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Designing convivial food systems in everyday life

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Abstract

This paper explores living systems theory and how it can apply to designing convivial food systems in everyday life as an alternative to the dominant, industrial food system. There are three major threads in the paper; firstly, the literature review explores the industrial food system problem and the emerging food systems design field. The second thread of the paper is the ontological foundation of living systems theory that will be outlined describing a view of life that embraces ecological design and an eco-literate worldview. The paper will outline seven levels of living systems theory and how these different levels of living systems apply to the proposed praxis of designing convivial food systems. Thirdly convivial food systems praxis will be demonstrated through various experiments and prototyping exercises conducted in Victoria, Australia. The results of the study suggest how designers adopt convivial design techniques and living systems theory into their practice through the 'convivial design culture' approach.

KEYWORDS: convivial food systems, living systems theory, food design praxis, relational services, service design, conviviality, eco literacy, everyday designers

Introduction

The emerging field of food systems design is developing to address the economic, social, ecological, cultural and health implications of the industrial food system. This paper aims to provide the reader with an overview of literature focussed on food systems design and the side affects of the industrial food system. Following this, the research asks the research question: how can designers design alternative food systems that embrace social, economic, cultural, health and ecological principles that have been neglected in the industrial food system? A case is made for James G. Millers (1978) 'seven levels of living systems' as a framework for food systems designers to intervene at different scales and offer a relational approach to design ecologically sound convivial food systems. Convivial food systems are proposed as a human-scale alternative to the alienated industrial food system model.

Relational service design provides a methodological lens for this paper, as this approach not only requires agency, co-design and participation but most importantly emphasises the relational capabilities such as working together in a harmonious way in social systems (Capola, 2007) similar to that of cells and organs in biological systems (Miller, 1978). The results of this study suggest that living systems theory informs food systems design approaches. The cases evidence that everyday designers (non-professional designers) are in a good position to implement projects that fall under the convivial food system. Relational design approaches can occur on different scales within Millers (1978) seven levels living systems, whether that be within an individual, group, organisation, society or even at a policy making level. Finally, professional service designers have a role in enabling everyday designers to implement projects through their skills in prototyping, visualising and testing or even considering becoming an everyday designer in their own life.

Food Systems Design

Zampollo (2016) suggests that food design thinking as a set of design methods and tools can be used to facilitate the development of food systems. Food systems design work to date refers to place development and understanding of territory (Meroni, 2006, Meroni, 2012). Politecnico di Milano researchers define territory as “unity of a place and the way in which the people act and exist within it as they develop a sense of belonging and ownership” (Meroni, 2014 p. 14). This place-based approach to food design connects to the agency within living systems epistemology that is needed in order to enact significant changes to food systems. Territory according to Magnaghi (2000) refers to the use of natural resources within a place in relationship to people or social capital, urban systems and the ability of a place to govern itself. A range of service and strategic designers have developed these multi-layered definitions of territory to understand ways to create local and impactful solutions in specific places (Jégou 2008; Meroni, Manzini 2010a, Meroni, Simeone & Trapani 2009). Their definition of territory is to “look at the interrelations within a community and at the relations of the community with its territory” (Meroni, 2014, p.14). Food systems design is also seen as a catalyst for addressing other service needs in communities and food communities are seen as catalysts to co-design multifunctional services that have wider benefits to these groups (Cantu, 2012). Design researchers from the DESIS Lab have worked collaboratively with farmers, communities and companies in the Lombardy region on aspects of local food systems, creating significant practice-based knowledge (Meroni, 2012; Koskinen, 2011). The most significant case study here is Meroni’s article (2014) on initiatives in agricultural land in Milan’s peri-urban zone to allow members of the public to experience local farms during holidays. Part of the wider *Nutrire Milano* (Feeding Milan) project sought to preserve and develop the array of food production around Milan by approaching it as a possible integrated system through service design thinking (Meroni, 2014). The project adopts place development and systems design approaches (Meroni, 2011, Danserro, 2004, Magnaghi, 2005). Major learnings from this project is the experimental and action focus of the project. The designers committed to the project beyond its models and drawings.

