DESIGN FOR QUALITY LIFE

Speculative Transformation of Lifestyle

Yue Zou

Ph.D. Candidate, Institute of Design, The Oslo School of Architecture and Design

yue.zou@aho.no

Abstract

Since climate change has become a tangible and serious issue that humanity has to face, more and more disciplines are evolving to address this field, including design. Design, especially product design, is regarded as a discipline that promotes consumer consumption. Design itself is a problem in the context of climate change. As new design approaches such as social innovation and transition design try to deal with issues such as climate change, designers sometimes lose sight of their aesthetic role. The core question of this challenge is how to understand the designer’s creative and aesthetic skills in these projects. In this paper, I will demonstrate why lifestyle transformation could be a promising practice space for designers by analyzing the current situation of transformative design and speculative design and discuss the relationship between these. By this means the study will inform a more sustainable direction into which designers can transfer their creative and aesthetic skills.

keywords

Transformative Design; Speculative design; Lifestyle Transformation; Narrative Prototyping; Aesthetics Experience

1.Introduction

Climate change requires us to question the effect and aims of free market ideology in relation to the limits of natural resources (Klein, 2015). In this context, designers are embracing new tangible spaces to address problems that climate crisis brings forward. Since the carrying capacity of the planet is distinctly limited, less developed countries are constrained in the extent to which they can follow the old industrialization route developed countries adopted before so as to achieve the what is known as the “standard life” (Dietz & O’Neill, 2013). At the same time, it seems hard to justify directing developed countries to consume less and to restrain consumption, given the consumption-driven economic model (Hickel, 2017) unless the terms of the debate are changed. It is time for designers to rethink what standard life should look like and whether the standard life means a quality life.

First, designers need to understand the meaning of quality life and take efforts to address overconsumption through meeting needs instead of satisfying desires. Meeting needs (such as psychological support and protection, emotional, intellectual, and physical communication, participation and autonomy) does not require goods and services from the market (Kamenetzky, 1987), which instead is often designed to satisfy desires. It is easy to ignore the fact that a high quality life should properly be one that is determined by the interaction between people and the connection between individuals and environment, rather than the things we have. Ehrenfeld (2013) wrote that the current collective model that the world operates under, and our understanding of human behavior, drives an unsustainable, unsatisfying, and unjust social and economic machine that dominates our lives. To shift the pendulum towards a new way of living, he describes a new way, driven by being and caring rather than by having and needing, a way based on collective wisdom and life experiences. Due to the importance of the interaction between people, and the connection between individuals and environment, a well-connected society can be seen as the main characteristic of a quality of life. So, design needs a more socially focused perspective.

In general, existing approaches to deal with climate change aim to raise public awareness and to call for individuals to reduce, reuse and recycle(McDonough & Braungart, 2002). The normal design process to handle these approaches is more or less problem-oriented. But in this way, design itself as a problem-solving activity loses the ability to deal with wicked problems (Rittel & Webber, 1973) like climate change. A paradox comes out then. The clear aim to design for solving a concrete problem makes the design process efficient indeed. And mostly, high efficiency is very much the goal in the 'business as usual' society, but the pursuit of high efficiency might result in a loss of focus on the broader context. What else is needed?

In contrast to efficiency, *sufficiency* is a core idea of resilience thinking (Walker & Salt, 2006), i.e. thinking about the ability of a system to absorb disturbance and still retain its basic function and structure of a social-ecological systems (bid). Contemporary societies tend to think of environmental issues as related to isolated unsustainable practices for the environment and thereafter focusing on policies that can mitigate that issue in isolation. This reflects the fact that we are lacking in resilience thinking and what arguably could provide a new vision of sustainable design. To illustrate this, designing for efficiency in order to 'reduce, reuse, and recycle' is typically the way chosen to reach a sustainable solution. But, in resilience thinking, that “design-for-efficiency” is not an adequate solution for long term sustainability and the resilience it requires. Society (and designers) could instead ask themselves if we really need the new or changed product within the ecosystem as a whole. Moving from efficiency to sufficiency, the design methodology could potentially benefit from moving its focus from the products, per se, to scenarios that also explores future and alternative contexts of use.

