PROPOSAL FOR PHD FELLOWSHIP

Provisional title
Sustainability beyond the 'commodity-machine'
The production of the common in postcapitalist design cultures

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Summary
The aim of this research is to explore emergent design practices that are situated outside exchange relations and market mediation, and to investigate whether they prefigure a resilient and sustainable basis for the production of physical goods. I begin my study by outlining the political economy of design in the context of contemporary capitalism, where design is configured predominantly as an unsustainable 'commodity-machine', producing market goods and thereby reproducing exchange relations. Based on contributions from critical theorists, I construct a framework for 'postcapitalist' design cultures that practice *commoning;* the production of shared value, as opposed to exchange value. I survey how the sharing of *labour, intellect and artefact* occurs, at the levels of a) the activities of *designing subjects*, b) the circulation of *design projects* and c) the making of *designed objects*. Their analysis demonstrates three commoning strategies: a) *peer production*, where design activities are pooled and redistributed by means of collaboration, participation and amateurism; b) *open source*, where the networked, immaterial blueprints are distributed with open/free/public licenses; and c) *digital fabrication,* which enables *the self-production of the means of production,* tools and machines in the service of a community. My overall purpose is to question to what extent these commoning strategies potentially disentangle design from its commodity-form, and redirect the production and distribution of material artefacts towards viable, desirable and equitable configurations.

Keywords
design cultures, creative production, political economy, peer production, open source, means of production, commoning, postcapitalism, sustainability.

CENTRAL ISSUES / AIMS

I. Crises of the 'commodity-machine'

Recently, design scholars and critics have debated and written extensively about resource depletion, environmental pollution, planned obsolescence and consumerism.[1] Methods and principles to address these failures are proposed, by means of efficiency, durability, recycling, or closed-loop production, thereby limiting sustainability to the confines of design profession.[2] However, the context of social and economic relations that condition these design practices, i.e. *the political economy of design*, has rarely been taken into consideration. Foster (2003) raises a provocative question that emphasises this omission:

> *"What happens when this commodity-machine —now conveniently located out of the view of most of us— breaks down, as environments give out, markets crash, and/or sweat-shop workers scattered across the globe somehow refuse to go on?"*

Foster describes design in the global economy as a 'commodity-machine': an instrument to produce commodities, exchange goods *"designed in California, assembled in China"*. Combining environmental sciences, degrowth economics, and political theories, there is a strong case to be made that this configuration is vulnerable to multiple financial, social and ecological crises and is therefore unsustainable.[3] That is to say: it is not designed objects themselves that are unsustainable, but the economic relations they are embedded into, and design practices can be sustainable only if they are decoupled from this mode of production.[4] What happens to design *after* the crises of what Foster (2003) refers as *"our pan-capitalist present"*?

It is safe to assume that since things never simply cease to exist, they might be made in other configurations than the 'commodity-machine'. My intention is to locate, analyse and evaluate prefigurative practices in the present. Gorz (2010) argues that an *"exit from capitalism'* is already under way, and that the surpassing of a *"society based on commodities, wages and money"* depends primarily *"on our capacity to discern the trends and practices that herald its possibility."* Proceeding from this insight, the aim of this research is to explore emergent design practices situated deliberately or implicitly *outside* exchange relations and market mediation, and to question whether they prefigure a resilient and sustainable basis for material production.

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[1] Contributions to design studies with political and environmental preoccupations have been recently developed by: Fry, 2010; Fuad-Luke, 2009; Orr, 2002; Thackara, 2005; Thorpe, 2012.

[2] Principles of ecological design have been detailed in:
Bhamra & Lofthouse, 2007; McDonough & Braungart, 2002; Vezzoli & Manzini, 2008; Shedroff, 2009.

[3] Scholars from diverse disciplines have comparable claims about the structural unsustainability of capitalism. They cite the impossibility of infinite economic growth on a finite planet; the impacts of peak oil/energy/resources, as well as internal contradictions that could impede its own reproduction.
Heinberg, 2011; Jackson, 2009; Kovel, 2007; Magdoff & Foster, 2011; McKibben, 2007.

[4] My MA thesis in Design Cultures partly covers such critique:
"The Design of Cultural Capitalism, and Albert Heijn's *puur&eerlijk*", VU Amsterdam, 2011.

