. The macro lens is implemented in the 'Paperscapes' workshop, an experimental-making of the stage for the performance in an imagined foodscape inspired by natural farmer Masanobu Fukuoka. Chalmers BA architecture students construct a site using trace paper to represent time, food and spatiality. The micro lens is explored through the bodily choreography and detail of body technique in a butoh dance performance entitled 'Organoleptic Interfaces.'

Working with the dancer Frauke, I decipher the butoh body through its origin techniques such as: rebellion, interaction, mimesis, agro-roots, transformation, metamorphosis and reflection. In addition, I relate this to the Japanese spatio-temporal concept of *ma* that supports the spatial-to-corporeal correlation, and which has been numerously applied in discussions about architecture in Japan. *Ma* is an interval, gap, opening, awareness which helps me to further understand how temporal progression relies on space awareness, spatial progression relies on time, and the potential transformation which exists in this 'interval'.

The aim is to provide alternative methods for using the body in urban design that can create a

potential for transforming everyday collective ‘rhythms’ and behaviour with food consumption. In order for this to occur, a time re-construction needs to happen – an urban (re)evolution. One in which circular time and behaviour, an ingredient in natural evolution, is an urban design consideration. In my research, I explore what occurs when the body is placed at the centre of urban design methodology through techniques used in butoh dance and how this may inform the process of shaping the urban environment and transformation of the everyday rhythms associated with food.

The Rotten Foodscape

Many of the behavioural challenges associated with accessing urban food stem from the clash between a different strata of time and scale, where food is produced in mass quantities and eaten out of season and geographic location. The intimate contact with how a city feeds itself and where our food comes from is lost. In order to think of food as a building block, I suggest that a deeper understanding of the bodily experience and its relation to time in a foodscape is necessary. If we view a micro to macro spectrum of using the body as a key instrument, different layers of time occur: metabolic time, biological time, rehabilitative time, dynamic time, consumption time, social time, decomposition time, seasonal time, ecosystem time and so forth. Each of these ‘times’ varies in scale, bodily contact and length, which need to be considered. However, the concept of temporality and circular time has been hidden from the daily urban experience, especially when it comes to accessing and dealing with food.

Urban society lives in a linear ‘now,’ where most produce is available (to eat) all year, forgetting that nature does not function in this manner. It needs an appropriate cycle of production, death and rebirth. In bringing the body into the centre of these dialogues, the time factor as well as a confrontation with the physical nature of space become increasingly apparent. An awareness of what is available when, and what form it takes in order to be in equilibrium with nature’s cycles, is introduced. These are not just questions of eating seasonally and locally, but rather a deeper corporeal desire to understand why, be aware, and rhythmically follow this longing. In essence, the use of butoh has allowed me to examine a bodily choreography of space that begins to answer this question. It allowed me to find a method to reflect on this awareness that occurs at a metabolic level. Simultaneously, it also became an intimate reflection to the way I feed myself personally.

John Berger traces eating habits to two traditional views of the value of food: the significance of the meal and the act of eating. One view stems from the bourgeois, where meals were regular, everything was served and eaten as separate distinct activities, and the meal represented a series of discrete untouched gifts. Here food was considered a commodity which was purchased and usually overeaten. On the contrary, the second view stems from the peasant that relates to ‘labour’ and to work accomplished during the work day. Food was served all together on one plate with bread as a cleaning device, usually in the kitchen near the place of cooking, and represented work done and therefore earned repose. In addition, the food was produced close to home so its origin was known and based

on seasonal availability. For the peasant, ‘his food is familiar like his own body. Its action on his body is continuous with the previous action of the body (labour) on the food’ (Berger, 2009, page 61). What Berger (2009) is alluding to in his essay is that there was an inherent connection and awareness of food in the latter class that is missing in the bourgeois and in today’s mentality. Urban access to food is predominantly empowered to the shop, and this relationship to it as purely a commodity creates a disconnect not only with its source, but also with its ‘timely’ presence. Furthermore, Berger underpins this by exemplifying a temporal significance: ‘For the peasant, what he eats and how he eats daily are continuous with the rest of his life. The rhythm of this life is cyclic. The repetition of meals is similar to, and connected with, the repetition of the seasons (...) it becomes clear that the peasant way of eating is centred on the act of eating itself and on the food eaten: it is centripetal and physical.’ This provides a leap to why I choose to use butoh as a tool and as a physical practice to revitalize the nature and perception of food in the contemporary urban condition also within a framework of time.

In Butoh, Hijikata’s dances were not just sensory feasts even though they certainly were that. They explored sensations associated with social problems: gay men being beaten, and spouses abused (Baird, 2012). In essence, the same thing can be done using butoh to unearth contemporary societal challenges: ethics, migratory tensions, and dwindling resources to name a few. My research explores an alternative approach to confronting the ecological challenges associated with urban food behaviour and space in how butoh can be used as an instrument. As stated in the film ‘Butoh – A Body on the Edge of Crisis: ‘Butoh helps to confront the reality of the human condition in contemporary time’ (Blackwood, 1990). I believe that using butoh as a research methodology can help in confronting the ecological challenges on a bodily level. Sustainability is not only a technocratic challenge; it is one that rests in individual behaviour and in the body. The body needs to be included and on alert, on par with the understanding of nature’s metabolism. The easiest way to bring about this use of the body is to trace food consumption behaviour. In an interview, Tim Jackson, a professor of sustainable development states: ‘Creating a truly sustainable society needs more than technological progress, it also requires a change in how we live’ (EU Plan, 2011). The next section clarifies the potential of butoh as a research and method tool.

Corporeal Rhythms: the Butoh Body

*diagrams of intensities
at the intersection of all the scenes of the possible
choreography of desire’s throw of the dice
on a continuous line since birth
Becoming irreversible of rhythms and refrains of a
Haiku-event
I dance not in the place but I dance the place¹
(Guattari, cited in Genesko 2002, page 122)*

¹ Original excerpt from ‘Présentation du programme de danse Buto de Min Tanaka.’ (Min Tanaka, The Body Weather)

Guattari highlights butoh's ability to be choreographed by place, rather than creating a choreographed piece for a place. The butoh dance is simultaneously instructed by the place that is chosen. It is site-specific, allowing place to be danced. One of Butoh's primary founders Hijikata Tatsumi began exploring with contemporary dance during a turbulent historical period and transition for Japan. The Asia Pacific war 1941-1945 sparked a strong nationalistic environment that led to unprecedented economic growth, resulting in protests and consumerism for the following decades. Throughout, Japan was thrown into the grasp of modernization and grappled with a crisis of identity and a rapidly changing culture, set between the contemporary and the archaic. This struggle for identity occurred in all the arts, and also in architecture. Hence, Butoh dance was an expression that came out of this shift in Japan (Reynolds, 2015). I believe it was a protest in itself, of a form of activism and a coping mechanism.

Guattari's poem cited above honours Min Tanaka's 1984 butoh performance in Paris. It alludes to butoh's intensity, spontaneity, emergence, rhythm and spatial concepts as the foundation of this art form. The space-to-body connect is a strong underpinning in butoh movement. Hijikata, with butoh's other primary founder Ohno Kazuo, established unique methods for generating a movement vocabulary and layered choreography, which for me exemplifies a type of conversation and negotiation between space and body.

In its origins, butoh performance and choreography was often accompanied by Hijikata's surrealistic poems that reflected the world around them. For Hijikata, the body is a metaphor for words and words are a metaphor for the body. 'He said that the brain is merely a part of the body' (Nanako, 2000, page 16). Cognitive scientists, George Lakoff and Mark Johnson (1999, page 5), support this approach when they state, 'the mind is inherently embodied, reason is shaped by the body, and since most thought is unconscious, the mind cannot be known simply by self-reflection.' Therefore, in applying this thought to the urban food challenge, the awareness necessary to comprehend food from a different perspective, lies in embodied knowledge and it is a dynamic process. A process which is awakened by experience.

The techniques created in butoh have several states that support the aim in my research for a negotiation of time, space body and nature. These states set the stage for the experience that ignites awareness. They are:

- Corporeal Rebellion – A resistance to authority and established convention. In essence, the butoh body aims 'to free itself.' It is resistance to an overload of information and mass production. Baird (2012, page 11) states 'to accomplish this rebellion, Hijikata would need to create techniques to expand the capacities of the body and mind, techniques to understand the world better, techniques to navigate the world during moments of uncertainty, and techniques to understand others better and communicate with them more effectively.' This corporeal rebellion could also be seen as an act against normative urban behaviour and a way to negotiate space with an increased consciousness.

- Three Elements of Interaction – One element is a form of a body language used to converse between site and body. Another element, extends to the interaction between dancer and observer. A third element, is the metaphorical perspective of the dancer during the performance: it can be taken from within, aside, or from a bird's eye view (metabolic, physical, systematic).
- Agricultural Roots (Agro-roots) – Butoh has agro-roots as a method, in its origins and in its underpinning. These beginnings have remained in butoh's close relationship of being practised in and with nature. Since 1978, Japanese butoh dancer Min Tanaka instructs and investigates the butoh in a rice field environment through the act of farming in a project entitled 'Body Weather.'
- Mimesis – Hijikata's earlier dances were mimetic narrative performances (Baird, 2012). He often used words and metaphors to create a character and narrative-based dance. In my research, mimesis strongly underpins the link to imagineering and biomimicry.
- Transformation and Metamorphosis – Butoh method defines a state of embodiment, emergence and change. A full spectrum dance form with permeable boundaries. 'Butoh metamorphosis or the body that becomes,' also grasped the irreconcilable poetics of Hijikata as 'the nature that bleeds.' Morphing, melting figures permeate butoh. Their meaning is not literal, but ongoing and open to interpretation' (Fraleigh and Nakamura, 2006, page 13). Conceiving space in this manner has potential to envision urban form and living as a non-static and timely entity. Flexible, conscious, resilient and adaptable.
- Reflection – A technique used for coping with the volume of information. Baird states that Butoh dancers can 'practice the skill of organising and coping with the volume of information and stimuli that the urban space provides (Baird, 2012, page 182). Baird sees butoh artists, especially Hijikata, 'responding to that of worlds of increasing but incomplete information and information of varying strengths by developing ways to be attentive to all sides of an interaction and also as developing ways to cope with either an overload or lack of information' (Baird, 2012, page 3). Such moments entail a reflection, a pause and a coherent filtering of information in order to move onto the next stage. The butoh body offers reflection psychologically and physically brought about by its spatial contact. Creating the potential for choice, value-building and ethical manoeuvring.

Butoh choreography is based on instruction. An instruction may include a physical directive (i.e. a cow with left leg raised), a tone or quality (i.e. softness from below), a movement or posture (i.e. Float), an indirect and abstract instruction (i.e. infinitely transparent), a mood (i.e. feeling of light or ethereality), and/or a dispersed direction (i.e. from a bird's eye view) (Baird, 2012). In the same manner, urban space can also be based on instruction. My research assumes that an urban foodscape could also be seen as an 'instruction' to everyday urban behaviour. Because butoh is essentially an act of transformation and therefore a shift in behaviour, it is interesting to view a physical place also as a catalyst in transforming everyday behaviour.

Another vital aesthetic form of butoh is to erase the body and to go beyond it. This is achieved by painting the body white to delineate a clear canvas for metamorphosis and to erase the social body. Dancer Akaji Maro states: 'You have to kill your body to construct a body as a larger fiction. And you can be free at that moment'. When the body is erased and juxtaposed inside a narrative, it needs support from something that lives inside it. A recognition of time, or a timely awareness? This awareness can be encapsulated in the Japanese term of *ma*. This is a spatio-temporal concept signifying an interspace, a gap, and thus a potential for awareness. 'Butoh's exploration of the body bears in mind the inner contradictions of the body of every human being: between light and darkness, and between life and death. It is the ultimate contradictions of this kind that create movement; no life without death, no creation without destruction' (Bergmark, 1991). Thus the form of butoh movement in space is also connected to a temporal setting that is circular. Baird elaborates on this transformation and on Hijikata's method, 'He sought to dissolve the strong distinction between the inside and outside of the body – to render the body more receptive to what was outside it' (Baird, 2012, page 179).

In a foodscape setting, could I extend the idea that grown produce defines in-between space, not as a void, but rather as a potential for transformation? This potential is in the 'instruction' which I mentioned earlier. If the aim is to transform behaviour of how we access and consume food, shouldn't this shift exist in the body rather than in the intellect? Nordic butoh dancer SU-EN writes: 'the butoh body is charged by its own necessity. It recycles its environs. It is an organism, not a shape. Butoh dares to transform the initial reality of the body and passes the contagion to the spectator. The viewer again recycles this received statement of existence into owned experience' (SU-EN et al., 2003, page 69). I think that the relationship of dancer to audience points out a significant reality also in the activity of communal gardening. It is a small number of individuals who are the gardening stewards, however the remaining members (the audience) can still be affected by this bodily dynamic to a certain degree. If this dynamic is repeated as a regular rhythm, at what point in time does it also begin to influence the passer-by, the extended audience? SU-EN (2003, page 70) further states: 'To work with the body is to challenge our behavioural patterns.' In essence, all bodies in the surrounding space enter a state of heightened awareness, and, 'by recapturing the power of the living body and transforming it into other existences, we can address the basic values of life; compassion, respect and responsibility' (SU-EN et al., 2003, page 78). These are the necessary ingredients for shifting an urban lifestyle towards ecological awareness.

When I first came upon this technique of transformation, it highlighted the potential for using butoh as a method, and I wanted to create interventions that could explore this realisation. My collaboration with Frauke began in 2012 when she asked me to conceptualize biomimicry for her performance for Göteborg Konsthallen. My involvement was to provide research for the choreography script featuring different organism behaviours linked to verbs in her text. In exchange, Frauke gave me butoh lessons in Gothenburg's Botanical Gardens. This initial experience encouraged me to explore butoh in my own intervention linked to my context of study of productive urban food gardens –

foodscapes. Min Tanaka's description of the butoh body confirms a link to nature, 'the body that measures the landscape, the body in intercourse with weather, the body kissing mass of peat, the body in love-death relation to the day. For me the dance has been a symbol of despair and courage' (Body Weather, 2009). In my methodology, butoh practice provides a bodily measure of the site, referred to as bodily cartography. The opportunity to examine butoh came in 2014 when I was organising the AHA Festival at Chalmers University of Technology, a festival for investigating the border between art and science. The first part of the intervention, entitled 'Organoleptic Interfaces,' was to structure the narrative into a physical format by constructing a stage set for the butoh performance. Chalmers BA architecture students were invited to a workshop called 'Paperscapes –the imaginable territory of farming' in which they were acquainted with the work of Masanobu Fukuoka through excerpts of his book 'One Straw Revolution' (Figure 1).