Food systems design through the lens of an activist is focused on creating radical changes to the way we produce, distribute, consume and represent food. Design activism is seen as a form of social innovation (Meroni, Fassi & Simone, 2013). Food system design activists design using ecological principles, deeply engage the community and major stakeholders. Food systems design through the lens of a researcher can be perceived to be more focused on analyzing the work of the activists and acquiring funding to do this work (Vodeb, 2017). In democratic food systems design researchers, professionals and activists need to collaborate with each other on an even playing field. These ‘cultures’ can be brought together in an extradisciplinary way to produce knowledge and actions (Vodeb, 2017: 16).

Another realm of food systems design is at a policy level. The work of (Jegou, 2015) in the co-design of public policy for the European Union in the project ‘Sustainable Food in Urban Communities’ highlights design catalysing policy changes to food systems. Food systems design and the wider question of transitioning to sustainable systems has also been tackled by other public agencies in the European union such as Transit Social Innovation (Avelino, 2016, 2017, 2017a) which was an initiative supported by the Dutch Research Institute for Transitions, Rotterdams Institute for housing and Urban Development Studies, Science Policy Research Institute at the University of Sussex among many other organisational players. Food systems design is therefore being addressed at many levels locally and at a policy level. To conclude there have been fewer discussions on the relationship between living systems theory and food systems design.

The problem: Industrial Food System

The food system is a reflection of the current capitalist economic system, therefore the way in which food is produced, distributed, consumed and represented is highly commodified (Vodeb, 2017). Because it is something we consume on a daily basis over three times per day it is also something which is an opportunity to re-design everyday life and systems. As stated by (Ballantyne-Brodie, 2017 pending) industrial capitalist food system has many effects on people, the environment and culture such as the following six points:

- 1) Many factory workers, supermarket workers, designers and farmers in the industrial food system are exploited for cheaper wages. Supermarket workers are paid minimum wages as well as designers working in advertising agencies for food commercials.
- 2) Through controlling land and seeds, knowledge linked to food is hidden from people.
- 3) The capitalist industrial food system forces small-scale farmers out in preference for larger scale higher-level producing farms.
- 4) Factory farming is seen by some critics as the most pressing social justice issue of our times, with over 56 billion animals being slaughtered in inhumane ways every year.
- 5) There are an enormous amount of waste and dumping of food when large buyers buy cheaper imports or find other suppliers. Supermarkets throw out tonnes of waste every day because of slight deformities in fruit and vegetables.
- 6) Pesticides are destroying ecosystems and biodiversity. Methane gas from factory farming of animals has a huge impact on climate change.

Living Systems Theory

The paper is framed on an ontological worldview of living systems theory (Maturana, 1975, Miller, 1978, Capra, 1996 – 2014). The western paradigm which understands the world through a lens of Cartesian philosophy, object as material, time as linear - living systems theory brings the worlds of science and spirituality together. Living systems theory demonstrates a paradigmatic shift away from linear and mechanistic styles of thinking to understanding, approaching, and cultivating a practice of *living with* life as a dynamic process (Capra, 2014). This ontological view is a meta-framework that allows people to see the way we live in a Western context through an eco literate lens. This new perspective allows us to have an appreciation for different ways of life and diverse perspectives that have been ignored in the past 500 years of colonisation by the West arrive ways to regenerate culture, and practice (*praxis*) in the west. There is a vast amount of theorisation on living systems theory. Both Capras (2014) and Maturanas (1975) work goes into great detail about biological systems with little discussion on how these relate to social systems. Miller (1978) however provides a clear explanation of living systems being rooted in biological systems, however also extends to social systems. His seven levels of living systems are 1) Cell 2) Organs 3) Organism (biological systems). Miller (1978) goes onto expand his theory to show