The paper first outlines the relevant design concepts, transformative design and speculative design, which could make this design method transformation happen. Then this paper will discuss the relationship between these two design concepts and show why lifestyle transformation could be a promising practice space in the future for designers. The last part will explain why aesthetics experience could be a powerful tool for speculation and future lifestyle transformation, and designers’ creative and aesthetic skills are still crucial in the new design area.

2.transformative design as a strategy for wicked problems

2.1 The concept of transformative design

A wicked problem is a structural problem rooted deeply in modern social production and consumption patterns (Rittel & Webber, 1973). Since design is more than the simple activity of solving problems, giving an 'ideal' to the world (Nelson, 2012), design processes, through their negotiative role, can handle wicked problems. At the same time, there is a need for transition to solve the root of problems by changing social-technical systems. Fry (2008) argues that design can redirect development for a transformation to change social-technical systems. He proposes that sustainable design could be a ‘redirective practice’ which is able to direct society away from deepening the disaster of unsustainability and towards the integrative character of sustainability (ibid).

Transition design advocates the reconception of entire lifestyles, with the aim of making them more place-based and convivial (Ivan Illich, 1973) and participatory and harmonizing them with the natural environment. (Manzini 2009; Sachs 1999) Transition design focuses on the need for ‘cosmopolitan localism’, a lifestyle that is place-based and regional, yet global in its awareness and exchange of information and technology (Irwin et al. 2015). The character of transition design seems to be well-suited to dealing with the wicked problems of sustainabilility.

Transformative design is a similar concept to transition design. Today Transition Design and Transformative Design become two concepts that often, but not always, are used in more or less the same way. Tentatively I start with the understanding that the two concepts can be distinguished as follows:

* Transition is the ‘trajectory of change’ (Fry, 2008). Consequently Transition Design is design that facilitates or enables us to take steps towards a certain goal. In this case towards a more long term sustainable future.
* Transformation is change or even ‘radical change’. Consequently Transformative Design is design that facilitate or enable radical transformations e.g. by inspirational products, visions and scenarios that make our ultimate goals “thinkable”(Wood, 2016).

The difference is that a transition can be meant as an incremental change whereas transformational change is understood to be a change of considerable magnitude.

2.2 Transformative design is intended to be future oriented

The future-oriented vision is essential in transformative design. The development of future visions is dynamic and grassroots-based. This emerges from local conditions vs. a one-size-fits-all process, and remains open-ended and speculative. This type of vision is circular, iterative and error-friendly and might be used to envision radically new ideas for the future that serve to inform even small, modest solutions in the present. Visions of sustainable futures can provide a means through which contemporary lifestyles and design interventions can be assessed and critiqued against a desired future state and can inform small design decisions in the present.

Wood (2016) built up a new design model - design for micro-utopias – to deal with an unattractive world caused by democratic and economic systems. This is a typical approach towards transitions. The transitions could be towards a more attractive world with aesthetic experience. We lived in a dysfunctional world which is characterized by the terms- ‘right and responsibility’ ‘overshoot’ ‘efficiency’ ‘customer-friendly’ ‘cynicism’. We are facing a mounting state of solipsism which is caused by individual-oriented economics of consumption, narcissism, consumer-centered society, designing to increase appetite or desire, and busy lifestyles with hectic careers. One of the dangers of living in a supposedly fact-oriented culture is that people begin to depend on the deductive, rather than the inductive or abductive. Thus, imagination, or the counter-factual, would have to become far more important to our culture. All these dangerous scenarios provide an opportunity for the design of micro-utopias. Wood argues that in order to develop desirable and ecologically sympathetic living styles, we will need to transcend the conventional problem-oriented approach. We need to develop a culture that will help us to cultivate new micro-utopias. Utopian living system is a harmonious network, and a harmonious network means that all its parts have an innate purpose to contribute to the harmonious functioning of the whole, and they move naturally toward their proper places in the universe. Harmony is the principle of aesthetic experience (Parker, 1920). The future utopian living system has the side of aesthetics experience illustrated by designers' aesthetic skills.