*Figure 1. The Making of Paperscapes setting at the AHA festival in 2014.
Image Source: Milad Abedi (top 2 images).*

Fukuoka (1978) created the method 'natural farming', sometimes referred to as 'do-nothing farming', because it relies on nature to do the work. This farming typology is in step with nature: no tillage, no fertilizer, no pesticides, no weeding and no pruning. He grew all sorts of produce year-round without the techniques used in traditional farming, especially avoiding chemicals and fertilizers of scientific agriculture. In order to get the students to understand this scientific construct of agriculture, I asked them to capture the knowledge in a physically built landscape of trace paper rather than just read about it. The challenge was to build a landscape reflecting time by representing the four annual seasons in relationship to farming.

Students were divided into three groups: air, ground and edge. Similar to an instruction given in Butoh choreography, they were given keywords for surface materials which alluded to seasonality: leaves, crunchy, freshly fallen off, puddles, wetness - (autumn), snow, slush, fresh snow, ice, soil frozen, slippery - (winter), fresh plant, seed, mist, droplets, flowers, fresh soil, mud, moss, fruit, vegetables (spring and summer). These metaphors were accompanied by Derek Gripper's (2014) music installation with keywords: seeding, constellations, phasing, rhythm, parallel harmony, overlaying permutations, companion plantation, diverse arrangements. Gripper is a South African musician who has used Fukuoka's philosophy in his composition. What emerged was a collapse of time into one space in one afternoon around the context of a built food garden paper sculpture. The stage was now ready for the butoh performance (Figure 2).

The construction of the stage linked to Hijikata's concern with creating opportunity for seeing the world from other perspectives, and creating this physical narration, similarly to what imagineering can provoke. Imagineering allows for the deep knowledge to emerge and become visible through the construction of a spatial narrative. In my research, the butoh dance is brought into the context in order to understand the landscape as a dynamic and interactive process. Here, both time and space provide the setting for this encounter. This bodily cartography becomes a method to investigate transformation, both in behaviour and in the potential for reshaping urban green spaces. It allows the body to experience time in a 'garden' space.

For the second part of the intervention, the butoh performance 'Organoleptic interfaces,' placed the body in negotiation with space, time and food constructed in the paper site (Orrù, 2015). Frauke performs, entering into a bodily dialogue with the crafted space, and in butoh style activates the voids around her body as she gets to know the constructed world through her body. Here, 'organoleptic' refers to the capability of stimulating the senses; 'interface' refers to a surface forming a common boundary between adjacent regions, bodies, substances, or phases. The senses become the measuring ingredients for bodily engagement, a space is negotiated and can be viewed as form of communication, whereas space influences the body and the body influences space. My idea with setting up a metaphor around organoleptic interfaces was to examine the construct of transformation in butoh and investigate this bodily dialogue with space. In discussion with Frauke. She explains the time, body, space relationship in butoh:

“Time is considered as a physical experience, and based on a reflective perspective of space. In the practice of butoh, the body is carried by the space. Butoh dance studies nature’s conditions, processes and cycles. To understand a physical condition, the dancer uses their body to study the journey of a movement. The aim is to master the cycle of arisen conditions - to send out a movement into space and in return, be able to bring it back. The aim is also to know the route back. This is considered one of butoh’s ‘invisible’ techniques. ”

In an interview with her after the performance, she describes her understanding of the setting as ‘a memory of a garden.’ Metaphoric images that she received were bees, slime mould, salad, light, tree, algae, sunflower, curling flower, fire, ash and volcano. What I found interesting was that her metaphors were completely different from the ones given to the students who constructed the stage which illustrates the notion that butoh can generate multiple understandings and transformations.



Figure 2. Organoleptic Interfaces Butoh Performance at the AHA Festival in 2014. Image Source: Milad Abedi (top 4 images) and David Relan (bottom 2 images).

However, both the making of the Paperscapes and Frauke's performance conjured up images of organic substance, even from a very dry medium – paper. This speaks to the power of imagination and to the imagery that it can evoke. The use of metaphors and butoh can create empowering pedagogical methods for enabling the understanding of ecological atmospheres both for students and artists.

Embodiment within Biomimicry

To Hijikata a direct experience of nature was very important. He declared that from his birthplace, Tōhoku, the 'spring season with its abundance of mud taught him to dance' (Nanako, 2000, page 24). Butoh's techniques with its agricultural roots and mimesis connects to its vital relationship with nature. Hijikata instructed his dancers not just 'how to move, but what to imagine while they moved in order to alter their performances' (Baird, 2012, page 7). In this imagined state, he often suggested a mimesis taken from nature, such as a rock, wood, wind, mist or light, or from nature's organisms, such as a snail or bird. Hijikata states, 'Butoh plays with time; it also plays with perspective, if we, humans, learn to see things from the perspective of an animal, an insect, or even inanimate objects. The road trodden everyday is alive ... we should value everything. It is a question of tearing down the division in humans and animals and other species.' The dancer's form is inspired by the environment. Nordic dancer SU-EN also relies on this butoh method to connect to nature:

"To train butoh is to train one's abilities to intensify sensory experiences. It is a violent strive to come closer, closer to the environment, all objects, bodies, by taking them into your mouth, really taste the leaves, the rocks, the dirt, the water, feel the coldness of the wind, the hardness of the trees, the sliminess of the animals, to do it from the outside, with one's real skin, and then take in these things inside oneself" (Bergmark, 1991).

These learning methods for butoh hold parallels with the discipline of Biomimicry, where nature is seen as inspiration in our challenges to design sustainably. Butoh, however, adds a new layer of complexity to the discipline where it takes the inspiration with nature through actively engaging with it. Biomimicry provides a canvas to explore living systems, also used in imagineering, as an emerging complexity-based approach to design. Diane Nijs refers to imagineering as having an evolution orientation, 'as the complexity-inspired design approach that makes use of the narrative mode in order to strategically ignite and frame collective creativity' (Nijs, 2014, page 5). Therefore, instead of designing for solutions, we can design for evolution where the core of complex issues surrounding urban food calls for a behavioural shift. Therefore, in creating opportunity for a spark in imagination and creativity for urban inhabitants, there is the potential of reaching wider audience. In studying the mimicry of nature further, the origins of the word Biomimesis is necessary – *bio* for 'life', *mimesis* for 'to imitate'. The term was coined in 1997 by Janine Benyus, whose institute has become a resource for designers, architects, and other disciplines that invite biologists to the design tables for nature's solutions to their dilemmas. These solutions for evolution take into consideration nature's 3.8 billion years of a research and development period (Benyus, 1997). Biomimicry uses a design template on 3

levels – form, process and system. The form of an organism, or a place, adapts to its natural setting over long periods of time. There is a metabolic sequencing in this (process) of evolution, and it relates entirely to the living ecosystem (system). In nature, space has been created and the organism body adjusts. The techniques utilized in butoh echo this construct. By placing the butoh body ‘organism’ in the space, it is able to decipher the tacit spatial knowledge and design accordingly through the dynamic enactment of the metaphor that it is mimicking. For example, the butoh body enacting a stone on a windy winter beach. The intervention ‘Organoleptic Interfaces’ proposed an imagined garden site where the butoh dancer could take on various organism forms conducted by the space. When in discussion with Frauke after the performance, she stated that the site did not conjure images of a produce farm, but rather it evoked memories of any garden configuration. It leaves me to think that unless a partial mindset of the food challenge is not conditioned into the metaphor used for the choreography prior to the butoh performance, it will be very difficult for the dancer to understand it, especially since Frauke was not familiar with the Paperscapes setting until the moment she arrived to perform.

Butoh’s three elements of interaction – body to site conversation, dancer to observer relation, and dancer’s metaphorical perspective – also set up an interesting method for a systematic approach from two vantage points: that of the dancer and that of the audience. From the perspective of the dancer, I investigated three aspects of the dance and training techniques taken from Hijikata’s mature butoh phase – transformation, emergence, and the choreographic structure. The first two are geared to achieving maximum ability for the body-mind practice. Initially, ‘Hijikata had advocated the technique of imitation as a survival tactic, but over time, he came to prefer the techniques of transformation as a way to surpass the limits of imitation’ (Baird, 2012, page 13). In relation to biomimicry, butoh allows for the body’s ability to explore basic elements along with nature’s patterns and strategies for emergence. The method provides tools to create shape, design, movement, choreography and a structure to relate to during the creative process. This becomes interesting when you relate butoh to biomimicry as a *dynamic* process, rather than only a mimesis. In essence, butoh does not mimic space, but in its interaction with time and space, it can be used to (re)articulate, form and produce new meaning for architectural space and for environmental urban rhythms. A process and emergence signifies a change, similar to an organism that becomes activated by nature and transforms into its evolved form over a period of time. Min Tanaka states:

“There are many important aspects to Hijikata’s dance, but for me, the most important was his belief in perpetual change, like in the movement of nature. Trying to bring the earth to life again is my purpose. I want to make dances that are based on natural phenomena. I strive for a sense of fear or danger” (Blackwood, 1990).

If one of these parts of the butoh technique is to relate the human species to other species without differentiation, then a question could be posed to understand human’s behaviour with food. If humans have a tacit evolutionary mechanism just like any other species, why do we eat out of season? Have humans masked their evolutionary design mechanism, one that is so deeply embedded

in other species? It is my view that evolution is directly linked to space and in how it is used. In order to design with this intention, an awareness needs to be raised that is part of the body and embedded in and through the body, and in space. Therefore, the design of a spatial embodied evolution creates conditions for the time, space, body relationship.

Time, Space, Body Relationship

The aspect of time differs based on space and the body's position. Poet Morten Søndergaard (2013) relates position to time by means of three time/position metaphors – vertical, oblique and horizontal time. My reading of his metaphors is: The 'vertical' position of moving is enacted through movement such as walking, dancing, gardening and thus collapsing the distance between places in different scales. The 'oblique' position is one of reflection that occurs while writing, speaking, talking, conversing, or even growing. The 'horizontal' position is a type of reflection, which comes in instances of rest, sleeping, sitting still, procreating and dying. The vertical and horizontal metaphors are opposites, the contrast of life in movement and life at rest or death, a metabolic process. The oblique metaphor lies in-between as a bridging role, for it is the position that essentially moves us forward or drops us to the ground – the decisive factor. It is in this oblique state, a *ma*, where the potential for transformation in everyday behaviour resides. In this reflective position, the opportunity for decision and choice emerges. In order to activate the oblique state, space needs to be embodied through presence and activity. Felix Guattari examines three ecologies in his thoughts on various ways of 'existing that lie outside the realm of consciousness' (Guattari, 1989, page 131). He upholds three ecology headings for the reconstitution of social and individual practice: social, mental and environmental. Once again, the parallel to butoh seems clear through themes of transformation and reflection. How does a space of this kind function?

It is helpful for me to bring in the Japanese spatio-temporal concept of *ma* which suggests a gap, opening, delay or silence to explain such spatial thinking. *Ma* can be understood as a demarcated in-betweenness in space or time. The ideogram for *ma* (間) comprises the character for 'gate' or 'door' (門) enveloping the character of 'sun' (日) – in this sense it refers to the interval between things, from which light can shine through. Light in this context refers to 'potential', or the reflection for an oblique state in Søndergaard's poetic thinking. *Ma* can also be viewed in a temporal sense as the gap between seasons, for instance. According to scholar Sen Soshitsu XV, this interval in time 'allows all things the regulation and adjustment they require in their progression to' the next season (Di Mare, 1990, page 321). This concept of the interval can also be viewed as a spatial sequencing creating opportunity for change to occur guided by movements used in butoh. We are made aware of how temporal progression relies on space and spatial progression relies on time.

In 1979, architect Arata Isozaki curated an exhibition at the Cooper-Hewitt Museum in New York called 'MA: Space- Time in Japan' (Big in Japan Contributor, 2011). Isozaki (1979) views *ma* as a 'natural pause or interval between two or more phenomena occurring continuously' which 'gives

rise to both spatial and temporal formulations'. Therefore, time and space are measured in terms of intervals that are defined as cyclical rather than teleological and linear progression. Architecture can in essence provide markers in time that delineate a circular progression. The easiest way to comprehend this is to think seasonally, to examine how time can be expressed through different dynamic elements within the environment in which butoh can be used as a tool to trace. Natural light, shifting sounds and shadows, material decay and weathering are a few markers named by Veal (2002). Seasons create an awareness of transition, especially when they become visible to the eye in a foodscape setting, and are experienced by the body in the inside/outside seasonal transitions. However, the body's relationship to the site also demonstrates that the dynamic movement of tasting, gardening, touching and watching becomes a temporal opportunity and activity which changes seasonally. Similar to butoh, Japanese space and time concept of *ma* recognizes the relationship between objects. In relation to the butoh concepts, the three elements of interaction come closest to *ma*. A conversation between Suzuki Tadashi and Hijikata Tatsumi revealed *ma* as an integral component in butoh when the body is used to experiencing the concepts, Suzuki states:

"On the whole, using the body for expression means there's a gap. There's a gap between the body and words and also a considerable gap between the body and space. And quite a wind blows between them. So you fill that gap with concepts and a desire to analyse. But the first time I saw Mr. Hijikata's butoh, I had the feeling that here was a space where there was no need to kill time like that" (Akihiko et al., 2000, page 62).

Butoh allows for *ma*, just as it allows for a reflection to take place. This reflection is necessary in order for transformation to occur. In this reflection, awareness grows as the space is re-imagined with a deeper embodied commitment. What does this mean in terms of creating urban space that instigates a reflection on ecological impacts? This type of urban context would support Søndergaard's (2013) oblique state in reflection with nature and with ourselves through our body. In order to allow for such spaces to emerge, design methodology also has to utilize the same method for reflection. In my understanding of butoh, both as an observer and researcher, it offers a practice for this type of design methodology. Experiencing space in a butoh state is only possible through a deepened reflection.

Geographer David Harvey (2008, page 121) takes the idea of Lefebvre's produced space a step further in defining three ways in which space can be understood; absolute, relative and relational. While absolute space is the measurable qualities, his conception of relative and relational space is more in agreement with the *ma* concept. 'Relative space proposes that space be understood as a relationship between objects which exists only because objects exist and relate to each other.' In relational space, 'space as being contained in objects in the sense that an object can be said to exist only insofar as it contains and represents within itself relationships to other objects.' Thus, having an interrelationship between subjects and objects and able to produce new meaning relations. 'The relational view of space holds that there is no such thing as space or time outside of the processes that define them' (Harvey, 2008, page 123). Could this process be *ma*? In *ma*'s, the potential is provided through the activated body allowing for such reflections to take place. Harvey (2008, page 123-124) states that:

“Processes do not occur in space, but define their own spatial frame. The concept of space is embedded in or internal to process. This very formulation implies that, as in the case of relative space, it is impossible to disentangle space from time. We must therefore focus on the relationality of space-time rather than of space in isolation. The relational notion of space-time implies the idea of internal relations; external influences get internalized in specific processes or things through time. An event or a thing at a point in space cannot be understood by appeal to what exists only at that point. It depends upon everything else going on around it.”