that social systems are intrinsically connected to biological system in the following levels of 4) Group 5) Organisation 6) Society and 7) Supranational systems. The connections that Miller (1978) made between biological and social systems as living systems theory provides a strong framework for relational design methodology and conviviality praxis which is proposed in this paper. While living systems theory is explanatory, it falls short of an epistemological understanding of the world that we must take action within these complex living systems. The paper wishes to articulate an epistemological theory of agency, where each person (or actant, within an ecological worldview in which other species are also valid actors) is seen as having fundamental role to play, in their everyday life. Freya Mathews (1989) in her book *Ecological Self* lays the epistemological foundations for agency within living systems that is fundamental to this thinking.

Living Systems Theory to inform the Conviviality Praxis

The design scenario for Small, Local, Open and Connected (SLOC) food systems to emerge in Western countries challenges the centralised industrial-scale food system model (Manzini, 2013). The way in which the SLOC scenario can be achieved is a complex one, and requires a living systems understanding of the way in which people relate to one another. Ballantyne-Brodie & Telalbasic (2017) builds on Manzini's SLOC scenario and proposes Small, Open, Local and "Woven" (SLOW) to emphasise the relational design required in order to create changes at a grassroots level. Conviviality is a relational and human-scale approach to redesigning systems. Put simply, conviviality occurs when a group of people come together around a table of food to share a joyous occasion together. The word conviviality extends further than the dinner table. It derives from the Latin words *con* 'with' and *viv* 'life' meaning together with life. Thus conviviality refers to the coming together of people in a joyous and connected way, similar to that of biological systems such as cells and organs that work together to sustain life (Miller, 1978). From a living systems perspective, conviviality takes a new form because this 'joy' experienced around a table of food is extended out to the way we creatively and autonomously live, work and relate to each other in everyday life (Ballantyne-Brodie & Telalbasic 2017). Conviviality is a form of human scale praxis. Convivial actions are complex social systems and Miller's living systems theory provides a scalable framework to understand the different levels for design intervention. Conviviality praxis can be applied at different scales from the level of an individual, to a group, organisation, society and even in policy making.

Convivial Food System

This section introduces the convivial food system. Illich (1972) who is renowned for this theorisation of conviviality, was critical of the existing form of industrial society, but was not against technology itself. Illich was concerned that professional elites monopolise the tools in our everyday life such as computers, distribution services, healthcare and food. He saw an urgent need for people to disrupt this monopoly by taking back control of their tools again. The convivial food system presents an approach to claim back our food system in a relational and way and in turn create a new community life, economy, politics, culture, spirituality and all that makes up everyday life. Andreas Webber (2015) talks how science in the 19th century disconnected biology, life and emotions. The heart and the head were disconnected in thinking, and this led to the current economy we have now which rules over social needs and ecological needs in the name of rational profit making. Convivial food systems design is a tangible way to re-engage in human relationships and engage in everyday life again as we eat several times per day (Ballantyne-Brodie & Telalbasic 2017). The convivial food system is made up of seven elements: Growing, Delivery, Gastronomy, Pleasure, Storytelling, Lifecycle and Designing (See figure 1). Each of these elements are

systemically interconnected. Convivial food system projects and designs may incorporate different aspects of these elements.

Growing

Growing food is a fundamental way for humans to connect to nature's natural rhythms and cycles. Growing food in a convivial food system framework means that individuals or communities autonomously decide to grow their own food, develop community garden plots or grow larger amounts of food, or even connect to local farmers who grow local and seasonal produce for them. Communities and individuals growing food can be a powerful act. Wendell Berry (1992) encouraged people to particulate in agriculture in an ethical way, so to become connected to the ecological systems such as fertile soils, growing flowers, fruits and vegetables from sacred seeds and seeing life decay and rejuvenate again.

Delivery

In the context of urban life delivery takes on a unique role. Many people are separate from the land and cannot grow large amounts of their own food. A decentralised model is required for people to deliver food into the city or to different places. Communities and networks can utilise their current transportation such as cars, trains and small trucks to bring food into places for these communities. Farms must open up their distribution channels to these diverse economic opportunities in order to enable a convivial delivery solution.