2.3 Transformative design as an approach of everyday life

The transformative design approach is complex and could use many existing design approaches such as design for services and design for social innovation. One critique of service design is that it is not very aesthetic, since it is intangible. There are many origins of the transition concept such as sociotechnical transition management theory, living systems theory, future study, indigenous wisdom, cosmopolitan localism, and social practice theory. Various design approaches have diversified our ability to imagine the future, and inspire short, mid- and long-term solutions. Examples include scenario-based initiatives such as Manzini and Jegou’s *Sustainable Everyday* (2003) and Jonathon Porritt’s *The World We Made* (2013). Transition designers (Irwin et al. 2015) are suggested to work in three broad areas: developing powerful narratives and visions of the future or the ‘not yet’ (Bloch 1995; de Sousa Santos 2006), amplifying and connecting grassroots efforts undertaken by local communities and organizations (Penin 2013; Manzini 2007, 2015), stepping service design or social innovation solutions within long-term transition solutions, and working in transdisciplinary teams to design new, innovative and place-based solutions rooted in and guided by transition visions with aesthetic experience.

Within social practices, exploring processes of transformation can help people understand the potential of change (Shove et al. 2012). The Social Practice Approach – derived from Giddens’ structuration theory- does not start from the individual attitude or norm for predicting the environmentally friendly behavior of an individual, but instead departs from the actual behavior practices that an individual shares with other human agents (Giddens 1984; Spaargaren 2001). This means the only way to bring about sustainability transitions is to change the values or belief systems that are guiding individual behavior. Different aesthetic norms, respecting indigenous life traditions and slow life with quality, can be perceivable elements in the value or belief systems to sense the transformation.

**Social innovation** (Manzini, 2015) is an activity that emerges from the creative recombination of existing assets (historical heritage, traditional craftsmanship, and accessible advanced technology), which aims to achieve socially recognized goals in a new way. Real-world projects show that visualization is an effective social innovation tool during the scenario-building, stimulating reactions and interactions between different potentially interested actors, facilitating social conversation in the different phases of the co-design process, and offering prototypes, small-scale experiments, or even full-scale pilot projects (Manzini, 2015). The designed objects with aesthetic sensibility could facilitating social conversation more engaged with people.

3.transformation of Speculative design

3.1 from critical design to speculative design

Many new design methodologies emerge for dealing with wicked problems in contemporary society by means of sustainable solutions. From a transformative perspective, the design industry should change its focus from an (individual) human-centered design approach to a society-centered approach (Jonas et al. 2015). This is because a human-centered design approach aims to design for the wants of consumers, as a promotor of consumption. Often are objects designed not to be treasured, but to be thrown away (Twemlow, 2017). Critical design addresses with this situation. Critical design is a self-aware and subjective practice of interpreting, discerning among, encouraging, or resisting the various aesthetic, moral, environmental, or social repercussions of the ideas, activities, and outputs of the design industry (ibid).The critical design practice has grown in popularity within the industrial design discipline over the past decade – particularly in the context of design research and postgraduate education (Malpass, 2017). Critical design´s aesthetic element is not to be overlooked. It deals in weirdness, incongruity which is what standard industrial design avoids.

Malpass classifies critical design into three different groups: associative design, speculative design, and critical design in the industrial design domain (Malpass, 2017). Speculative design is concerned with the projection of sociotechnical trends, developing scenarios of product roles in new use contexts. It makes scientific theories and the cultural implications of science perceptible in different ways and shows them in everyday contexts. Dunne & Raby (2013) propose speculative design that uses the idea of possible future scenarios as tools to better understand the present and to discuss the kind of future people want, and, of course, the kind people do not want (Dunne & Raby, 2013). The form of speculative design thrives on imagination and aims to open up new perspectives on wicked problems in order to create spaces for discussion and debate about alternative ways of being, and to inspire and encourage imagination to flow freely. The function of this speculative research is not to provide techno-aesthetic solutions to pre-defined problems or to ‘domesticate’ technical inventions, but rather to mobilize design as a "catalyst for social dreaming" (ibid.). Indeed, speculative design is focusing on an alternative future, rather than on predicting, forecasting, spotting trends or extrapolating. These have been proven wrong repeatedly. We can see many speculative design projects in synthetic biology research. Alternative visions of synthetic biological consumer products range from the mundane or frivolous (like probiotics and diet pills) to the imaginative and challenging (such as plants engineered for pleasure or living building materials) (Ginsberg et al. 2014). These products change the future behaviors of consumers. Thus, designers could use speculative design to reflect upon and open up the field of possible futures for future behavior change rather than concentrating on single, linear, deterministic visions.