II. Commoning

To structure this exploration, I rely on the concept of the *common*, which has benefited from a renewed interdisciplinary interest in the last decade.[5] Dyer-Witheford (2010) concisely defines: *"If the cell form of capitalism is the commodity, the cellular form of a society beyond capital is the common."* The commons are often conceived in two opposite categories: the defence of natural commons (land, resources) and the proliferation of cultural commons (language, knowledge). The common is also thought as a dynamic, active process of *commoning:* to produce shared value, as opposed to exchange value.

Design cultures so far have been analysed in separate stages of production, mediation and consumption, or, along the circuit of the 'commodity-machine'. Replacing the market mediation by commoning strategies require a different framework, a cycle of shared value production. I distinguish three sites of commoning strategies: the activity of *designing subjects* (labour), the circulation of *design projects* (intellect), and the making of *designed objects* (artefacts). In the following subsections, I survey how the sharing of the design labour, intellect and artefacts occur in my case studies. This investigation will make it possible to observe whether these commoning strategies redirect the production and distribution of material artefacts towards viable, desirable and equitable configurations.

III. Emergent design practices

A. Peer production. First, I focus on 'commoner' subjects, designers putting their labour in common. Practices described as co-design, participatory production, user generation, and do-it-yourself are to be studied.[6] Most notable here is the concept of peer production, or, *"to create value in common",* elaborated by Bauwens (2008) and P2P Foundation. Peer production redistributes design skills, tasks and decision-making, and manifests strong tendencies from professional to amateur, author to anonymous, mass to individual production, as well as a renewed proximity between designing and making. I interrogate if the spread of self-organisation in design production implies a capacity to self-produce collectively and sustainably.

B. Open source. The second strategy is sharing the design projects themselves. Scholars in media and technology studies have thoroughly argued that information technologies and peer networks create unprecedented opportunities for open/free/abundant circulation of knowledge.[7] Open source principles and licences such as public domain, copyleft or creative commons are being adopted for software design as alternatives to intellectual property, patents and copyright. Following their proliferation, the principle of right to access, modify and share the knowledge about making things is now being adapted to hardware design. This transition from virtual to material production needs particular examination, to determine whether they present inherent 'competitive' advantages over proprietary, market-based systems.

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[5] Peter Linebaugh, George Caffentzis, Massimo De Angelis, Nick Dyer-Witheford are post/Marxist scholars that worked on the commons (as Midnight Notes Collective and in *The Commoner* journal).

[6] Various interpretations of these practices have been proposed by:
Bollier, 2009; Schäfer, 2008; Shirky, 2008; Siefkes, 2008; Zer-Aviv et al., 2010.

[7] Literature about digital commons is as prolific as the commons themselves: van Abel, et al. (eds.), 2011; Berry, 2008; Bansal & Lovink (eds.), 2006; Hess & Ostrom (eds.), 2006; Lessig, 2002; Söderberg, 2007.

C. Digital fabrication. Thirdly, the production of material artefacts depends on the *means of production*, i.e. natural resources as well as tools and machines. There are ambitious projects that push forward the development of localised, distributed, and small-scale production. Some are based on the growing accessibility to digital fabrication technologies.[8] While this *"appropriation of technologies by the users for purposes of social transformation"* (Gorz, 2010) is not quite equivalent to taking over the existing infrastructure, it testifies to the emergence of the *self-production* of means of production, bypassing conventional industries. I probe what the peer property of 'common goods' entail about the collective control over the allocation of resources, self-sufficiency and autonomy of a community.

IV. Postcapitalist design cultures

To what extent could design be disentangled from its *commodity-form*? Are commoning strategies disruptive of the market, or rather have compensatory/remedial effects on its shortcomings? To delineate the implications of emergent design practices and assess the validity of my hypothesis, I will compare my findings with recent literature that gives emphasis to alternative, non- and post-capitalist economic practices.[9] Following the research agenda of Graeber (2004), I will *"look at those who are creating viable alternatives, try to figure out what might be the larger implications of what they are (already) doing, and then offer those ideas back, not as prescriptions, but as contributions, possibilities —as gifts"*.

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[8] These technological developments have been described in:
Anderson, 2012; Carson, 2010; Gershenfeld, 2007; Sterling, 2005.

[9] Somewhat divergent accounts on these practices are available:
Albert, 2003; Castells, 2012; Gibson-Graham, 2006; Hickey (ed.), 2012; Wright, 2009.