Gastronomy

Gastronomy is the art of cooking and eating good food. One major element of gastronomy is cooking. Cooking is something we do several times on a daily basis which makes it a significant part of everyday life culture. Cooking is a *'persistent practice that is repeated in time and space, rooted in the fabric of relationships to others and one's self, marked by the "family saga" and the history of each, bound to childhood memory just like rhythms and seasons'* (Giard 1998, pp. 157). As Wendell Berry wrote "eating is an agricultural act. Most eaters, however, are no longer aware that this is true" (Shiva, 2005 quotes Wendall Berry in 'Celebrating Food Economies').

Pleasure

The founder of the Slow Food movement states that pleasure is everybody's right and as such must be as responsible as possible: gastronomy is a creative matter, not a destructive one (Petrini & Padovani, 2006). The commodification of food has taken away many simple pleasures in the food experience, however its important to recognise the importance of this fundamental human need in relation to food.

Storytelling

Storytelling brings new meanings to the world in which we live. Stories about new concepts and ideas can be shared through different mediums to bring light to understanding a new convivial food system. Storytelling is the personal stories that people share about their food system in the past, present and future. Storytelling is integral to maintaining rituals and traditions and a diverse food system. If we allow companies to do the storytelling for us, through advertising we are giving away our history, traditions and culture and ultimately health.

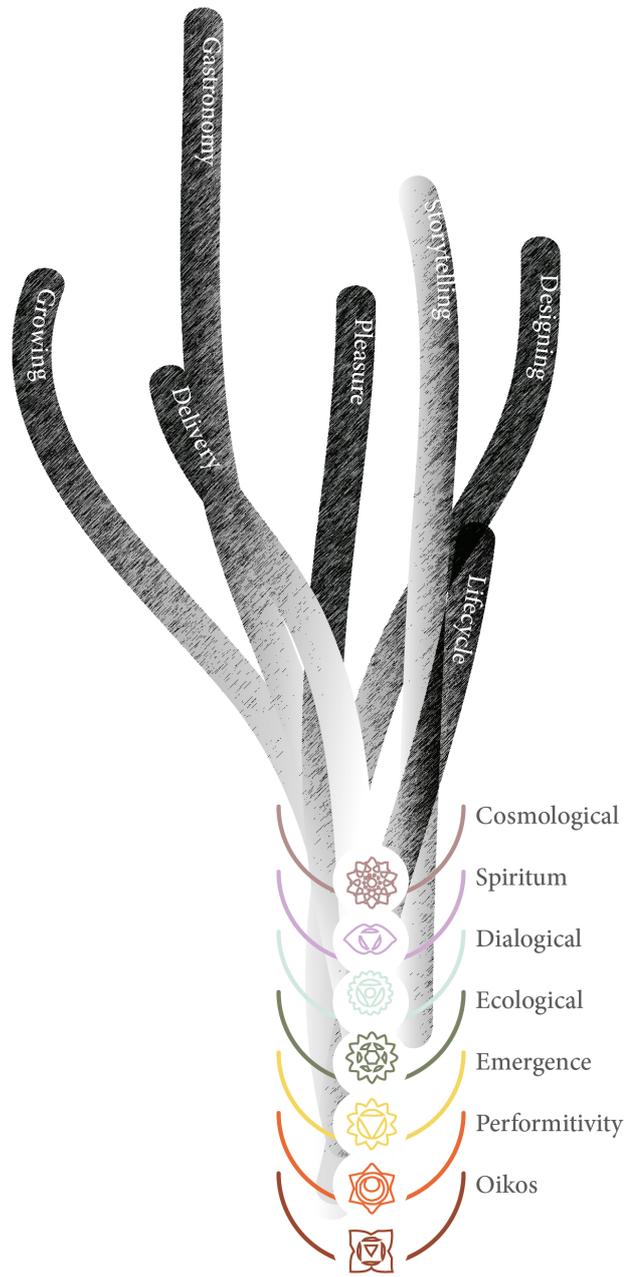
Lifecycle

The Food and Agriculture Organisation of the United Nations states that humans waste 2.9 trillion pounds of food per year, which is enough to feed everyone on the planet more than twice (Pimentel, 1973). Stuart (2009) states that one third of the planets food production going to waste and if food waste were a country it would be the third largest producer of