3.2 Speculative design as future social scinence

Recently, some scholars from different disciplines have begun research about speculation itself and developed alternative approaches which take futures seriously as possibilities (Wilkie et al, 2017). They believe speculative research is a collective and transdisciplinary task and demands new habits and practices of attention, invention and experimentation. As in the fields of architecture and design, forms of visual and material speculation provide an alternative way of conceptualizing and directing the role of aesthetic and technological design practices, urban visions, propositions and outcomes (Dunne and Raby, 2013 Lang and Menking, 2003; Rao et al 2015; Wilkie, Michael et al. 2015; Zegher and Wigley, 2001). Compared with other forms of speculation not from design, the tangible form could be an interesting playground for different disciplines and a better medium for the public where people could participate in and sense the possibility of transformations through physical objects. Consequently, researchers from the social sciences have increasingly cooperated with designers to carry out speculative research.

Social sciences have become preoccupied with the constitutive, ‘performative’ and ‘non-representational’ dimensions of research methods as well as the acknowledgement and inclusion of non-human agency (Back and Puwar, 2012; Law) because of rapid development of technology. Specifically, anthropology become a renewed, open and future-focused approach to understanding the present, anticipating the unknown, and intervening in the world (Salazar et al. 2017). Furthermore, some scholars (Gunn et al., n.d.) combine knowledge of design and anthropology as a new concept – Design Anthropology. The Design Anthropology method is based on collaboration, intervention, and co-creation, instead of observation and interpretation in line with more traditional anthropology methods. The conceptual and methodological frameworks of Design Anthropology have to move beyond basic notions of causality and the projection of statistical trends into the future in order to fully capture the emergent character of the present. This could make the design industry rethink trend study consultant services and develop a new type of future design lab. Speculative design is a way to do social research and make a cultural future with more aesthetics focus.

4. speculative transformation of lifestyle

4.1 transformative desiGn Practice space: lifestyle

“Lifestyle” could be a holistic way to describe everyday life. Because of the 'openness’ of social life today, the pluralization of contexts of action, and the diversity of ‘authorities’, lifestyle choice is increasingly important in the constitution of self-identity and daily activity. Reflexively organized life-planning, which normally presumes consideration of risks as filtered through contact with expert knowledge, becomes a central feature of the structuring of self-identity. A possible misunderstanding about lifestyle as it interconnects with life-planning should be cleared up right at the beginning. ‘Lifestyle’ refers also to decisions taken and courses of action followed under conditions of severe material constraint; such lifestyle patterns may sometimes also involve the more or less deliberate rejection of more widely diffused forms of behavior and consumption (Giddens, 1991). Lifestyle is disclosed by coordinating actions, by determining how things and people matter, and by being what is transferred from situation to situation(Spinosa, et al 1999). The matters between things and people could be influenced by aesthetic experience, and harmonious actions could strengthen aesthetics experience.

Everyday life is viewed as a potentially powerful, transformative space (Lefebvre 1984; Gardiner 2000) where transition designers explore ways in which basic human needs are satisfied locally, within economies that exist to meet those needs (Max-Neef, 1992; Illich, 1987; Kamenetsky, 1992). A sustainable society should make people experience a good quality of life. Lefebvre's emphasis on the quality of life (Lefebvre, 1984) will have even more appeal to those who currently live with the problems of inflation, unemployment and dwindling natural resources. Focusing on the quality of life, Lefebvre’s critique affirms the importance of love, independent and creative thought, free time, and of meaningful work. He argues for the freedom to understand existing conditions and the need to submit these conditions to the principle of enhancing human life. More particularly, many scholars have explored the nature of everyday life. Shove and Trentmann (2009) argue that social movements are trying to slow down the speed of life, campaigning for a new ‘simplicity’. In this view, material civilization in affluent, wealth-oriented consumer societies has been spinning out of control, and the pace of life is becoming too fast for personal wellbeing and environmental sustainability. Time is about coordination and rhythm, but it also involves material, emotional, moral and political dimensions and the basis for all academic depictions of cultural difference. I see all these as organised by an aesthetic sense. Different lifestyle has the different aesthetics. The policy like Soviet-style architectures always influences lifestyle, and everyday practice will go through the material world and produce emotion under the style. Controlling the pace of time was the foundation of the Fordist revolution and later movements towards scientific ‘efficiency’ in Taylorism (Shove, 2009). Individual life paths are characterized and punctuated by collective goals. Practices of time could be a space for transformative design to a slow life.