This is what I had hoped to envision in the macro construction of the butoh performance space Paperscapes. With the butoh performance submerged in the paperscape modelled space, would Frauke understand the macro construct in which she was supposed to react and reflect? The intention of the space was to set up a space-time construct which would be revealed through the activity of butoh. As an observer, it was difficult to tell. However, as a performer, I might have been able to make this assumption and draw stronger conclusions. My assumption is that the butoh body critically analyses the distinction between time and space as it is an enactment of both congruently. It also deals with the perception of interfaces between time and space. Since behaviour is embodied, it is the body that allows for transformation to take place. Since the body’s rhythm is cyclical and metabolic, how can urban space promote a behavioural metabolism as well?

Conclusion - (Re)evolution!

In my investigations, the butoh body form and process did succeed in conducting a theoretical discourse into tying together the negotiations I set out to examine: time, food, and space. The body movements and techniques allowed for embodiment to relate to time, in-betweenness (*ma*), food and space. However, the research aims to activate the body, make it dynamic and evoke imagined states in order to bring about awareness, is still in need of further exploration. Frauke’s performance conjured up a metaphor, but it had not been the one I had imagined which could confront the challenge of urban food production. What is clear from this case intervention is that the underlying metaphor must be communicated more clearly prior to the butoh performance, and that there is a need for me to place my own body into the butoh form. My next steps in the research will therefore be to take further courses and workshops, and enact performances in foodscapes in which I can come in intimate contact with butoh. Even though the imagineering concept was touched upon in staging the narrative through metaphor construction, I find that it needs more investigation into its use around the collective, and not just the individual. If I apply this nature’s lens into collective thinking, then instinctively the research needs to examine swarms. Swarming is a collective emergent behaviour by a species that does not have a central coordination or authority governing it, and it is of interest to my research because humans also exhibit a collective mimicking that could be applied to sustainable peer behaviour. Could swarming be enacted through the butoh technique as a displaced perspective? Further theoretical underpinning is required, especially in understanding the arisen arguments in parallel with Henri Lefebvre’s (2004) rhythmanalysis where he uses the biological, social

and psychological interrelation of understanding space and time in the comprehension of everyday life. In addition, I would like to look into Guattari's assemblage theory, especially given his interest in Japan and butoh, around the question of singularization as a 'self-organizing process' that ensemble into relational assemblages (Genesko, 2002).

However, this paper is not concerned with whether Butoh is a successful artistic practice. It rather shows the correlations between the choreography, conceptual underpinnings, and its potentials for ecological practice set against the parameters of time, space, and food (nature). I close with a quote from butoh researcher Baird (2012, page 183-184):

"It succeeds if it teaches us to spend our time, when we have either too little or too much information, sifting our way through what we have, gradually weeding out things that turn out to be dead-ends after a look from a second and third perspective. Hijikata's butoh offers both plenty of information and not enough. In participating in its invitation to co-creation, how we deal with that abundance and lack reflects who we are."

The same could be said for the experience of space and how we construct our ecologically-sound way of urban living as an expression of evolution.

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Essay & Digest Series

Essay 1

Matkultur Framtidens Metabolismer

English: Urban Metabolism

A new food culture for refurbishing

author: Anna Maria Orru

(The original text is written in Swedish. This is a version of the original draft prior to translation)



Image Source: David Relan

Introduction:

The concept of *urban metabolism* grew was coined around in 1965 by Abel Wolman, who applied it to compare an organism to a city, thus forming a theoretical basis for early biomimicry-inspired work. The term then began to be used to describe the consumption of resources and waste generation as indicators of sustainability.¹ So, how can it be applied in contemporary refurbishment practice? This paper investigates the solution exemplified in urban food and the potential in its metabolic relationship to the built environment.

¹ For further reading:

Abel Wolman, "The Metabolism of Cities," *Scientific American* 213(3), (1965): pp. 179-190. Peter Newman, "Sustainability and Cities: Extending the Metabolism Model," *Landscape and Urban Planning* (44), (1999): pp. 219-226

Stockholm Environment Institute and Technische Universität Berlin, *Developing a Pragmatic Approach to Assess Urban Metabolism in Europe: A Report to the European Environment Agency*, (2010)

Citation

Orrù, A.M., 2016. Matkultur Framtidens Metabolismer. In Antsey, T., Broms Wessel, O., Mack, J., ed. *Future People's Palace*. Stockholm, Sweden, pp. 123–154.

Cities require new strategies that have less reliance on our high-energy and technologically-dependent food systems.² Given that one third of Sweden's building stock is set for upgrade, there is a strong opportunity to confront this challenge during the refurbishment process. A move to link refurbishment with cyclical food systems can increase our cities resilience to future climate change. These strategies require emphasis on local produce, local economies, and low energy lifestyles, all linked to seasonal eating.

Our proposed template for these new strategies comes from 3 approaches; the discipline biomimicry, the concept of urban metabolism, and a systems thinking methodology. The discipline of *biomimicry*, seeing nature as a source of inspiration in sustainable urban design, can aid us to conceptually compare a city's complexity to swarm behaviour that is typically associated with termites, ants, birds and bees. These swarms have evolved to behave cooperatively where each organism contributes to the welfare and efficiency of the whole. Mimicking this model, how can we design cities to liken organic systems that embody a swarm-like behaviour between its inhabitants and the built environment? We explore a suburb near Stockholm called Byälvsvägen, that can become a pilot example for a future green social strategy within refurbishing. This strategy accentuates collective ways of living within private dwellings that promote a new food culture around food production and distribution. Our urban food cycles have a high degree of complexity in how an area feeds itself, and our food cultures arise from numerous lifestyle choices: eating, cooking, buying, preserving, and growing. These behaviors need to be reflected in any proposed design strategies.

Biomimicry:

The discipline of *biomimicry* focuses on developing sustainable solutions to our human challenges by taking inspiration from nature as a mentor, method and measure. In its 3.8 billion year trial and error period, nature makes way for a myriad of models to imitate.³ Leonardo DaVinci was a forerunner in his use of nature as muse demonstrated through many of his inventions.⁴ The term *Biomimicry* first emerged in scientific literature in 1963, and grew in usage mainly amongst material scientists in the 1980's. However it was not until the mid 1990's that biologist Janine Benyus developed the discipline and brought it to solid ground. Her 1997 publication on the topic provided concrete research cases, methods and concepts in the field. To this day she continues to reveal nature's knowledge bank of ideas through an increasing amount of applications that have extended into architecture and urbanism. Architectural firms such as HOK, Grimshaw and Exploration Architecture have pioneered research and projects by including biologists at their design tables.

In my work within the discipline, both at Exploration Architecture and in my private practice, I

2 World Future Council, Herbert Girardet and Dr. Axel Bree, *Cultivating the Future: Food in the Age of Climate Change*, Hamburg, Germany (2009)

3 Janine Benyus, *Biomimicry; Innovation Inspired by Nature*, (USA, HarperCollins Publishers 1997, reissued 2002)

4 Michael Pawlyn, *Biomimicry in Architecture*, (UK, RIBA Enterprises, 2011)

have tapped into nature as a lens to tackle food system challenges. The design brief endeavours to thread built environments, buildings and food into restorative, resilient, and regenerative contexts likened to nature's healthy ecosystems. Nature's ecosystems have a circular metabolism in which every energy output emitted by an organism becomes an input for another, sustaining the continuation of the whole. Author Herbert Girardet describes this as an entire 'network of life' interconnected in a chain of shared benefits and connected by the flow of nutrients from one organism to another.⁵ He argues that the human species are a part of this network, and that the urban environment needs to be seen as an extension and compliment to this type of cyclical behaviour. Consequently, mimicking ecosystems means imitating the essential circular metabolism of living ecosystems. This is demonstrated in the pursuit of food production in urban contexts. Food connects us unconsciously to nature and helps us maintain an intimate relationship with the environment. Therefore, it can instinctively become a building block to setup both urban metabolic relationships and also sustainable urban lifestyles. At the same time, it raises awareness around sustainable urban living and how we plan to feed this and future generations.

Rather than have built environments that deplete resources, can we turn this around into a restorative urbanism that produces resources? There is a prospect to create interconnected systems of growing food and to deal creatively with waste that could generate an awareness of our seasonal eating habits. An urban future that is resilient and creates healthy conditions is reachable through the design of organic living spaces, both indoors and outdoors, which can be procured in refurbishment practice. This paper mainly focuses on the outdoors and its attribute to critical spatial making. It explores a potential case in Stockholm underpinned by additional inspirational cases from around the globe.

Biomimicry uses both the micro to macro perspective that allows a systems thinking methodology. The bio-method is applied at three stages: Form, Process and system, but the concept also highlights three levels of feedback loops; an 'organism' loop (as an individual that is locally attuned), a 'species to species' loop (as a community maintaining interdependence), and an 'ecosystem' loop (seen as a decentralized and distributed society). (IMAGE 1) These conceptual diagrams demonstrate ecosystem's circular functioning from the lens perspective of nature and its comparative relationship to human infrastructures. Natural ecosystems are locally based, using what is existing and abundant, and always converting waste into a resource rather than directing it to a landfill. This is a simple formula, but requires the proper infrastructure to be set in place in order to become a valid blueprint in refurbishment practice and private dwelling living.

5 Herbert Girardet, *Cities People Planet: Urban Development and Climate Change*, (England UK, John Wiley & Sons, 2008), 123

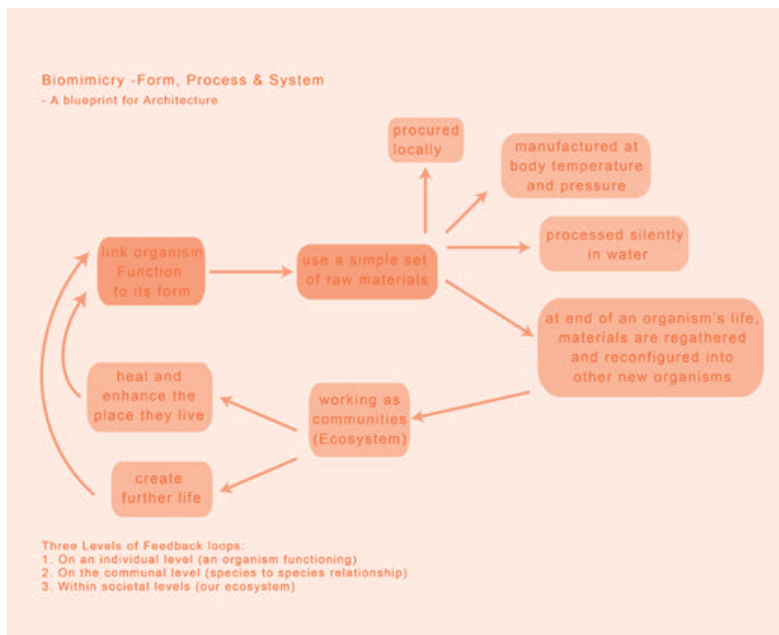


IMAGE 1 - Biomimicry application and feedback loops (Copyright: Anna Maria Orru)

Urban Metabolism:

Urban Metabolism is not a new concept as explained in the introduction. In her book, author Carolyn Steel follows a historical analysis of the city and food; from the early states/cities (c. 3500 BC) to first settlements in Uruk/Ur where zoning laws were setup around harvest times.⁶ It is during this period that agriculture and urbanism emerged simultaneously, as settlements developed due to farming practices. Seasonal living required people to stay in one place in order to survive, so that when harvests came they could benefit from the produce. Steel explains that it wasn't until Rome 300 AD, when ancient food miles began, that food began to be shipped from large distances. This was a vital turning point in food systems, and it highlighted the shift from localized food to long distance produce, a blueprint we rely on heavily today. Another interesting historical reference on food systems comes from the geographer Johann Heinrich Von Theunen in his 1826 publication 'The Isolated State'. He essentially created an ecological, spatial and economic model for comprehending the relationship between the city and local farmers, but also the interconnectedness between food markets, food miles, food production, farming systems and their placement. Perhaps this is one of the first examples of systems thinking embodied in planning cities. In his proposed diagram (IMAGE 2), he provided a resilient thesis for farmers during pre-railway times before 1840.⁷ This is a crucial date because when the railways began, our food systems changed significantly again in the quantities and localization of food. One example highlighting this shift is the creation of Chicago's first mass

6 Carolyn Steel, *Hungry City: How Food Shapes our Lives*, (London UK: Chatto & Windus Publishers, 2008)

7 Herbert Girardet, *Cities People Planet: Urban Development and Climate Change*, (England UK, John Wiley & Sons, 2008), 52-54

production livestock factory to meet rising consumer meat demands.⁸

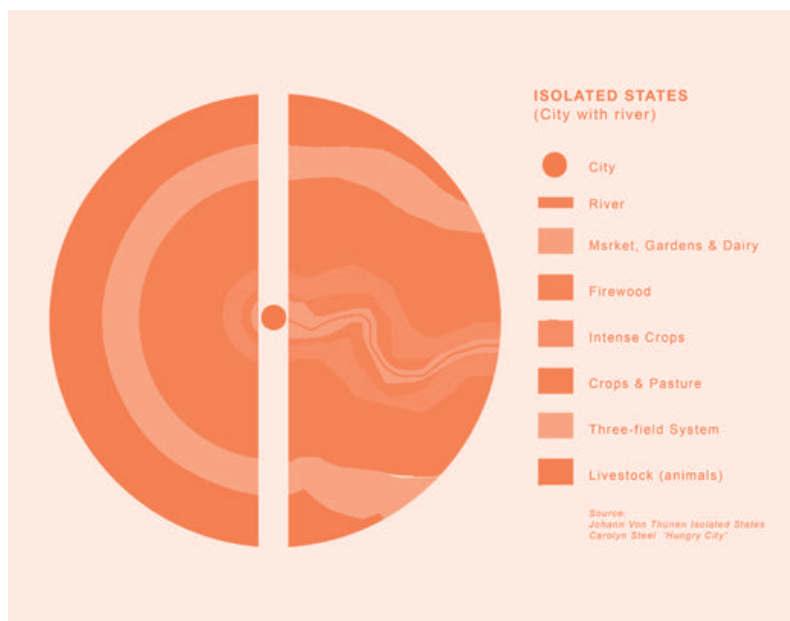


IMAGE 2 - 'The Isolated State' (Source: Johann Von Theunen, Carolyn Steel / Copyright: Anna Maria Orru)

In Von Theunen's diagram, the city is organized in concentric circles. These farming circles relate to food's weight and movability as transport was then slow and expensive. The city centre contains urban markets, gardens and dairies for easy distribution to inhabitants. Ideally, the city would sit along a river for easy water transport of goods. London, Stockholm and Gothenburg historically relied on such a layout. Theunen then suggests growing intense and heavier crops at the city's perimeter because of their close proximity, which meant short distance travel time. The furthest circle contains grazing fields for livestock. This meant that livestock could be walked into the center and slaughtered on site. London's Smithfield market is an example of such a historic market place.

We could conclude that traditional cities were arranged on locally produced food, while our modern cities rely significantly on globally supplied food chains. This highlights a need to take some lessons from the past and adapt them into our contemporary cities. A good start would be to invest in the proper infrastructure and policy to generate and sustain interconnected localized relationships between community, urban food production, distribution and waste.