greenhouse gas emissions in the world, after China and the United States of America. There is a disconnection between where our food comes from and this leads to a disconnection of where our food ends up (in landfill). In the convivial food system, the whole lifecycle of our food is apparent.

Designing

An important step in transformation to the food system is to design and implement alternative models that have deep understanding and context in the diagnosis on the problems. Designing convivial food systems is about the agency that individuals and communities can take to change their food system. Designing in a convivial food system does not mean that you need to be a professional designer.



Convivial Food System

Figure 1 Convivial food system

Convivial food design praxis

The experiments outlined below have been an iterative process of applying living systems theory in practice in convivial food systems design. The following section highlights some of the process, findings and learnings of these experiments. This section of the paper draws on the collective learnings from the exploration of theory and experiments to inform approaches for convivial food systems design praxis. Each experiment will connect to one or more of Miller's (1978) seven levels of living systems: cells, organ, organism, group, organisation, society and supranational systems. According to Miller (1978, p.1) his seven levels are "a conceptual system concerned with concrete systems which exist in space-time...systems at all of these levels are open systems composed of subsystems which process inputs, throughputs and outputs of various forms of matter, energy and information". The relational aspects of the Convivial Food System are portrayed through Miller's living systems theory. Miller's living systems theory illustrates the different scales which design interventions to food systems can take place: for example we can conceptualise the food system in a 'nested' way: Seeds (cells), health (organs), agency of individuals (organism), creating community projects i.e. Community gardens (groups), organising food activist movements and new food enterprises (organisation), changing social norms in the way we consume food (society) and policy making for in food systems (supranational).

Experiment 1. Docklands convivial garden

Convivial food system experiment

Designers saw an opportunity to do something different in Docklands, to add a 'human scale' design dimension to the precinct. The garden was co-designed with community members and a 'living system' of convivial actions were designed to engage people in sustainable food systems (See figure 2).

The seven elements of the convivial food system are prevalent in this project. For instance: the focus on human-scale *growing* in the public garden, local *delivery* of garden produce to residents, *gastronomical* experiences in the local convivial dinners, *pleasurable* experiences were a focus of all of the design interventions, composting programs raised awareness of the *lifecycle* of the food, *storytelling* happened through local media and intimate conversations in the garden space and finally the whole garden and its related services were *design-led*.



Figure 2 Docklands Convivial Garden

Background

Docklands in an inner-city suburb of Melbourne which has criticised locally for developer-centric planning which has led to lack of open green spaces and cultural activities. Designers from Urban Reforestation co-designed with Melbourne's youth to implement an urban sustainability project.

Current situation

The garden is now run by a group of local residents. Organic food is grown in the garden and is used with residents and workers in the Docklands.

The benefits to society, environment and economy

Society: The community took ownership over the garden and neighbours began to share stories and connect with one another. Conversations occurred in the garden discussing growing food, healthy living and asking one another's advice about how to plant or cook certain vegetables.

Environment: The food box service that was created by the group enabled local residents to access local food from the garden, reducing food miles. Composting also occurred in the garden.

Economy: Local businesses spoke of the benefits of the garden to their business, due to the 'place amenity' the garden brought to the Docklands. People wanted to enjoy the space and site and relax which led to them spending money in local cafes.

The experience

The garden is a place to relax, rejuvenate, learn, connect, participate and ponder.