When we design for future quality life which is entirely new for people, the difficulty is to make the people accept and enjoy the alternative living scenarios, while the aesthetic experience could be a sensory engagement for the life transformation.

Aesthetics is a difficult word to give a precise definition, tackled many scholars for two millennia.

Aesthetics experience has different concepts in western and eastern culture. In contrast with the aesthetic experience in the Anglo-American tradition, the aesthetic experience in Asian cultures are more concerned with activities like normal activities in daily life beyond traditional genre, aesthetic as a moment experience, in western cultures (Shusterman, 2010). Also, the aesthetic experience in Asia reflects the experience of the artist rather than the spectator which is different with the reflection based on the spectator in western culture (Shusterman, 2010). Japanese tradition’s concern is with aesthetic emotion not only in connection with nature and everyday life but also as the emotion of the artist. Moreover, Harman (2017) tries to give a formalism in aesthetics in his theory OOO (Object Oriented Ontology). OOO divides everything into two categories real object and sensual object (HARMAN, 2017), and both objects have their qualities. The aesthetics experience is produced by the interaction between real object and sensual qualities. Based on the above definition of aesthetics experience, designers could use their lifestyle artifacts through imagery to create aesthetical experiences with grounded meaning in human activity to bring people into a sustainable lifestyle. Meanwhile, lifestyle artifacts could strengthen the symbolic characteristics which create imagery to make people reach the future lifestyle.

4.2 narrative prototyoing as tool for lifestyle transformation

Speculative designs act as a form of vision and argument that is established through the design of objects and through the communication of an object’s narrative of use. In other words, speculative design uses ‘context transfer’, ‘hybridity’, and ‘technocratic visualization’ (Malpass, 2017) as means to achieve defamiliarizing effects that provoke the user to engage in meaning-making and provoke thought through the object’s design. Normally design speculation is achieved through processes of making, production, scenario building, and storytelling. Meanwhile, storytelling and prototyping of scenarios could influence the sensual qualities (Harman, 2017) which is relevant to aesthetic experience. Thus, the narrative prototyping should have both tangible and intangible layers.

Prototypes could be used to inspire new ideas, demonstrate problems and test solutions (Gengnagel, 2016). Prototypes for the future produce a picture of a later product by combining technical, use-specific, and aesthetic requirements. A collective understanding of the use of technology enables the requirements of future technology to be determined. Prototypes in speculative design could be a way of

exploring the relationship between users, objects, and the systems that they exist in. Prototyping becomes a commonplace form of communication and interaction for co-prototyping and becomes prevalent as a new medium in many areas of daily life (Kimpel, 2016). The result of the co-prototyping provide descriptive and visual information for a technical realization. Thus, co-prototyping could be used for transformative design, but this requires, in general, another interpretation, and transformation to traditional design prototypes.