Girardet proposes modern day strategies for urban metabolism. He regards cities as 'superorganisms', a complex living body with a variety of interacting organs, comparing them to our human body.⁹ (IMAGE 3) In this way, he uses a biomimic lens to see inhabitants, buildings and cities as living/functioning organisms. The city is perceived as a living organism, which is alive, digesting, circular and healthy, and the nutrient cycle is exemplified in food and organic waste. Each building

8 Carolyn Steel, *Hungry City: How Food Shapes our Lives*, (London UK: Chatto & Windus Publishers, 2008)

9 Herbert Girardet, *Cities People Planet: Urban Development and Climate Change*, (England UK, John Wiley & Sons, 2008), 108-109

is also considered as an organism surviving within its 'communal' ecosystem, and each individual is seen as an organism working collectively within its swarm towards a greater whole. (IMAGE 1) In this cycle, metabolism is the sum of all the biological, chemical and physical processes that occur within an organism or ecosystem to enable it to exist indefinitely.¹⁰ (IMAGE 4) Stockholm's metabolic setup tends to be rather linear, even given the recycling improvements that have occurred in the past 20 years. However, there is still no comprehensive policy throughout the entire Stockholm region for mandatory green organic waste recycling as already established in cities like Vienna for over 20 years. Food is still significantly imported into our cities from far distances, consumed out-of-season, and discharged as waste into landfills. The consequence of this is that organic materials, mixed with inorganics, release unsustainable gasses in the earth's atmosphere.

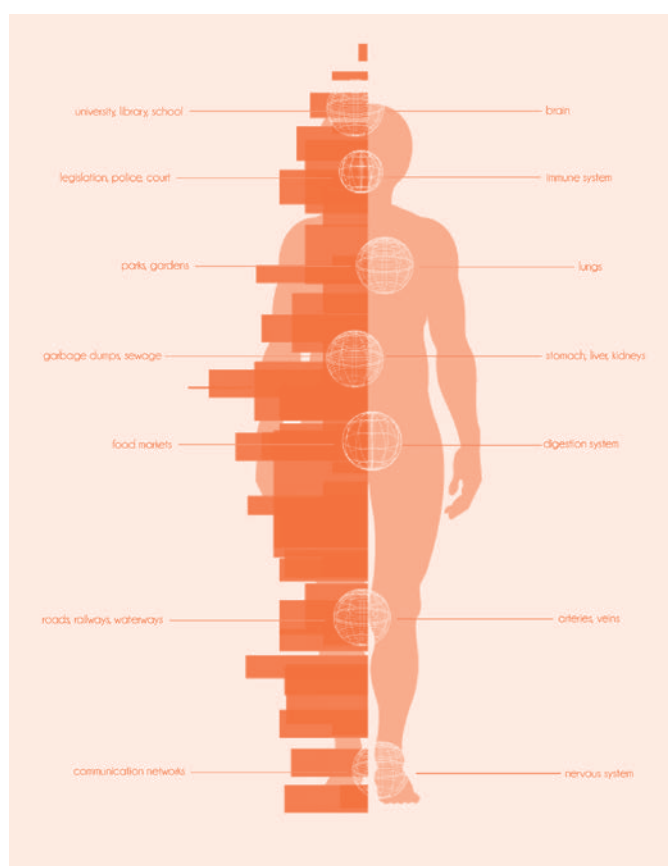


IMAGE 3 - Urban Superorganism

(Source: Herbert Girardet / Copyright: David Relan)

Girardet's diagram compares the shift from linear to circular metabolism in cities exemplified by management of inputs and outputs. His framework includes investigating parameters such as food supply distances, processing & packaging, meat consumption, food waste recycling, energy efficiency, organic food access, garden allotment potential and peri-urban fruit & vegetable access.¹¹

10 Herbert Girardet, *Cities People Planet: Urban Development and Climate Change*, (England UK, John Wiley & Sons, 2008), 124

11 Herbert Girardet, *Urban Metabolism: London Sustainability Scenarios*, (paper presented at IABSE Henderson Colloquium, Factor 10 Engineering for Sustainable Cities, Cambridge, UK 10-12 July, 2006)

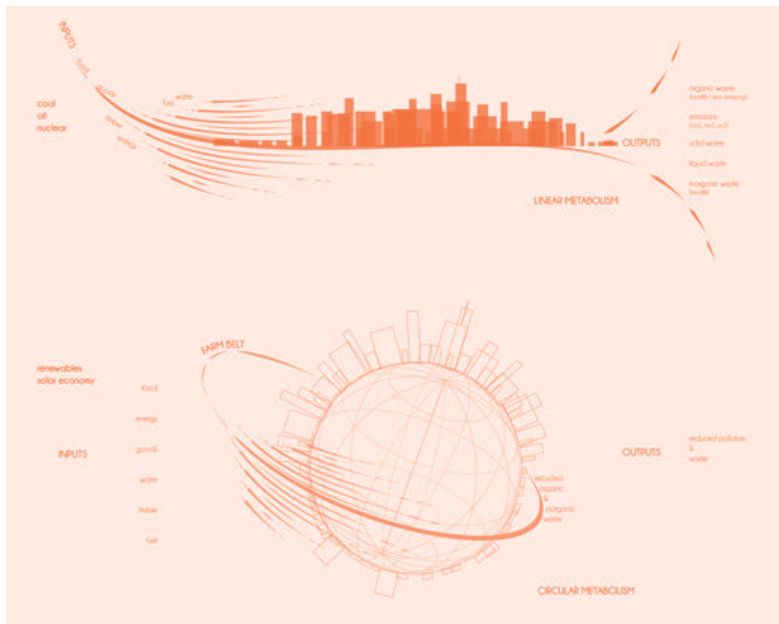


IMAGE 4 - Linear versus circular metabolism (Source: Herbert Girardet / Copyright: David Relan)

Towards systems thinking methodology

The move towards a circular metabolism achieves several systematic rewards when design approaches use a systems thinking methodology. We categorize benefits attained from economical, environmental, and social standpoints. However, all standpoints are interlinked and significantly dependent on technological and political systems too.

Economical benefits are gained when waste is viewed as a cost-effective and valuable resource for other material inputs. This leads to reduced consumption and efficient use of expensive raw resources. It also generates local employment through maintenance of these closed-loop systems and the production/distribution of food. Environmental benefits include resource production through the food grown, healthy fresh soil, and even biogas energy if the technology is available. This leads decreased environmental pollution, in terms of emissions, from reduced discharged of organic waste to landfills. Overall, such a framework increases biodiversity and pollination in urban settings which regulates the micro-climate. Social benefits demonstrate how the role of people in the circular metabolism is fundamental. Social interconnectedness is strengthened through growing, learning, teaching and engaging the local community. Food is a significant tool towards maintaining a community adhesive, and as a cultural product. As an educational product, it strengthens the awareness between nature and city, teaches horticultural skills, and creates an understanding on how food arrives on our plates. On a psychological level, it serves as a rehabilitative measure for decreasing stress levels in urban lifestyles, and promotes healthy living. The Swedish University of Agricultural sciences has been conducting extensive research into these factors.¹²

¹² For further information see: Matilda Annerstedt, Nature and Public Health Aspects of Promotion, Prevention, and Intervention, (Doctoral Thesis, Swedish University of Agricultural Sciences Alnarp, Faculty of Landscape Planning Department of Work Sciences, Business Economics, and Environmental Psychology Alnarp, 2011)

Byälsvägen – a Stockholm case study

Ingredients for a new emergent food culture include sustainable urban lifestyles, strong community cohesion, food behaviour awareness, and all the benefits described previously. The suburb of Byälsvägen provides the canvas to test this new metabolic way of refurbishment because of its numerous green open spaces, and close proximity to a nature reserve. The area also comprises of strong community links that will play a significant role in creating a cohesive and lasting food culture. Reactivating the area's collective spaces can provide opportunities for shared services and local food stratagems that take into account production, and the social solidarity, which comes alongside such services.

To envision Byälsvägen's new food culture, a systems mind-mapping of the area provides a good design tool to propose needed infrastructure. (IMAGE 5) This map proposes a prototype on how to adopt a metabolic model for different feedback loops and frameworks for productivity, showing the interconnectivity between all systems.

Below is a list of proposed infrastructure for Byälsvägen as shown in the mapped diagram:

- Productive greenhouses with growing allotments (also for winter use). For instance, greenhouses could be allocated adjacent to laundry facilities on site due to the symbiotic benefits of using waste heat from the laundry rooms. A good example of this is the refurbished housing Solhusen in Gårdsten on Kanelgatan in the Gothenburg area.
- Outdoor shared allotments, both communal and individual. Author John Jeavons claims that a family of four needs a garden of about 90 sqm, with a six-month growing season, to feed itself (usually 2/3 of this area is allotted for growing grains).¹³
- Infrastructure on the refurbished building facades giving the tenant's an option to grow food vertically on walls, balconies, roofs and/or window sills. Included in this should be infrastructure in each flat for storing and passive cooling of food.
- On-site bio waste (composting) collectives which demonstrate organic waste as a resource for growing. These facilities can produce fertiliser for the allotments, or generate energy for the greenhouses from small-scale biogas digesters.
- A small-scale anaerobic digester and biomass chp (combined heat and power) to produce energy and heat needed for the greenhouses.
- A living machine, which mimics a wetland ecosystem, to treat waste water on site and produce irrigation water for the crops.
- Infrastructure for worm composting facilities to promote the making of fertilizer.
- Rooftop facility setup for beehives, promoting increased pollination in the area

13 John Jeavons, *How to Grow more Vegetables than you ever thought Possible on Less Land than you can Imagine*, (Berkeley CA , Ten Speed Press 1982)

- Opportunities for aquaponic and/or hydroponic growing. In recent trends, recycled containers have been used to combine fish farming with vegetable growing via these combined systems.
- Prospects for mushroom cultivation in the basements of housing using waste from resident's coffee grains.
- Space for food preservation workshops and larger storage areas in housing units.
- A maintenance practice linked to the Nordic climate, along with educational schemes for seasonal lifestyles.
- A perimeter green belt at the adjacent nature reserve which could promote further growing opportunities through agro forestry.
- Seasonal workshops and events that build community enthusiasm and participation
- A community café serving seasonal food grown on the site.
- Areas allotted for a community food market selling produce grown on site. This could also stimulate non-local ecotourism by bringing residents from other areas of Stockholm.

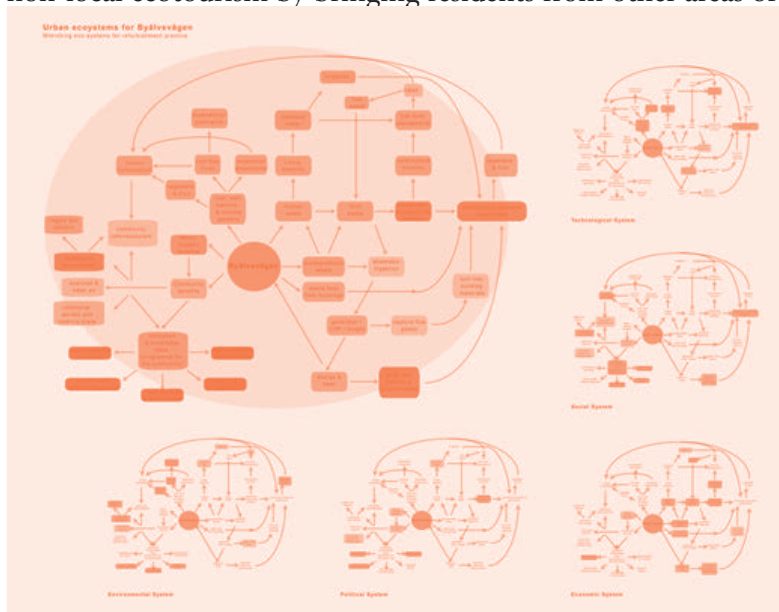


IMAGE 5 - Symbiotic systems for Byälvsvägen – a mapping (Copyright: Anna Maria Orru)

The larger diagram represents all the systems working in a symbiotic and circular relationship. The smaller diagrams simply highlight each system separately; Technological, social, economic, political and environmental.

Several benefits arise from setting up this model infrastructure, inclusive of; health (diet, exercise, fresh air, mental health), lifestyle (growing food and spending time outdoors), re-connection to nature (deeper ecological awareness), and seasonal eating (reducing energy intensive food miles). Furthermore, socio-economic and cultural benefits come from maintaining a community identity, generating local employment (such as selling locally-grown produce, teaching horticultural skills

and providing new services), educational programs leading to new activities, and even the possible reduction of local crime.

These are not new notions, but assembling them to work symbiotically with political support in the refurbishment process is a new and innovative form of practice. Byälsvägen could become a pilot project for such refurbishment practice, living and housing.

In light of all benefits, what obstacles can arise when setting up such development strategies? The largest obstacle is policy, especially around public health issues. A policy may impede urban food production through the use of water for irrigation because of pollution issues. Other concerns incorporate food safety, where strict mandates around food distribution and consumption of urban food inhibit spontaneous local food traditions as supported by the Slow Food movement. Health issues around soil contamination from industry and transport are also valid obstacles, but research indicates ways to deal with this contamination. A simple solution is to grow food in raised beds.¹⁴ Furthermore, policy around land use and code regulations can also create obstructions. Perhaps, the solution here is the responsibility of policy makers who need to carefully contextualize proposals case-to-case by understanding the systematic flow of potentials.

Smaller obstructions arise in economic factors such as financial returns, high start-up investments, and cost of land use. Technical obstacles are obvious when there is no existing infrastructure to support growth, or to set up cyclical feedback loops. In Nordic regions, we also come across a seasonal hurdle that challenges round year growing. However, this may be solved through ingenious design of indoor and outdoor production possibilities. Sometimes a lack of space is the drawback, but this is not the case in Byälsvägen.

The UrbanFarmers organization in Switzerland has explored simple ways to overcome some barriers. They recommend talking with stakeholders early on in the process to find allies. It is imperative to find authorities, both in politics and business, that embrace and support objectives. In such dialogues, it is important to display examples, prototypes, and pilot projects that demonstrate the economic, social and technical viability of the idea on its site.¹⁵ Once obstacles have been overcome, the challenge will be to make the system self-regulating and as self-sufficient as possible. The vital ingredient is the communities involvement and enthusiasm which ensures that schemes run smoothly and continuously.

Case Examples:

The following selected examples support and ignite inspiration through providing ideas that can be adopted in refurbishment practice. The cases are structured by their located opportunities; at city level, at ground level, in a greenhouse, integrated into building infrastructure (roofs, walls, facades,

14 Herbert Girardet, *Cities People Planet: Urban Development and Climate Change*, (England UK, John Wiley & Sons, 2008), p 252

15 <http://urbanfarmersbox.ch/>

sills and balconies), and internal growing prospects (basements). Other cases demonstrate creative social initiatives by multi-disciplinary project teams, closing loops and political support.