Design challenges

Urban Reforestation found it very challenging to work within a governance system that is not supportive of 'bottom up' design (Manzini, 2010). It was challenging to get all major stakeholders sitting around one table at the right time.

Living systems level

This experiment falls under three levels of Miller's living systems theory. Level 4 being the 'group' that worked as a community to create the garden. Level 5 'organisation' of Urban Reforestation to negotiate the permit with local council and developers. Level 7 'supranational' the garden influenced the wider policy making by acting as a case study to inform ways food is to be grown in the city.

Experiment 2. Delivery – Peach n Pear organic farm box

Convivial food system experiment

Peach n Pear is a food community in urban Melbourne, Australia. Peach n Pear is a small-scale food community that encourages community members in an urban area to connect around their passion of organic, local produce. The project involves purchasing produce in bulk from local farmers, and the packing and distribution of this produce as food boxes in the community (See Figure 3).

The convivial food system elements have been all incorporated into this experiment as well. For instance, *growing* of local food in the farms in provided in the boxes, human-scale *delivery* of the food from the local neighbourhood house and verandas occurs, *gastronomical* dinners are run to celebrate the food and menu cards encourage seasonal cooking, *pleasure* is a main feature as the 'food community' and relationships are the main focus, *storytelling* occurs

through social media, local media and intimate conversations on the delivery day, *lifecycle* is encouraged through the newsletter and social media storytelling and the whole project has been *design-led*.



Figure 3 Peach n Pear Local Food Delivery Service

Background:

Peach n Pear was conceived on three levels: one was to provide healthy food to the designer's family and friends; the second was to translate local food systems ideas into reality and become political in everyday life and the third was to create an alternative way to access local organic food. Peach n Pear was an experiment designed to put the ideas of the convivial food systems in everyday life into practice.

Current situation:

The project currently distributes a fortnightly food box from the Elwood Neighbourhood House. Peach n Pear packs and distributes on average 30 boxes each fortnight with produce that is still purchased and returned from the farms for packing and distribution using the designer's personal vehicle. The project has inspired other food groups to start around Melbourne, and one in regional Victoria's 'Food bowl' the Goulburn Valley.

The benefits to society, environment and economy:

Society: people in local communities are connecting with each other to socialise and learn about their local food system.

Environment: Peach n Pear sources food from 100% certified organic farms, which means there are no pesticides used in the growing process. There is a lower ecological footprint on the food due to the close location of the farms to the place of delivery

Economy: Peach n Pear is a small home business. Local farmers are also receiving money with short, seven-day invoicing. Many local farmers like to diversify their income by working with smaller businesses as this allows them to build more economic resilience.

Design challenges:

Driving to the farms and packing the boxes is very intensive work. The experiment needs to move beyond the initial phase and look for ways to scale logistically or find ways for the community to contribute to the harder task of driving to the farms. The challenge for this model is to look for ways to organise the efficient delivery of food.

Living systems levels

This experiment refers to two of Millers living systems levels. Firstly Level 3 ‘organism’, that is the individual convivial designer who used their agency to create a new system from their own home. Secondly Level 4 ‘the Group’ being the community of people that participates in the food box service.

Results

Everyday designers will make things happen

Throughout the research it has become apparent that the transition to sustainability requires people in everyday life to make long-term commitments in their communities to achieve changes to their food systems, local economies and communities. The commodification of everyday life (Debord, 1995) and alienation between people and their tools has led to fundamental human needs such as creation, affection, identity, participation, leisure, understanding and freedom being neglected (Max-Neef, Elizalde & Hopenhayn, 1992, Illich, 1972, Lefebvre, 1992). Convivial food systems praxis coupled understanding of living systems theory (eco and social literacy) are ways for everyday designers to ‘claim back’ everyday life. Professional designers have an important role to play in facilitating this process of change, however they must be able to adopt skills in relational services methodology and eco literacy in living systems theory. Wahl (2016 p.123) states that: *we are all designers! We all co-create the world we live in through our relationships and our behaviour as citizens, community members and consumers. We all have real and perceived needs and we all design our own strategies to meet those needs.* Transition Design (Irwin, 2015) and Transition Towns (Hopkins, 2011) are two important movements for everyday designers to engage with and participate in to claim back everyday life.