Storytelling is well-developed in service and interaction design. Stories are a powerful tool in user experience design which can help designers understand users and their experiences better, communicate what they have learned, and use that understanding to create better products (Quesenbery and Brooks 2010). The User’s Journey (Lichaw, 2010) for storytelling is also a tool and a framework for the design process. Stories can be helpful at many points in a process: collecting input, analyzing data, creating new designs, evaluating a design, and sharing insights with colleagues. Narratives and storytelling could be a concept and tool to stir emotions, build empathy, articulate values and convey action in design process. Narrative can also be essential part of innovation (Müller & Becker, 2013). Narratives are ubiquitous and hold the potential to indicate future changes in politics, economies and markets. As stressors and stabilizers in organizations, narratives and changes in the consensus narrative indicate the need for strategic change or organizational stasis and may be utilized as a source for early recognition in strategic management (Müller & Becker, 2013). Narratives of use are constructed in order to establish rhetorical use in speculative design. Speculative design normally is to design the object’s context and the presentation of scenarios that give meaning to the object. The designer takes on the role of a storyteller and author where fictional scenarios are developed to position the object, but also where the imagined or rhetorical interaction with the object itself works to make the fictional scenarios believable. Narrative traditions are not only for remembering but are also a form of knowledge management. They can express elementary and tacit knowledge in tangible and emotional images in order to pass down this knowledge in a sustainable way (Zerwas 2013). Narratives of speculative design allow exploration of scenarios in aesthetics and allow us to use past knowledge to design for the future.

Narrative prototyping could be used in transformative design in different stages. This is a core (creative and aesthetic) skill from designers. This experience of using these tools will naturally use in the transformative design for everyday life and create different hero journeys with aesthetic experiences to provoke the transformation happened. Narrative prototyping will makes use of aesthetic effects which are speaking to the emotional side of people; science-based messages address reason and can lack an aesthetic dimension and thus lack impact.

5.COnclusion

This paper is a very early trial to investigate the problems of design in the context of climate change. Problem-oriented design achieves high efficiency but can easily to lose the whole picture. This paper, based on some analysis, takes efforts to explore the new design philosophy that may be better able to deal with contemporary challenges.

These two design approaches are future-oriented for the long term and are characterized by the bigger vision that might break the limits of clichés. Also, these two design approaches are qualified by the very nature of social science and could relate to with the everyday life practice. In the meantime, these two design approaches complement each other in many respects. Transformative design does not emphasize the skills of a designer but speculative design take full use of skills like storytelling and prototyping, which designers are familiar with. So this paper concludes that the combination of these two designs is very possible to be a new design approach. That may be able to address the matter of transforming consumer lifestyles into something less destructive.

The new understanding of aesthetic experience like Object Oriented Ontology figures out the designer's strong role in transformative design for future lifestyles. Narrative prototyping with regard to the aesthetic experience not only makes people sense the future lifestyle, it also triggers an intention to transform their everyday life. In this way, creative and aesthetic skills from designers have a unique power to transform society in the context of climate change. This will be a step to transform the traditional approach to climate change.

From a practical perspective, lifestyle is still a complex system, and designers are challenged to find a way in which they can be a lifestyle transformer in the real world of "business as usual". More particularly this is a pressing concern when designers work with a commercial company, and they need a new frame to integrate this new knowledge. This paper shows the possibility that designers can use transformative design and speculative design methods together to design for lifestyle. In future, there could be more practices based on this knowledge in schools and governments to deal with the urgent issues of climate change. This paper opens a space to question the current design methods like the human-centric design and rethink the essence of design-, future, aesthetics and style.



Dietz, R., & O’Neill, D. W. (2013). *Enough is enough : building a sustainable economy in a world of finite resources*. (1, Ed.). Berrett-Koehler Publishers.

Fry, T. (2008). *Design Futuring:Sustainability, ethics and new practice*. Berg. Retrieved from https://www.bloomsbury.com/uk/design-futuring-9781847882172/

Gengnagel, C., Nagy, E., & Stark, R. (2016). Introduction. In *Rethink! Prototyping* (pp. 1–8). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-24439-6\_1

Giddens, A. (1991). *Modernity and self-identity : self and society in the late modern age*. Stanford University Press.

Ginsberg, A. D., Calvert, J., Schyfter, P., Elfick, A., & Endy, A. D. (2014). *Synthetic aesthetics : investigating synthetic biology’s designs on nature*. MIT Press.

Gunn, W., Otto, T., & Smith, R. C. (n.d.). *Design anthropology : theory and practice*.

HARMAN, G. (2017). *OBJECT-ORIENTED ONTOLOGY : a new theory of everything.* PELICAN.