At city level: Eetbaar Rotterdam, Stadsjord, and CPUL's

Since 2007, a group of Rotterdam citizens has been active under the name *Eetbaar Rotterdam* (translated Edible Rotterdam) to create a wider urban farming culture in the city. They work towards bringing the food cycle back into the city, creating awareness amongst citizens around the origins of their food and at what cost it is produced. They envision the urban farmer at the centre of this cycle: a professional that combines agricultural knowledge with an understanding of the options and restrictions within the city. The team comes from disciplines such as architecture, urban design, healthcare, food retail, industrial ecology, agronomy and agriculture. Thus far they have raised interest in agriculture as a profession among citizens, entrepreneurs and planning officials and have become an independent source of knowledge and expertise on urban agriculture. The group has an output of several publications, educational projects, public presentations and media appearances, involving policy-making on all levels. In the spring of 2012 they launched a professional urban farm, raising chickens, fish and vegetables, and fruit on a former railroad yard in the Rotterdam harbor.¹⁶ This project serves as a vital example of the necessary political, educational and social underpinnings that need to be set up when introducing a new food culture to an area.

A similar Swedish project which has significantly dealt with urban agriculture-making and policy-making is *Stadsjord*, which translates to 'urban soil'. It was initiated in Gothenburg by Niklas Wennberg in order to promote urban farming, localized food, and neighbourhood collaboration. (IMAGE 6A & 6B) His primary aim was to create an old-school style sustainability culture with hands-on methods, promoting and teaching urban agriculture. One particularly interesting intervention included a small pig farm on a scrap yard adjacent to a building site set for construction, working together with planners to bring about a safe and symbiotic solution for livestock and farming in the city. The project included a risk analysis on pigs for attaining insurance, demonstrating that livestock rearing can be performed in the city context.¹⁷ All *Stadsjord* projects have a strong educational undertaking running a variety of workshops which promote active discourse around city growing and inspire more people to be involved. This is a crucial ingredient, as people become the adhesive and most often at least one enthusiastic spirit is needed to drive the initiative. The project has managed to run several successful initiatives since its start in 2009.

16 <http://www.eetbaarrotterdam.nl>

17 <http://stadsjord.se/>



IMAGE 6A - Winter pigs

IMAGE 6B - Stadsjord garden (Copyright: Niklas Wennberg)

CPULS, known as Continuous Productive Urban Landscapes, is an urban design concept started in 2000, developed by Andre Viljoen and Katrin Bohn using London as a canvas. It demonstrated a model for creating a network of linked multi-functional open spaces where urban agriculture could take place along pedestrian and cycle routes through the city as continuous biodiversity corridors through the city. This is a blueprint for a sustainable urban infrastructure which compliments, supports and builds upon the existing built environment, makes a resilient proposal for food, biodiversity and cycle transport. The idea not only brings ecological benefits, but also extends housing area links into the city and promotes citizen inclusion.¹⁸ This proposal indicates the importance of connecting up various agricultural initiatives between different areas, thus promoting a new typology of urban ecotourism.

At ground-level: Hästa Gård, Ecobox, Pépinière de la Rosée and Wasteland

Hästa Gård is a 4H-farm, situated on a field between Stockholm Husby and Akalla suburbs by founding farmers Oloph Fritzén and Jenny Olofsson.¹⁹ (IMAGE 7) The farm's positioning and proximity to the city provides a peri-urban opportunity for urban agriculture adjacent to housing estates where residents become strong participants. The farm displays several other opportunities: good proximity to Stockholm's center, easily accessible, a successful permaculture model, important community relationships and a well-functioning business model. Permaculture farming aims to create an edible ecosystem that lives in symbiosis with its environment. The concept was originated by individuals such as Bill Mollison, David Holmgren and Masanobu Fukuoka, who strongly believed in letting nature do the work for you. The farm raises a variety of livestock (cows, pigs, hens and sheep) alongside growing crops, both onsite and in the greenhouse (such as potatoes, tomatoes, wheat to name a few). The farm has also established intricate links with surrounding locals and business to make the community loop close. Neighbours often help out on the farm, and local markets donate their bio waste to the farm to be used as fertilizer. All produce is sold and served in *Hästa Gård's*

¹⁸ Andre Viljoen, Joe Howe, Katrin Bohn (ed), Continuous Productive Urban Landscapes. Designing Urban Agriculture for Sustainable Cities, (UK, Architectural Press 2005)

¹⁹ <http://blogs.sweden.se/blog/tag/hasta-gard/>

shop/cafe. During off-season, in order to keep the farm running smoothly, the farm secures income from using its tractors to shovel snow, and also cares for animals from calf stage.²⁰ Hasta Gård is an active example of urban metabolism, and extends its green role further into a social and closed-loop practice by creating a local economy, converting waste to value, and teaching horticultural skills to its neighbours.



IMAGE 7 - Hasta Gård
(Copyright: Hasta Gård)

The *Ecobox* garden projects, designed by Atelier D'Architecture Autogeree in the La Chapelle area of northern Paris, offer an exemplary model for urban agriculture initiatives maintained by residents between residential housing areas. The projects serve as critical platforms for urban dialogues/debates generating an exchange of ideas and knowledge from stakeholder's perspectives. The series of self-managed temporary sites began in 2001, were constructed from recycled components. The backbone of these projects was to gain access to in-between misused and underused spaces, transforming them through growing food and community cohesion. The project demonstrated the co-existence of diverse city life-styles constructing community connections called 'relationscapes', building-upon strong resident participation and understanding the need for spatial agency to belong to residents. These relationships eventually became self-autonomous, run entirely by residents and allowing the 'professional' to eventually become participant instead.²¹

Pépinière de la Rosée, started by NGO Eco-Innovation in the Anderlecht neighbourhood of Brussels, makes use of in-between urban space. (IMAGE 8A & 8B) Supported by a publicly funded program, it was began in order to rehabilitate a neighbourhood that experienced a variety of tension and violence.²² The site is a 700 m² of public land, previously used as a rubbish dump, became a thriving urban farm transformed by on-site farmer resident Federico San Bonifacio. The project devised a framework in which local residents/associations can rent a 1sqm raised-bed container for €10/year, providing necessary tools, seeds, plants, advice and help. A well-devised green business plan also included; sponsored fruit trees containers for €100/year and the selling of greenhouse plants and grown produce from the professional's section on the plot. The scheme managed to significantly

20 <http://jarva.wordpress.com/>

21 <http://www.urbantactics.org/projects/ecobox/ecobox.html>

22 <http://www.eco-innovation.net/blog/la-pepiniere-clip1>

reduce crime in the neighbourhood, initiate the act of growing local food in an under-used site, and inspired neighbourhood youth to voluntarily participate.

Such schemes have monumental effects on the psyche of urban regeneration, not to mention a good investment by local councils to channel finances into effective community bonding projects rather than into inconclusive crime control. In this sense, such achievements are priceless.

Another in-between urban gardening case called *Wasteland* was initiated in 2009 by art gallery Nadine. It stands in a site behind their studio in an internal courtyard of several housing plots in the centre of Brussels. Nadine is a trans-disciplinary art space which gave eco-artists a new platform to experiment with new systems and artworks that could help imagine more resilient city spaces. (IMAGE 9) The project's name comes from overlooked underutilized urban space with a tendency to become a garbage site. The artists wanted to give the site a second life as an urban garden with room for experimenting on how to get people in the housing units to start gardening. Each artist wanted to introduce creative ideas and knowledge where green edibles would help neighbours re-occupy their forgotten communal space. Artist Trudo Engels started several experimental vertical garden structures and the popular salad-stress clinic to test lettuce resilience. Lina Kusaitė initiated a plant guild embodying companion planting and permaculture layouts. Christina Stadlbauer collaborated with urban bees, keeping 4 hives and harvested 10kg of honey in the first year. Bernard Leroy built a nursery for 'rescued' trees that had no prospect of future growth conditions, taken from sidewalk cracks on an education walk with children. *Wasteland* continues to have a community meal at each harvest, a yearly tradition, bringing this in-between space to life.²³ This project is an example of the vital role of the arts in urban agriculture initiatives.



IMAGE 8A - *Pépinière de la Rosée*



IMAGE 8B - *Farmer Federico with locals*

23 <http://nadine.be/old/wasteland/over-wasteland/wasteland-overview>



IMAGE 9 - Wasteland 'rescued' tree nursery

In a greenhouse: De Kas, UrbanFarmer Box

De Kas, located in Amsterdam, is a refurbished productive greenhouse with a combined restaurant that serves on site. The 1926 greenhouse used to belong to Amsterdam's municipal nursery, due for demolition, but rescued by chef Gert Jan Hegeman in 2001. His intention was to convert the abandoned building and site into a thriving restaurant greenhouse serving organic food.²⁴

The ingredients of this project reach high merit; refurbishment, productive greenhouse, organic restaurant, green business, local employment etc.. It demonstrates that such experimental entrepreneurial endeavours can be a success and simultaneously benefit the environment both ecologically and economically. Such projects have the additional capability to become demonstration sites for a new type of urban living, learning and business, creating revenue that could support local communities, help strengthen policy into urban agriculture, and create active awareness around how cities feed themselves.

Another type of greenhouse project is the *UrbanFarmer BOX*, a mobile container urban farm that combines hydroponic and aquaponic technology for the cultivation of food, plants and fish.²⁵ (IMAGE 10) In this symbiosis, the combined nutrient cycles from both technologies behave in a closed circuit mimicking nature's metabolic structure. The system is inside a recycled 20 foot cargo container with an open-top allowing for a spatial modular system of growing. It operates all year round and can be placed in different locations such as roofs, unused/in-between spaces, or on industrial sites not fit for farming because of contaminated soil. Each container can grow up to 60kg of fish and 200kg of vegetables throughout the growing season, enough to feed a whole family. The key aspects of this project is the reuse of the recycled containers, and the flexibility and high mobility of the 'farm-boxes'. The idea promotes a shift of perspective in refurbishment practice by its reuse of existing parameters for new purpose.

24 <http://www.restaurantdekas.nl/>

25 <http://urbanfarmersbox.ch/>



IMAGE 10 - *UrbanFarmers Box Prototype*
(Copyright: *UrbanFarmers BOX*)

Integrated into building infrastructure: Brooklyn Grange, 100 Hus

Buildings can also become productive landscapes, whether they grow produce vertically or horizontally. In recent years, many interesting examples of rooftop growing in city centers have emerged including the Brooklyn Grange in New York, and 100 Hus in Hornstull, Stockholm.

The *Brooklyn Grange* is located on the roof of a six-story warehouse built in 1919. It is a 3,720 square meter organic farm, designed and built by Bromley Caldari Architects, and founded by Ben Flanner (the head farmer), Gwen Schantz, and Anastasia Cole. The initiative began in the spring of 2010 with its first successful growing and selling season. The farm's initiating aim was to improve local access to fresh produce, connect city people closely to their food source, and make urban farming a viable profession, enterprise and source of livelihood. The Grange generates income through its harvests sold to local people and surrounding businesses. Its organic produce includes: herbs, root vegetables such as beets, carrots, and radishes, peppers, fennel, salad greens, kale, beans, and many varieties of tomatoes. Green rooftop farms also contribute the city's air quality and microclimate, and to the overall health and quality of life in the community.²⁶

The *100 Hus project*, located in the neighbourhood of Hornstull in Stockholm, takes on a similar approach to the Brooklyn Grange through locating growing on a public community rooftop.²⁷ It is a rooftop refurbishment on an existing building overlooking a massive green park that provides further growing. The rooftop project also houses a seasonal restaurant and bar, a conference room for hire, and a small studio for artist residencies. The proposal functions as an entire ecosystem of ideas inclusive of ecology, business, sustainable design, community infrastructure, artist and educational spaces. The community garden is managed by the garden group Stadsodling Högalidsparken, which includes local neighbours who were in need of a growing space.

Internal growing prospects: Window farming

26 <http://www.brooklyngrangefarm.com/>

27 <http://www.100hus.com/hornstull>

Window farming is a technology based on hydroponics that allows indoor growing of vegetables and herbs all year round. The idea was initiated in 2009 in Brooklyn by Britta Riley and Maya Naya, but has spread worldwide used in private dwellings, schools, offices and public institutions. The system allows for plants to use the natural window light when available, and artificial light during dark winter months for continued growth. The concept utilises existing climate control of your living space for temperature regulation, and an added organic 'liquid nutrient' to grow produce in a closed-loop hydroponic system. The farm stands vertically, using recycled 1.5 liter plastic water bottles, clay pellets, plastic tubing and an inexpensive fish tank air pump to close the nutrient cycle.(IMAGE 11) The system is soilless so that only root vegetables are omitted. Although this type of intervention is small-scale, it does go a long way to create awareness around growing food and also an online community of enthusiasts exchanging ideas.²⁸



IMAGE 11 - Window Farming at Kulturhuset

Creative social Initiatives: Urbanibalism, and 'Pop-up park'

Creative social solutions, often including artists, are needed to bring communities together and support urban agricultural initiatives. Two such projects are Urbanibalism and Pop up park, with both teams located in Amsterdam.

Urbanibalism, started in 2007, is an on-going artistic platform initiated by Wietske Maas and Matteo Pasquinelli.²⁹ Their aim is to transform edible ingredients found through wild urban foraging, into a public recipe which can bring disparate communities together. One such intervention included a cookbook made from herb recipes foraged in Amsterdam, bringing together marginalized locals with Dutch citizens to share and eat their common landscape over a meal. In essence, they find creative ways to disseminate knowledge and information about food systems and culture back to the local contexts in which they intervene. These urban interventions seek out new relationships between

28 <http://www.windowfarms.org/>

29 <http://www.urbanibalism.org/>

people, cultures, histories and ecologies.

The project 'Pop-Up Park' occurred in 2011 on a huge unused garden in Amsterdam-West that during a one-day workshop festival. The workshop transformed the unused space into a public food park designed by local residents.³⁰ The studio FoAM's Amsterdam residents, Cocky Eek and Theun Karelse, developed the design-process, selected the expert team and design criteria to create this permanent park. During the festival, local residents were guided by 'green experts' to design their perfect neighbourhood garden. The results were followed through with a physical intervention in the space based on selected themes. This collaborative process retains a high value of community involvement from the very start of the garden, maintaining a sense of ownership from participants, an active ingredient in their continued participation.