Convivial Design Culture

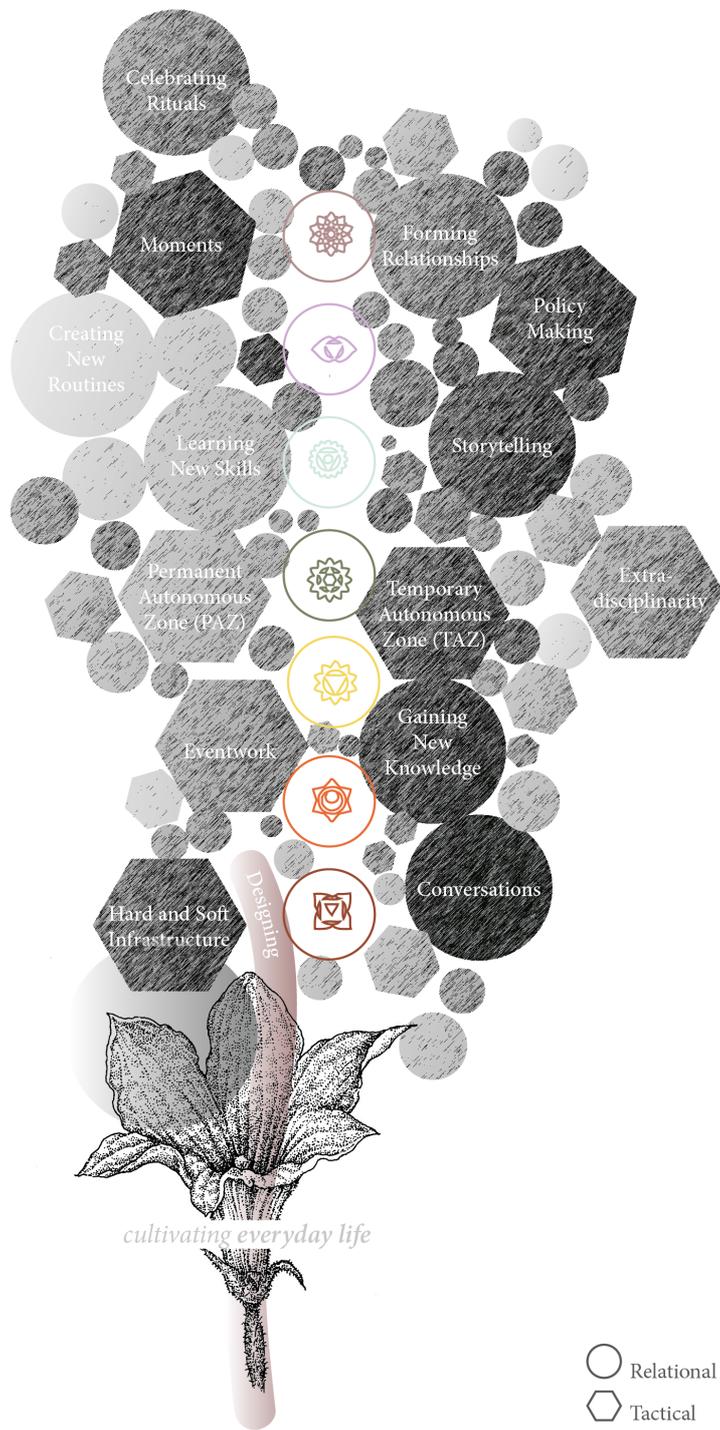
The convivial design culture concept (see figure 4) has been formed based on the theoretical foundation of living systems theory, case study analysis and an epistemological understanding agency in living systems. The outcomes of the experiments show the importance of the human interactions and relational methodology in designing convivial food systems. The convivial design culture concept is a relational and tactical strategy to implement place-based design interventions.