Harold G. Nelson, E. S. (2012). *The Design Way: Intentional Change in an Unpredictable World* (2nd ed.). The MIT Press. https://doi.org/10.2752/146069203789355246

Hickel, J. (2017). *The divide : a brief guide to global inequality and its solutions*. William Heinemann.

Ivan Illich. (1973). *Tools for Conviviality*. Marion Boyars. Retrieved from http://clevercycles.com/tools\_for\_conviviality/

Jonas, W., Zerwas, S., & Anshelm, K. von. (2015). *Transformation design : perspectives on a new design attitude* (1st ed.). Birkhäuser.

Juan Francisco Salazar, Sarah Pink, Andrew Irving, J. S. (Ed.). (2017). *Anthropologies and Futures : Researching Emerging and Uncertain Worlds*. Bloomsbury Academic. https://doi.org/10.5040/9781474264914

Kamenetzky, M. (n.d.). Coping with Social Complexity The economics of the satisfaction of needs. Retrieved from http://documents.worldbank.org/curated/en/293461467989448942/pdf/UNN253000Copin0atisfaction0of0needs.pdf

Kimpel, K. (2016). Design Prototyping for Research Planning and Technological Development. In *Rethink! Prototyping* (pp. 23–35). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-24439-6\_3

Klein, N. (2015). *This changes everything : capitalism vs. the climate*. Simon & Schuster.

Lefebvre, H. (1984). *Everyday life in the modern world*. Transaction Books.

Lichaw, D. (n.d.). *The user’s journey : storymapping products that people love*.

Malpass, M. (2017). *Critical Design in Context. History, Theory, and Practice.* Bloomsbury Academic.

Manzini, E. (2015). *Design, when everybody designs : an introduction to design for social innovation*. MIT Press.

McDonough, W., & Braungart, M. (2002). *Cradle to cradle : remaking the way we make things*. North Point Press.

Müller, A. P., & Becker, L. (2013). *Narrative and innovation : new ideas for business administration, strategic management and entrepreneurship*. Springer VS.

Parker, D. (1920). The Analysis of the Aesthetic Experience: The Structure of the Experience. In *The Principles Of Aesthetics*. Retrieved from https://www.amazon.com/Principles-Aesthetics-Dewitt-H-Parker/dp/1478117389

Quesenbery, W., & Brooks, K. (2010). *Storytelling for user experience : crafting stories for better design*. rosenfeldmedia. Retrieved from http://rosenfeldmedia.com/books/storytelling-for-user-experience/

Rittel, H. W. J., & Webber, M. M. (1973). Dilemmas in a general theory of planning. *Policy Sciences*, *4*(2), 155–169. https://doi.org/10.1007/BF01405730

Shove, E., Pantzar, M., & Watson, M. (2012). *The dynamics of social practice : everyday life and how it changes*. SAGE.

Shove, E., Trentmann, F., & Wilk, R. (2009). *Time, Consumption and Everyday Life. Practice, Materiality and Culture*. *Cultures of Consumption*. Bloomsbury Academic. https://doi.org/10.1111/j.1467-9655.2011.01740\_39.x

Shusterman, R. (2010). *Aesthetic experience*. Routledge.

Spinosa, C., Flores, F., & Dreyfus, H. L. (1999). *Disclosing new worlds : entrepreneurship, democratic action, and the cultivation of solidarity*. MIT Press.

Terry Irwin, Gideon Kossoff, Cameron Tonkinwise, P. S. (2015). *Transition Design 2015 A new area of design research, practice and study that proposes design-led societal ransition toward more sustainable*. Retrieved from http://transitiondesign.net/wp-content/uploads/2015/10/Transition\_Design\_Monograph\_final.pdf

Twemlow, A. (2017). *Sifting the Trash: A History of Design Criticism*. MIT Press.

Walker, B. H. (Brian H., & Salt, D. (David A. (2006). *Resilience thinking : sustaining ecosystems and people in a changing world*. Island Press.

Wilkie, A., Savransky, M., & Rosengarten, M. (2017). *Speculative research : the lure of possible futures* (1st ed.). Routledge.

Wood, J. (2016). *Design for Micro-Utopias: Making the Unthinkable Possible*. *Utopian Studies* (1st ed.). Routledge.