Closing loops and innovative policy making: Vienna, and Food policy councils

Creating the necessary infrastructure for the closing of nutrient cycles is key to crafting urban metabolism. Since 1988, the city of Vienna has set up a separate collection of bio-waste supported by all its political parties. They established a citywide waste policy that set up a disposal fee for every resident which has produced concrete systematic benefits. Results include 34,000 tonnes of compost produced from the 43,000 tonnes of collected bio-waste. 20,000 tonnes of the compost is used as fertiliser for peri-urban organic urban farming, with remaining amounts distributed to local citizens as reward. By 2000, the city composted over 90,000 tonnes that saves the city more than 10 million dollars annually. (approx. 66 million kronor) This is a big scale model of viewing waste as value, both to the city residents and to the municipality.³¹

Currently there are only a few food policy councils globally present that play active roles in supporting community garden initiatives, urban farms, food security programmes or food markets. For example, Stiftung Interkultur in Germany, is the only organisation supporting community gardens on a national level. The Portland food policy council works under the motto 'nourish the heart, the soul, the soil and the pocketbook, working with farmers, planners, hunger advocates, chefs, environmentalists, government agencies and citizen groups on a variety of collaborative growing projects. Other councils exist in Toronto, Vancouver and Berkeley.³² However, to my knowledge there is still no comprehensive urban planning legislation that directly relates to food and architecture certification. The World Future Council supports this gap in their statement "in order to set up an urban agriculture programme, we need a framework of policies. Research indicates that no country has so far developed and implemented such specific policies."³³ This is an opportunity for Miljonprogram

30 http://fo.am/pop_up_park/

31 Herbert Girardet, *Cities People Planet: Urban Development and Climate Change*, (England UK, John Wiley & Sons, 2008), p 208-209

32 Peter Newman and Isabella Jennings, *Cities as Sustainable Ecosystems: Principles and Practices*, (Washington DC: Island Press, 2008), p57

33 World Future Council, Herbert Girardet and Dr. Axel Bree, *Cultivating the Future: Food in the Age of Climate Change*, Hamburg, Germany (2009)

areas to become pilot projects in terms of refurbishment policy and practice.

Conclusion:

Our food systems are shaped by many complex parameters including culture, climate, geography, life quality, and pleasure. The necessary instruments for a paradigm shift in food culture can occur through a combination of innovative policy and city regulations, technological development and advancement, economical self sufficiency and individual behavioral change.³⁴ Furthermore, we have seen that proposals and examples shown in this paper mimic nature's systems in a holistic approach towards urban metabolism. Innovative solutions come from adopting micro and macro perspectives, and taking a systems thinking approach to reach urban resilience. Our food culture choices can be governed within an architectural context with proper systematic infrastructure and support. Producing food where one lives generates an intimate relationship with our meals and our eating habits, rendering a higher awareness. An equilibrium arises that connects us closer to nature and to our community.

Byälvsvägen, and other city areas up for upgrade, could adapt this green strategy in refurbishment by formulating new collective ways of living within private dwellings that promote a new food culture. This culture can invigorate the city form and establish a positive vision of the miljonprogram areas, while simultaneously restoring the environment and strengthening community resilience. These approaches create a framework for future-proofing our cities against estimated shocks. With future predictions of increased oil and food prices, coupled with run-away climate change, we have all the motivation needed to explore these innovative strategies.

³⁴ Herbert Girardet, Urban Metabolism: London Sustainability Scenarios, (paper presented at IABSE Henderson Colloquium , Factor 10 Engineering for Sustainable Cities, Cambridge, UK 10-12 July, 2006)

Digest Series

Digest 01 – Green Line

Digest 02 – Urban CoMapper

Digest 03 – Instant Cartography

Digest 04 - Transit: A Swarm in Five Acts

Citation

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Digest 01 – Green Line



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Green Line

PhD musings | writing | disseminating

Digest is a collection of 'actions' and experiments in artistic research. The aim is to release explorations freely and transparently so that another discourse can begin outside of academic publication. This is a collection of interventions where the ingredients, recipe, and instructions are laid out to be devoured and digested.

Green Line (*Gröna Linjen*), is a group of artists, architects, performers, geographers and more, but also a peddle through Stockholm. In two overland expeditions, Gröna Linjen safari 1 & 2, we weave together urban farming initiatives in Stockholm along the #17 metro line in an effort to give them a place on the map.



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green line

Green Line (*gröna linjen*) is a vibrant collection - artists, architects, performers, geographers and more. These trans-disciplines investigate urban food in creative ways to engage the locals in spaces for dialogue, learning, interaction and fun. An opportunity to highlight Stockholm's ecological and cultural diversity, its barriers, and the potential which exists through linking art, science, practice and research together.

Urban food gardens are potential acupuncture points in the city that can revive local involvement, in-between spaces, and increase biodiversity. The Green Line safari's gave participants an urban farming experience from different perspectives; how to start farming yourself; hands-on practice, research methods, art experiences, knowledge of the need for urban food growing, tasting of food and engaging locals in their surroundings.

In two arranged cycle safaris, Green Line brought together residents, planners, students and more in an edible route along Stockholm's #17 metro line with intention to give existing and future farming initiatives 'a place on the map.'



safari noun.
[sub-fahr-ee]

- 1: an overland journey or expedition for exploration, or investigation
- 2: the guides, bicycles, equipment, species, plants etc., forming such an expedition
- 3: any recreational or adventurous journey or expedition

green line

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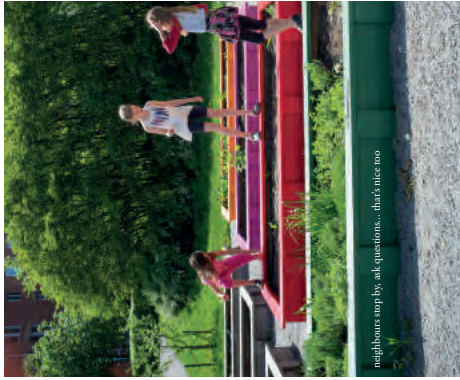


folkodlarna matparken

59°28887 N, 18°124817 E

since 2011
We began in June 2011 as we wanted a place to gather in. It is not so much about the food production for us, but much more of a 'visning trädgård' (teaching garden), where people can learn how to garden and have something to do! For us it is about cultivating a place to hang in and talk together, we want a little more than just a grass patch to sit on and anyone is welcome. We mostly enjoy growing vitfök, so we dedicated 2 big raised beds to it as its healthy and delicious to eat! We try to explore with companion planting, but we find it hard to be so meticulous about it.

contact | Sportfölgargatan 7, Skarpnäck | Stockholm, Sweden
vit@folkodlarna.se | www.folkodlarna.se/om/inlänkar/



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bagisodlarnas odlargrupp

59°278436 N, 18°133591 E

since 2013
Everywhere in Bagarmossen people are busy greening up their neighbourhood. So, in response to this popular demand, the council decided to support a community garden project in 2013: Bagisodlarna.

Our modest beginning included growing traditional crops in raised beds and a herb garden, which allowed the group to find their feet. By winter 2014, feet were found and an open course in forest gardening was arranged. On May 18, 2014 the whole of Bagarmossen was invited to participate in different urban gardening activities as well as the creation of the new forest garden. The group meets every second Thursday in the evenings, and aims to transform the whole area of 3,000 square metres given to them by the council. The glue that holds us together is that we take our "fika" seriously!

contact | Enålgatan 39, Bagarmossen | Stockholm, Sweden
info@bagisodlarna.se | www.bagisodlarna.se/



trädgård på spåret

59°304507 N, 18°03321 E

since 2012
The two initiators Max and Philip were so inspired on a visit to Prinzessingarten in Berlin, that they wanted to create a similar place. A garden where you could learn-by-'doing' by actively growing things yourself. For us, it is not about the quantities of food grown, but rather about the variety and diversity that we can grow. For example, we grow 5 varieties of beans.

We are about 200 members, but 30 of us are actively involved. It is fantastic to see things grow in the middle of the city, and simultaneously meet new friends. We especially like growing little red tomatoes, its fun to do this in a Nordic climate. Their small reminds us of southern Europe - a bit like being in the Mediterranean in the middle of Stockholm.

contact | nam Hammarby Svanöväg, Skanndal | Stockholm, Sweden
Philipp Olaveyer, philipp@psapart.com | psapart.org



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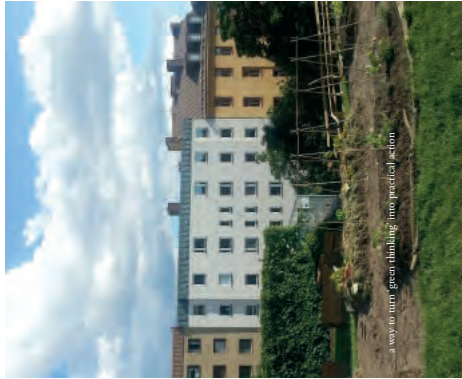
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högskolans stadsodling
59°31'6748 N, 18°03'9051 E

since 2011
The garden began in 2011, taking on the task from the 100 Hus initiative. We are 25 members, mainly living in the neighbourhood, with different ages and garden knowledge. The aim is to get more experience of the social benefits through doing things together, and to have the time and opportunity to grow vegetables as a private person in an urban area. Hopefully it gives an awareness and inspiration of eating healthier, creativity and open up minds for the fantastic world of the joy of growing your own vegetables together. Gardening brings the knowledge and awareness on how to take care of ourselves, through food, and of our surroundings.
The aim is to cultivate joy, a sense of community, and try to make Högskolansparken a pleasant place, showing the potential of unused urban space to become something beautiful and important. Self-grown food is fantastic, but also the beautiful flowers, bees, other pollinators, sun flowers and small birds. We not only grow plants, flowers and food, but also awareness!

contact: | Högskolansparken, Hantverkarskolan 4, Hansall J, Stockholm, Sweden
Christina Schäfer | www.facebook.com/groups/14782803209980



14

urban CoMapper
activated artistic research

The Urban CoMapper is a collaborative mapping app for smartphones. The initiative was started by Anna Maria Orru and Hye Kyung Lim to explore city inhabitants' perception of the built environment from two different themes – compact mixed city and urban green potential. Urban Green Potential seeds to understand the role of food, and food production in the urban landscape, and its importance tied to community, place, activity, quality, happiness and ecology. This theme was explored and exercised at both Green Line safaris. The intention for the app is to bridge the lack of communication between city professionals (such as planners, architects, designers) and city inhabitants about productive foodscapes so that citizens can also become co-creators of their city green. A democratic transfer of spatial agency. The first stage of the app is to 'create a place on the map' by mapping both existing, hidden and potential urban food spaces in the city, activating research to become an ingredient in both art and gardening (see *Digest 02*).

annamariaorru.com/Urban-CoMapper

18

mälarpäterernas trädgård
59°32'2506 N, 18°00'0639 E

since 2011
Ten of us grow together with local neighbours living around our yard; 2/3 live here, and 1/3 are from the surrounding neighbourhood. Our local permaculture enthusiast Annevi inspired us to start, and the main purpose is the togetherness of growing food. Our favourite parts are: the social bit, that we think it looks great, and that it also gives us food. We feel we can be a part of something, but not take all the responsibility. It's very social, people often stop by to ask questions. We love the coziness of growing Grönkål, but chinese Kål was an exotic task too! One year physalis and tomatoes appeared out of the compost we used, a nice surprise and example of resilience!

contact: | Svealbyvägen 8 J, Stockholm, Sweden
www.facebook.com/malarpaterernasgard



15



ulrika jansson
artist

Jansson investigates the meeting between Art and culture. In her work, she strives after physically and performative interactions with landscape, place, space and materials, creating a deeper understanding of humans role in and impact on ecosystems. The works often consist of physical and visible actions increasing awareness about ecological and social sustainability in the public space. This image from 2012 shows the Seed Sanctuary, a work of art for the Cultivation field exhibition in Reading, England. In the piece she explores what happens with old seeds when they reach their expiration date. Ulrika is also trained in permaculture and gardens in the Minneberg forest garden in Alvik.

Jansson together with Lobell completed Safari 1 with a lively discussion about the role of art and artists in urban farming and ecological challenges. Meanwhile, the audience was spoiled with a 'no waste cooking' meal served by Hviistendahl made from collected wasted food from nearby food markets.

www.ulrikajansson.com

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safari 2
21 september 2014

- 15:00 Norra Djurgårdsstaden Hjorthagen Garden
discrete garden at the edge of the city adjacent to Norra Djurgårdsstaden – the sustainable flagship for Stockholm - and a soccer field
- we lost our way in the rain, the route was obstructed by construction and closed walls
- 16:00 Fickparken in the Krubban Neighbourhood
a food garden in the courtyard of a national monument
- 16:45 Takodliama Sergej
on the rooftop overlooking the busiest hub in Stockholm, Sergels Torg.
- 17:30 Fortums Roof at Vasaöskulunden
an empty site with full potential. Adjacent to a beautiful park and the vistoria of Stockholm's past

22

23 24

25



norra djurgårdsstaden hjorthagen garden
59°35'41.50"N, 18°02'27.36"E

since 2013
The safari started off with a large group but as Christina Schaffer finished her talk on the garden's history, it began to rain. Extremely hard rain. We took for cover. Jumped on our bicycles and headed to a nearby awning for shelter. Half the group gave up, the rest of us continued onto the next garden.

A successful gardening start with 45 cultivation boxes and the list keeps growing as do the number of raised beds. The Stockholm Royal Seaport – sustainable flagship for the Norra Djurgårdsstaden – is in charge of the land and hopes to make more such initiatives available in the area along with plans for smaller plots in the residential units. Currently, the area boasts 75 common cultivation sites. The diversity of things grown include both vegetables, herbs and flowers. The sites have also become meeting place for residents to get to know each other. The successful test of growing in the area has prompted nearby boroughs to follow in the footsteps.

contact | Gästeshöjden 13 | 115 42 Stockholm, Sweden
Nils Göransson | djurgardsstaden.se/djurgardse-vid-hjorthagen.asp/

26



fickparken in the krubban neighbourhood
59°35'37.84"N, 18°08'35.6"E

since 2013
The torrential rain had stopped by the time we cycled into the garden's courtyard. We were drenching wet and 40 minutes late. We got lost along our route from Norra Djurgårdsstaden, slowed down by blocked streets and detours due to construction in Stockholm's sustainable flagship. Our host from SFV Magnus Pettersson was waiting to greet us.

Oxensterna måhögården, a national monument built in the early 1700's, is situated in the Krubban neighbourhood within three remaining Roselluska wings from 1780's. The garden is modelled after an old-fashioned kitchen garden (köksrerädgård) looked after by neighbours and the adjacent nursery. It was initiated by the National Property board Statens Fastighetsverk (SFV) who approached the allotment association (Kolonirådetsförbundet) for advice. Solveig Sjållad was sent to the task and helped set it up.

contact | Svanegatan 33 | 114 55 Stockholm, Sweden
SFV | gästansvarier.category/minis-tastkollinger/krubban/kvarener-krubban.2/

27 28

29

takodlarna sergel
59°33'23 N, 18°00'134 E

since 2014
The rooftop garden provided shelter after a wet ride through the city. Arriving here, we took an elevator up, passed through 3 locked doors, we entered a rooftop terrace overlooking the hustle and bustle below. Who knew, and who would know of us hidden in the sky amongst the green planters.