Relational designing is the conversations, routines, storytelling, co-designing policy and new skills which all ‘weave’ together a new culture and ways of operating. Relational services is a human approach to designing new systems, which requires making changes from a community level and forming deep relationships and new skills in order to make changes (Gibson-Graham, 2006). *Tactical designing* involves pushing boundaries through subversive or pleasurable events and interventions with the aim to connect the participants on a topic or skill of interest. Tactical actions can be short-term and quick in their implementation, however can lead to long term culture change and new infrastructure. Infrastructure can be both physical such as urban design, gardens, food hubs and kitchens as well as ‘soft’ such as policy making.

Everyday designers to bring about Convivial Design Culture?

Everyday designers can be radical, however, they are also working with whole systems to change them, so they are not necessarily subversive all the time. Everyday designers in essence are ‘living systems designers’ who understand the different levels of systems, and interventions to make at these particular levels. They look for ways to regenerate everyday life through events, routines, active citizenship, building new infrastructure and co-designing new policy (to name a few actions). Everyday designers do not engage in ‘left’ and ‘right’ politics, ideologies or any form of alienating, generalising or homogenous movement. Rather, they engage in relational dialogue and designing with people in their lives and design projects. Experimentation and prototyping are important design methods for everyday

designers to utilise in order to create new projects, interactions and dialogue between people (Bruce & Baxter, 2015). Through convivial interactions people can learn new ways of working together so grassroots, place based and collaborative projects can move beyond 'design visions'. Designing in everyday life is a dynamic process that acknowledges working 'with' communities to create new futures. Due to the nature of living systems, an everyday designer is responsive and tuned into the needs of the people within the system they are working in. They are constantly drawing on relational interactions, listening skills and compassion in order to ignite changes to a system. They are setting up designed situations that enable conversations and development of new skills and understandings.



Convivial Design Culture

Figure 4 Convivial Design Culture

Discussion and Conclusions

It is apparent that the current industrial food system has many problems. The question remains how can we transition from what we currently have as our mainstream industrial food system to an alternative convivial food system? The answer to this question is not black and white. This paper does not propose for the convivial food system to overtake the industrial food system at this current time, this maybe even quite a dangerous proposition in terms of food security and feeding large populations in urban environments. At this stage, the fast consumer culture and centralised infrastructure in place the industrial food system means food systems are not resilient at a local level. The convivial food system concept challenges the dehumanising aspects of the current industrial food system and looks at relational, tactical and autonomous ways to reconnect to our food. In this sense, the convivial food system is slowly evolving from the grassroots and is creating a resilient model for long-term sustainability. Over time practices, attitudes and laws will change that support this convivial model and it can be a way of bringing about a resilient food system. Just in case of a major crisis in the industrial food supply chain the convivial food system has the potential to affect culture, policy and infrastructure to support people if there is a collapse. This alternative approach, may even influence the current industrial food system model so it begins to change some of its problematic features.

It is important to note it does not only take courage and skills to design alternative food systems, it requires working with the right actors and stakeholders within social systems. Individuals, groups and organisations cannot create systemic changes in isolated silos. A 'whole systems' approach needs to be adopted and all levels of living systems need to be addressed. For example, the supranational level which includes the public sector and international governing organisations such as the WHO, WTO and the United Nations need to be engaged in the systems change process. Institutions that are reinforcing the status quo need to be bold and look for ways to co-design their policy with different social systems levels such as individuals, communities and smaller organisations. Professional designers and everyday designers can play an important role in designing new systems with everyone from a small community garden group to an international policy for sustainable food systems. This paper has highlighted the way in which service systems and related institutions can challenge the status quo from a living systems perspective. Convivial food systems design as praxis allows for tangible interventions to be implemented in Miller's (1978) living systems levels. Future research will aim to explore the dynamic nature of designing and prototyping convivial food systems within a living systems framework, and aims to set indicators to monitor and evaluate the viability of this process.

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