Objects of research

My case studies are ongoing design projects that are engaged in relations of sharing instead of exchange, in the production of commons instead of commodities. They are carried out by globally collaborating communities, each focusing on an essential category of design practice: everyday objects, industrial machines and housing. Together, they represent a broader tendency with potentially disruptive effects on the economies of farming, building and manufacturing. Supplemented by other examples, they constitute a solid point of departure to chart postcapitalist design cultures.

A. OpenStructures takes the principle of modular Meccano or LEGO pieces and applies it to everyday objects with an open source approach. Based on a shared geometrical grid, *"where everyone designs for everyone"*, the goal is to initiate a universal, collaborative basis for hardware production: *"the Esperanto of objects"*.

B. WikiHouse is a structure made of plywood panels, cut by a CNC-router and assembled manually in one day. It is possible to customise the modular, open source design and adapt it to its environment. Prototypes are being built in various labs around the world, including in Rio's favelas (winner of TED Prize 2012 *"The City 2.0"*).

C. Open Source Ecology project is prototyping the *Global Village Construction Set:* fifty essential industrial machines (including tractor, brick press, bread oven, circuit maker) to *"build a small, sustainable civilization with modern comforts"*. Once complete, the instruction manuals and assembly videos will constitute the 'Civilization Starter Kit'.

Methods

It is both the aim and the challenge of this research to bridge design studies and critical theory. The interdisciplinary nature of my study requires methodological innovation. My case studies are not only design *objects* (subject to design analysis), but also design *cultures* (subject to cultural analysis), encompassing a broader spectrum of activities beyond the materiality of artefacts. What do postcapitalist design cultures produce *other than* objects? What value systems operate, what aesthetics are performed? I intend to answer these questions by engaging in a critical design practice alongside my theoretical research methods.[10] This will put me in the position of the designer/maker/user subjects that I am investigating. The outcome of this experimental method will be stronger links between research and practice, in constant dialogue, rather than simply applying theoretical models to design cultures.

[10] This will be done in a FabLab (fabrication laboratory), hosted by The Waag Society in Amsterdam. FabLabs are a global network of digital fabrication workshops to make "almost anything".

Work plan for four years

1. 2012—2013
Reading additional literature [cf. Bibliography]
Digital Fabrication training [FabLab, Waag Society Amsterdam — tbc]

2. 2013—2014
I. Crises of the 'commodity-machine', the political economy of sustainable design
II. Commoning: the production of shared value instead of exchange value
Visiting researcher in Centre for Philosophy and Political Economy, Leicester [tbc]
Participating in seminars and international conferences, giving presentations

3. 2014—2015
III. The production of the common in emergent design practices, and case studies
A. Peer production, and the production of designer/commoner subjectivities
B. Open source, and the free circulation/distribution of design projects
C. Digital fabrication, and the self-production of the means of production
Organising lectures and publications on the commons, publishing articles in journals

4. 2015—2016
IV. Autopoiesis: outlines for a political ecology of postcapitalist design cultures
Writing the introduction and conclusions, finishing the thesis, editing for publishing

Importance for ASCA
My research is about new developments in design practices, material cultures and creative production. It is located at the intersection of various fields, such as ecology, technology, political economy and critical theory. It reaches out to concepts from these disciplines, and offers back new analytical tools that can serve all of these fields. ASCA, bringing different disciplines together to creatively experiment with their methods, perfectly coincides with this type of research. The issues of sustainability, creativity and commons are already active subjects of cultural and political debates. The unique international and interdisciplinary academic research body formed within ASCA is the right context to take part in this fruitful academic conversation. I could directly contribute to this environment by providing grounds for coordinating collective research opportunities as well as meetings and publications. My research is valuable for ASCA due to its original contribution to the theorisation of the relationship between design and sustainability, and its innovative methods applied to contemporary case studies. The political ecology of postcapitalist design cultures have remained so far under-theorised in cultural and social critique. Yet it is no less urgent and no less relevant for sustainable design research, practice and beyond, due to the implications of design with regard to latent political potential of creative production in general. Assuming that *"the goal of research is not the interpretation of the world, but the organisation of transformation"*[11], this study on design intends to be one such attempt in this direction.

[11] Conti, Antonio, "Research as a political method", paper presented at *Makeworld: Metropolitan Proletarian Research*, 2001.

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