North facing, on the terraces of Hötorgsskraporna an edible garden has sprung up. It gets enough sun, however there is a problem with too much wind as it tunnels between nearby buildings. Some plants have started to wilt but the beetroots survived! Seven enthusiasts are testing the rooftop for cultivation inspired by nearby urban farming initiatives. The garden includes organic vegetables, herbs and edible flowers. The aim is to promote city gardening, spread knowledge about it, and develop a community of gardeners in Stockholm.

contact | Mikael Samuelsgatan 45 | 111 57, Stockholm, Sweden
Margaretha Stigebald | www.facebook.com/takodlarnasergel/



fortums roof at vanadislunden
59°24'8876 N, 18°05'703 E

This is a garden that does not exist yet, but we believe the potential site asks to be cultivated. In an effort to spark interest, we invited land agents, city officials from Normalm and residents to finish the Green Line safari with a gathering and small feast here. The Sunshine Socialist Sinema also came in hopes of screening using their bicycle powered cinema. Despite the rain, they came. And had this been a water harvesting competition, our little temporary structure would have won the award.

In Vanadislunden, hidden on a Fortum utility rooftop, lies the perfect opportunity to grow. It is a site adjacent to a beautiful park but this area has been taken over by squatters at times, graffiti artists and teenagers looking for a place to hang - perhaps kiss. The potential for an urban food garden is there even though at present it is just asphalt, a few benches, three air ducts and a small green area with mostly weeds.

contact | Svanången 150 | 113 46 Stockholm, Sweden
Forum | gannatt/en/2016/09/21/gom-osa-sd-apar-pa-vegetivom-plats-gronad-hjopn-actio/



andrea hviistendahl
artist

Hviistendahl served us a magnificent 'recycled waste food' feast at the end of the safari at Mälarpriatermas. She gathered food from surrounding food markets for days. All vegetarian.

Good action tastes good! "No Waste Cooking" is art, a spicy food and climate act. The food chain accounts for 1/4 of our total climate impact. A full 57% of food is thrown away as waste – however it is perfectly edible and fresh food. It cannot be sold, collectively retrieved from shops and recycled into new dishes to be served in exhibitions. This is precisely Hviistendahl's task – to recycle waste food into new feasts. Creating food and energy for the body instead of garbage and carbon emissions to the environment. Actions, the meal and dialogue created in the moment is the artistic endeavor. 'Sustainable development' are worn words. "No Waste Cooking" embodies concrete questions and speaks directly to our senses, turning 'negative' processes into something constructive where customs and values are improved. Andrea is an artist, cook and project leader.

www.studio04.se/english/artur/andrea-hviistendahl



main lobell
artist

A small exhibition occurred at Högålid's garden. VRIS (växternas rätt i samhällar/plant rights in society), investigations biodiversity, plant breeding and GMO consequences. In the exhibition, Ecocide - the fifth crime against peace - and urban farming are seen as civic tools to tackle these issues. Lobell lives and works in Stockholm. Her plant knowledge and graphic design is visible in her work. In the piece 'I have a plant()' - a packets of seeds contains instructions for flower graffiti and highlighting GMO plants as headlines.

The main driver in Lobell's work within the field of art, culture, and the environment is to reach an audience outside the established art audience. Using participative projects, green interventions and works that invite the visitor to activate the urban space. She wants to ask whether plants can become political and art can be influential.

www.mainlobell.se/



sunshine socialist cinema
artist group

Artists Kalle Brolin and Kristina Münzing run the Sunshine Socialist Cinema based in Angelholm, Sweden. The idea is to create an outdoor cinema powered by solarpanels by re-distributing surplus light from day into the night via a solarpanel and projector. The intention is to screen films that generate discussion into radical topics. In this instance, the Gröna Linjen team asked the crew to look into urban agriculture, both in its present and past form in Sweden through video footage. The screening at Vanadis rooftop was to include excerpts from Ingelborg Holm's works and theatre pieces, short films on allotments in past Swedish times, and a recent documentary on urban farming in the segregated suburb Kometens Torg in Gothenburg.

The rain however got the best of the roof atmosphere, and a safari participant / local resident invited the remaining group into his warm and cozy living room across the street to watch the intended films, while he put his kids to bed.

sunshinesocialistcinema.wordpress.com/

gröna linjen team

Ulrika Flordin Furås

Furås is a journalist, gardener, photographer and author writing on the topic of urban farming especially. Her book 'Gatsamar Odling' writes on Urban farming from her gathered experience and writings. She was also past editor of the Swedish Kolonitridgården magazine.

Mattias Gustafsson

Gustafsson is a landscape architect. He founded the studio URBIO in 2010 concerned with sustainable cities.

Ulrika Jansson

Jansson is a Swedish artist interested in perception, place and the connection between art, ecology and environmental issues. Her works are manifested in sculpture, drawing, installation and video - to establish a sustainable relationship with the earth and see the planet as an interdependent entity.



© Malin Lobell - Foraged Neighbourhood 2014

Malin Lobell

Lobell is a Stockholm-based artist working in the fields of art, culture, and the environment. Her aim is to reach audiences with participative projects and green interventions that activate urban space.

Anna Maria Orru (*project leader*)

Orru behaves as a connective tissue, working in the interstitial spaces between biomimicry, embodiment, food and in curating research, providing an alternative approach to the field of ecological design, art, urbanism and architecture.

Christina Schaffer

Schaffer is a geographer and teaches at the Stockholm University on urban farming amongst other courses. She is an active urban gardener and talks about different ways of urban farming and its contribution to the local community. She was the main driver for the Höllgalsparken food garden.

Orru AM (2015) Extracting Urban Food Potential: design-based methods for digital and locally cartography. *Figure of Food: Journal on Food, Agriculture and Society* 3(1) Special Issue: Finding Space for Productive Cities, 4-16.

Digest 02 – Urban CoMapper



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Urban CoMapper

PhDmusings | writing | disseminating

Digest is a collection of 'actions' and experiments in artistic research. The aim is to release explorations freely and transparently so that another discourse can begin outside of academic publication. This is a collection of interventions where the ingredients, recipe, and instructions are laid out to be devoured and digested.

This is a digital interface for a democratic transfer of spatial agency. An attempt to bridge a lapse of communication between city professionals and inhabitants about the production of foodscapes. Those that exist and ones that should. Urban CoMapper seeks to unearth the role of food, its production, and potential tied to community, place, activity, quality, and ecology in the city.



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a m(app)

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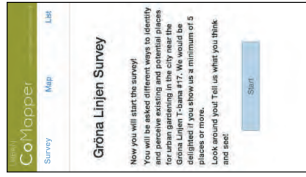
Urban CoMapper is a collaborative mapping app for smartphones. The initiative was started by Anna Maria Orru and Hye Kyung Lim to explore city inhabitants' perception of the built environment from two different themes: compact mixed city (Lim) and urban green potential (Orru).

This little book looks into Urban Green Potential. The theme seeks to dissect food production in the urban landscape, and its role tied to community, place, activity, quality, happiness and ecology. Happiness is a hard one to measure, but we assume since you are in a garden - you are happy in this moment. The digital interface was explored at both Green Line safaris (see *Digest 01*).

There is a lapse of communication between city professionals (such as planners, architects, designers) and city inhabitants about foodscapes where citizens are creators of their city green. The app creates potential for 'a place on the map' - existing, hidden and potential - by an activated process.



welcome!



© Anna Maria Orru, 2015
Digest 02 - Urban CoMapper
Digest Editor: Anna Maria Orru
Images: 2: Malin Labell, Urban CoMapper
Designer: Anna Maria Orru
Printer: Anna Maria Orru
ISBN: 978-91-88249-01-2
Vegetable Lamb Press
annamariatorru.com/Vegetable-Lamb-Press

'In spatial agency, their agency is effected both through actions and visions, but also through the resulting spatial solutions; and spatial agents have to be responsible for all aspects of their actions, from their initial relationship with others to enabling the production of physical relations and social structures. Spatial agency is here as much about modes of behaviour as it is about modes of making.'

(from: Niklas Aunin, Benjamin Schneider, & Jeremy Till - Spatial Agency: Other Ways of Doing Architecture)

spatial agency

who are you?



To transfer spatial agency, what does this mean? The citizen becomes co-creator for urban space. As agents for space, giving them ways to a more activated mode of participation, accountability and creation – in design, in cultivation and in implementation of foodscapes. Making city inhabitants privy to designing public space seeks an alternative mode of exploring how buildings and cities can be made - not only by expert agency. Potential sites and interested agents need to be identified clearly to ascertain their realization and impact – politically, spatially, socially and ecologically. Urban CoMapper aims lie here.

Collective visioning, gathering, notifying, finding, practicing and making increases foodscapes. More green is good. Unused grass patches between housings become food gardens. Did you know that was there? Who knew? They knew - and now we know. Local knowing is an ingredient in the setup, maintenance, knowing, prolonging and inspiring. The neighbour next door wants to join us too. And the woman who passes on her daily run has started a garden too.

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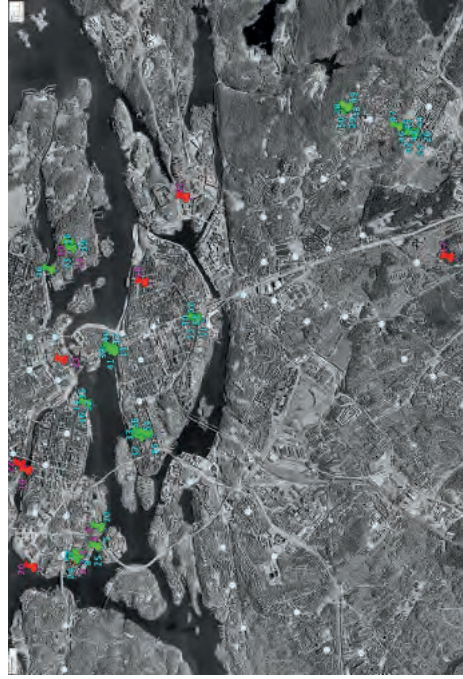
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a critical cartography

'Social movements employ spatial and cartographic knowledge in order to analyse and transform existing spaces and prefigure alternative ones.'

(from: Herb, Hilda, Coram, Melissa, Chaharshab, & Cesar Carter - Intervention: Mapping a Critical)

Critical cartography is a new approach for mapping 'new societies'. A 'society' representing a group interested in a common task. It considers both a theoretical approach – questioning power and ethics in mapping – and a practical method – new mapping strategies such as open source and tools. Urban CoMapper is an anatomy of urban agriculture, dissecting the corporeal, sensorial and physical elements that make it a whole. The trick is to find a place near your home, on your way home, or close by to you. Wherever you make your everyday. Find, start and make a space that meets your growing desire. Marijijn de Waal views urban media devices as interfaces to space. They contribute to making new urban public spheres. 'It's the stage or platform where city dwellers show who they are (make their way of life public) and, as a result, become acquainted with other people's ways of life and compare themselves with them. City dwellers can recognize like-minded people and, together with others, be absorbed into new collectives (new publics) or distinguish themselves from other city dwellers. (De Waal 2014)



Google Earth Maps 2014 | FORU

10

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for help, click here..



for help, click here..



Digest 03 – Instant Cartography



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Instant Cartography

PhDmusings | writing | disseminating

Digest is a collection of 'actions' and experiments in artistic research. The aim is to release explorations freely and transparently so that another discourse can begin outside of academic publication. This is a collection of interventions where the ingredients, recipe, and instructions are laid out to be devoured and digested.

Similar to eating 'showing the way' is a basic human condition. Instant Cartography is a cartography of exploding memories and direction. The exhibition became a professional cartographer and the transient side found on the streets of Malmö. These memory maps are an instantaneous understanding aimed to making lost strangers find their way again.



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introduction

Instant cartography occurred June 5th, 2015 as part of the Living Archives symposium. *From Soil to Structure*. The aim was to investigate memories that sleep in the soil of the city. It took place at Leonard garden terrace in central Malmö, in partnership with Mirt Odla, Stena Fastigheter and local residents. Living Archives asked - 'memories are created by someone, but how are they shared and transmitted, between people and across the intricate layers of space and time?'

The symposium aimed to uncover hidden cultural archives that went unnoticed. Archives that are were living, flexible, diverse and open. In this instance, we uncover the relationships between urban memories, soil, urban gardening actions, people and the city.

similar to eating,
showing the way,
is a basic human condition.

we enjoy making lost strangers find
their way again. is it not so?

can you show me the way to Leonard terrace?

How do we memorize direction to somewhere? Somewhere like a garden growing food on a roof terrace in the city - Leonard Terrace. Where it should not be, or really always should have been and must be.

When we understand where something is, how do we draw a map to it?

Our task is very simple: Find a transient guide, ask for directions to the garden, and ask them to draw the way. Take notes of their words. They are maps too.

Similar to eating, 'showing the way' is a basic human condition, we enjoy making lost strangers find their way again.

This is a collected archive of memory maps - maps with symbols, sketches, conversations, arrows. We become instant cartographers! for some us, our guides decided to come along...to discover...to see...the garden on the terrace.

hand drawn maps

finding guides



The following pages are maps which were created and collected at the artistic intervention. The Living Archives team asked me to take the participants off the site and to create an 'action' that brought them back. I started by looking at all green spaces within a 10 minute walk from Leonard terrace in a circumference around the site. Each participant was given a map to bring them away from the terrace. Instructions were simple.

Throw your map away, find a transient guide, and have them draw a map to bring you back.

directions were not followed properly, but brought diverse outcomes
 some drew maps themselves as the walked
 some traced a GIS google rendition path from an iphone
 others, started sketching their guides
 only one noted the words
 only two followed correct directions
 only one guide came along to Leonard terrace because they lived there

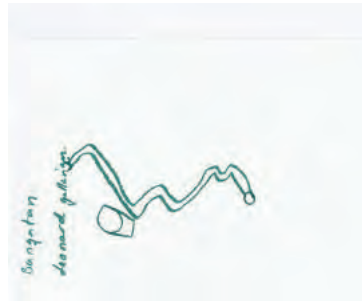
here are their maps.....

6



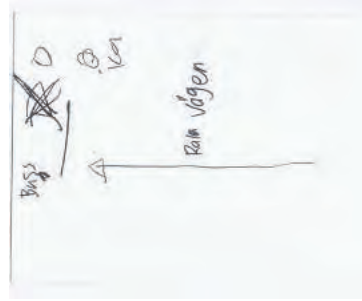
map 01
 Inga G. Nielsen
 She asked the man when to draw a map for her back to Leonard Terrace, but they instead of drawing her a map, he drew a map for her from the place. The man, the white-describing what a great place Leonard Terrace was and that she should move there too. They knew the manager and could put in a good word for her.

7



map 02
 Inga G. Nielsen
 She asked the young girls to draw her a map. They weren't so keen but automatically drew a map for her. The girls didn't understand an either spoke Danish nor English. Inga is Danish, but was in Sweden. So she decided to draw the google map line from their screen.

8



map 03
 Maria Halsetrom Reimer
 She asked them for directions two men. One drew an arrow and pointed in the general direction. The other drew a path that curved and turned. However, the guide insisted the route was straight ahead.

9



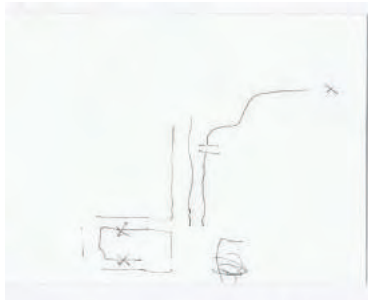
map 04
 Stefan Schmidt with mapping partner
 He was watching his mapping partner speak to a guide she had found. He thought, I will draw the situation, the parted box, and the question.

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map 05 unknown
Our story is lost here. The guide, the mapper, the moment is unknown. But in itself, the unknown also becomes a memory and an instant cartography. A map turned up.



map 06 Anna Maria Ortu
She found two women standing and chatting on the side of the road. She asked them for directions to her next location. Swedish, they answered in a mix of languages and she asked them to label something as the lines were puzzling.



map 07 Anna Maria Ortu
She approached two tattooed young men, one with a lit cigarette in his mouth, one with a beer can. She asked them directions and to draw the way. The younger one started to draw a map. "Here, I can draw it better". He proceeded to draw a map very identical to his friend's.



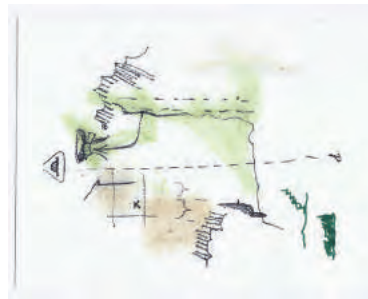
map 08 Susan Kozel | Terri Odumou
We drew the route back to Leonard Terrace ourselves.

14



map 09 Johan Carlsson | Michela Nona
The instructions were misunderstood. In this instance, the drawer forgot to find a terrace, trying to recognize the route back. They got lost several times, not remembering how they got to where they came.

18



map 10 Johan Carlsson | Michela Nona
As the walk continues, the visual recording evolves.

19 20



map 11 Susan Kozel | Terri Odumou
For these two mappers, their guide was a beggar in the park. They found themselves in a bit of a predicament. How to ask, as the beggar asked them for coins. Could they ask for directions in return?

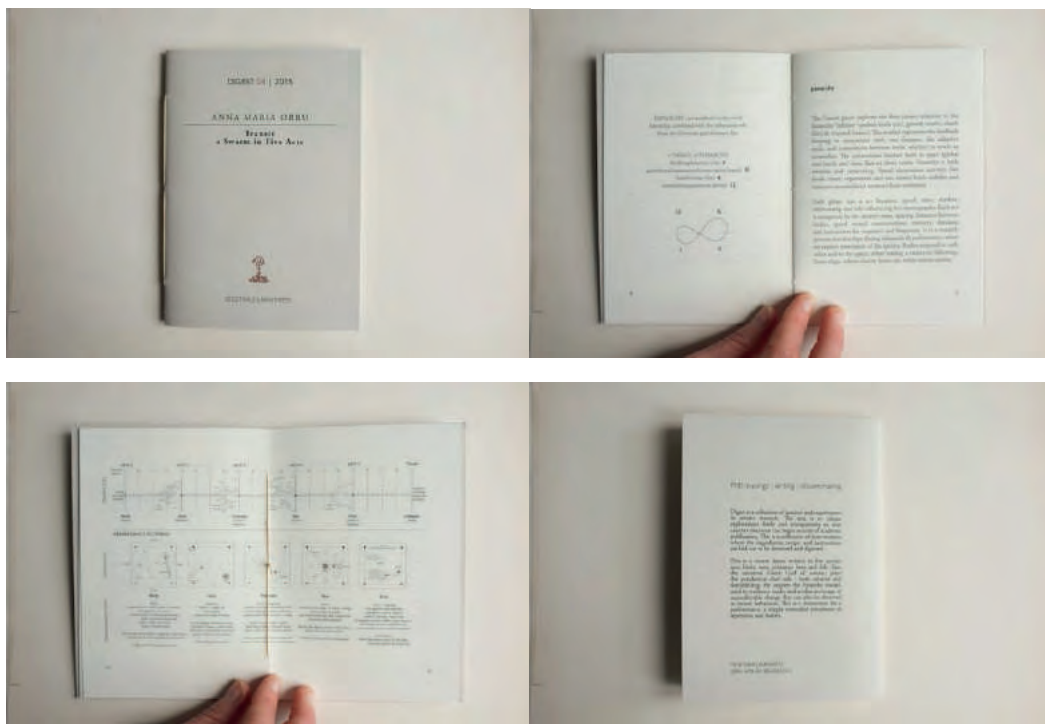
19 20



map 12 Susan Kozel | Terri Odumou
A quote from the conversation with the found guide.

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Digest 04 - Transit: A Swarm in Five Acts



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Transit
a Swarm in Five Acts

PhDmusings | writing | disseminating

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This is a swarm dance written in five species acts: birds, bees and fish. Pan, the universal God of nature, plays the paradoxical dual role of both creator and destabilizer. He invites the Pararchy model used in resilience study and evokes an image of unpredictable change that can also be observed in swarm behaviour. This is an instruction for a performance, a simple embodied symphony of repetition and bodies.

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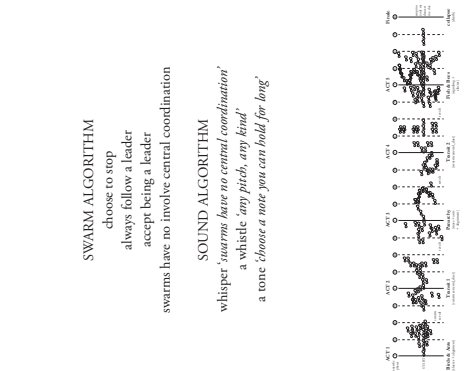
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- Pararchy 8-11
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- Dance & Sound thoughts 16-17
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the perpetual movement of a flock of starlings endlessly forming liquid figures, a triangulation of black dots departing, then suddenly turning back like iron filings attracted by an invisible magnet moving in the sky.

(from: Jean-Christophe Bailly - The Animal State)

dance and sound thoughts

The dancers and sound artist, Linda Oláh, Toby Kassell and Ingeborg Zackariassen, have reflected on the theme of swarming behaviours, using the provided texts and research. Their approach included the audience in an abstract interpretation of swarming behaviours. In this collaborative performance, the main idea was that a simple set of rules were explained and applied, the result being a collective effort to achieve certain tasks involving the execution of movement and sound making. In their work, the trio focuses a lot on the relationship between performers and audience, challenging norms and expectations on both sides and sometimes completely intertwining the two. The lecture performance offered an empirical experience of the artist's artistic translation. They gave four movement algorithms: choose to stop, always follow a leader, accept being a leader, and swarms have no central coordination. The swarm tasks were weaved together with three sounds: a whisper, a whistle and a tone. What emerged was an interlacing, at times confusing, between movement and sound. An experience of North, South, East, West and collapse of a colony.



SWARM ALGORITHM

choose to stop
always follow a leader
accept being a leader
swarms have no central coordination

SOUND ALGORITHM

whisper 'swarms have no central coordination'
a whistle 'any pitch, any kind'
a tone 'choose a note you can hold for long'

species

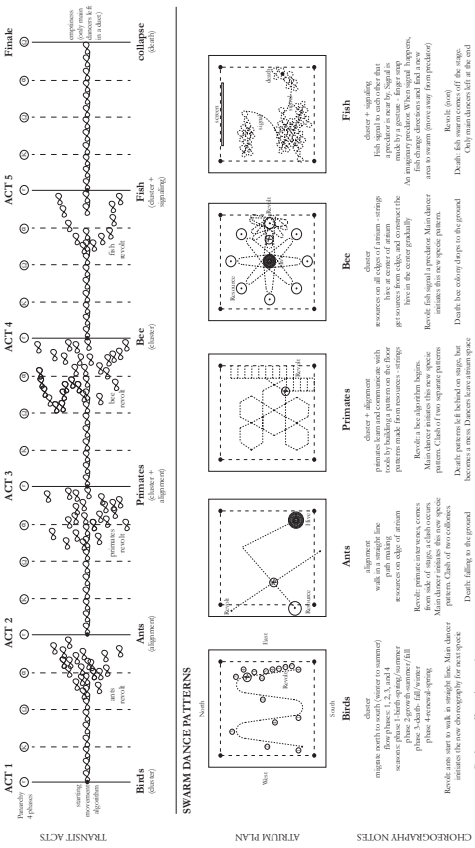
Swarm behavior is a collective behaviour exhibited by animals of similar size which aggregate together, perhaps milling about the same spot, or moving 'en masse' or migrating in some direction – a *Travisia*. This collective emergent behavior arises from a simple set of rules and does not involve any central coordination. Group behaviors emerging in the swarm show great flexibility and robustness, such as path planning, nest constructing, task allocation and many other complex collective behaviors.

A swarm intelligence system consists of a group of simple individuals autonomously controlled by a plain set of rules and local interactions. These individuals are relatively simple in comparison to the global intelligence achieved in the swarm. Swarm agents follow their own rules according to local information. The group behaviors emerge from these local rules, affect information exchange and topology structure in the swarm. As cooperation increases, group behaviors become more complex while the population size goes down and each individual plays a more important role in the behavior. 4

4. Tan & Zhang 2013

a condensation of what is not only free but truly liberated and activated in the sky, the signature of pure intoxication with living, in a singular and dreamy beat.

(from: Jean-Christophe Bailly - *The Animal Side*)



ACT 1

Birds (swarm)

swarm (swarm)

swarm (swarm)

swarm (swarm)

swarm (swarm)

swarm (swarm)

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swarm (swarm)

swarm (swarm)

swarm (swarm)

growth and maturation/conservation K

There is order, regulation and control (high density and low energy). Accumulation and increasing storage. Wisdom and common sense. Aerial insects. Multiplying of resources and distribution – conserving. Density and network increases. Resilience is high. Resilience is weak when it 'revolts', reaches a tipping point and becomes unpredictable, out of control leading to death. At peak – reduces carrying capacity. Swarm size: 30 or more (a large population), more people/cheese together. Season: Summer/fall (growth/conservation).

renewal/reorganisation Ω

There is order, regulation and control (high density and low energy). Accumulation and increasing storage. Wisdom and common sense. Aerial insects. Multiplying of resources and distribution – conserving. Density and network increases. Resilience is high. Resilience is weak when it 'revolts', reaches a tipping point and becomes unpredictable, out of control leading to death. At peak – reduces carrying capacity. Swarm size: 30 or more (a large population), more people/cheese together. Season: Summer/fall (growth/conservation).

phase 4

WATER. Global/Alone. Survival of the fittest, after death. generator of variety and experiment. weak connection/organization/regulation. Swarm size: 5 or so. Sound: established notes and rhythm left behind (only the strongest is audible). Phase Change: survival of the fittest, strong ray.



phase 3

FIRE. Fat and small bodies, more delicate. Box tipping point. A collapse in civilization. Revolt – resilience is low and weak. Swarm size: 1 to nine. Season: Winter. Sound: silence. Phase Change: silence, disappearance or dropping to the ground.

phase 1

AIR. Fat and small bodies, more delicate. Box tipping point. A collapse in civilization. Revolt – resilience is low and weak. Swarm size: 1 to nine. Season: Spring/summer (seedling, planning). Phase Change: birth, news swarm gets introduced, or cross-fertilized.

birds

Birds gather in special formations during migration and locate destinations with aid of a variety of senses via a sun compass, time calculation, magnetic fields, visual landmarks as well as olfactory cues to seek food. Flocking “emerges” from simple instinctive rules: keep a precise distance and stay aligned with your nearest neighbours, and avoid predators. ⁵

fish

Fish schools swim in disciplined phalanxes streaming up and down at impressive speeds, making a startling change in the shape without collision, as if their motions were choreographed. Fishes pay close attention to their neighbours when schooling with help of their eyes and shoulder-schooling marks. Fish schools aid foraging and predator avoidance. ⁵

ants

Ants communicate with each other by pheromone, sound, and touch. An ant with a successful attempt leaves a trail marking the shortest route on its return. Successful trails are followed by more ants, reinforcing the better routes and gradually identifying the best path. Ants roles are based on previous performance; higher success rates intensify their foraging while the others venture on fewer or change roles. ⁵

22

producers**primates**

The cooperation of primates can be complex, they make tools and use them to acquire food or interact socially, deceive, recognize their kin and conspecifics, and learn to use the symbols and understand the aspects of human language. Primates also use vocalization, gestures, and facial expression to convey their psychological state. Leadership and consensus decision making can occur without verbal communication. ⁵

performers**Anna Maria Orru** *(project leader)*

Orru behaves as a connective tissue, working in the interstitial spaces between biominimacy, embodiment, food and in curating research, providing an alternative approach to the field of ecological design, art, urbanism and architecture.

Toby Kassell

Kassell is a British born dancer/choreographer with the Göteborg Operans Danskompani. His individual creative work is aimed at collaborating with other extended art forms finding common ground between artistic discourses, working with improvisation structures and spatial composition.

Jonathan Geib

Geib is a PhD Candidate, Urbanist and Architect whose doctoral work explores the potential of multivocality on the designer's engagement with the city, in view of the themes of dialogue, participation and public space. *(Geib advised Transit at the conceptual stage of the Pararchy Model)*

Ingeborg Zackariassen

Zackariassen is a dancer/creator based in Gothenburg. She invests her time focusing on the meeting points between movement and sound letting their basic elements compliment each other. Her interest lies also in the relationships and roles between performer and audience.

bees

Bees are social and cooperative, with significant roles. Worker female bees gather pollen and nectar, build and protect the hive, clean it, and circulate air by beating their wings. There is only one Queen bee. A new queen is created by feeding her 'royal jelly', making her fertile. Drone male bees live in the hive during summer/spring, leave in winter when the hive goes into lean survival mode. ⁵

⁵ Tim & Zhong 2013

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2015

TIMELINE
January 2015
draft lobby performance by Ingeborg & Toby
university lecture on swarming by Anna Maria

Spring 2015
gathering 1 - Anna Maria & Ingeborg
gathering 2 - Anna Maria, Ingeborg & Toby
gathering 3 - Anna Maria, Ingeborg & Toby
Writing the Acts - Anna Maria & Jonathan
Rehearsal 1 - Anna Maria, Ingeborg & Toby
Rehearsal 2 - Anna Maria, Ingeborg, Toby & Linda
Revising the Acts - Anna Maria

October 30 & November 1
Swarm Rehearsals - with swarm body

November 3, 2015 - 12:00
AHA festival - *Transit* Performance

The AHA festival investigates the borders between art and science in an event at the Chalmers University of Technology hosted by the Department of Architecture. An international festival intended to provide enlightening experiences, staging surprises, new thoughts and displaced perspectives that lead to alternative modes of thinking about the space between art and science. We invite scientists, artists and not least architects, who reside in these borderlands and wish to share their vision and work. The key intention is to celebrate both art and science as key knowledge building devices.

The second AHA festival has chosen the theme *Members*. Numbers, a delightful net we cast over the world, a net that is non-human – and beautiful – because the net alone creates patterns and proportions and is a poiesis, an action that transforms and continues the world'. Or: is it the other way around, that the world is mathematical and in reality the net is woven into nature, woven by and therefore is found in sunflower seeds, seashells and mountain formations? How can we tell the dancer from the dance?

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