



Aalto University  
School of Arts, Design  
and Architecture

# DASC

## Session 3: Design for Sufficiency

*MUO-E8030 Design approaches to sustainable consumption.*

*Philip Hector & Mikko Jalas*

*19.1.2021*

# Agenda

**9:15–10:10 Mikko Jalas: Sustainable Consumption**

*Break*

**10:25–11:00 Philip: Design and DIY**

*Break*

**11:15–11:50 Philip: Design Basics**

**11:50–12:00 Next steps and next week's contact sessions**





Aalto University  
School of Arts, Design  
and Architecture

# What is is sustainable consumption?

*MUO-E8030 Design approaches to sustainable consumption.*

*Mikko Jalas*

*19.1.2021*

# Sustainable consumption

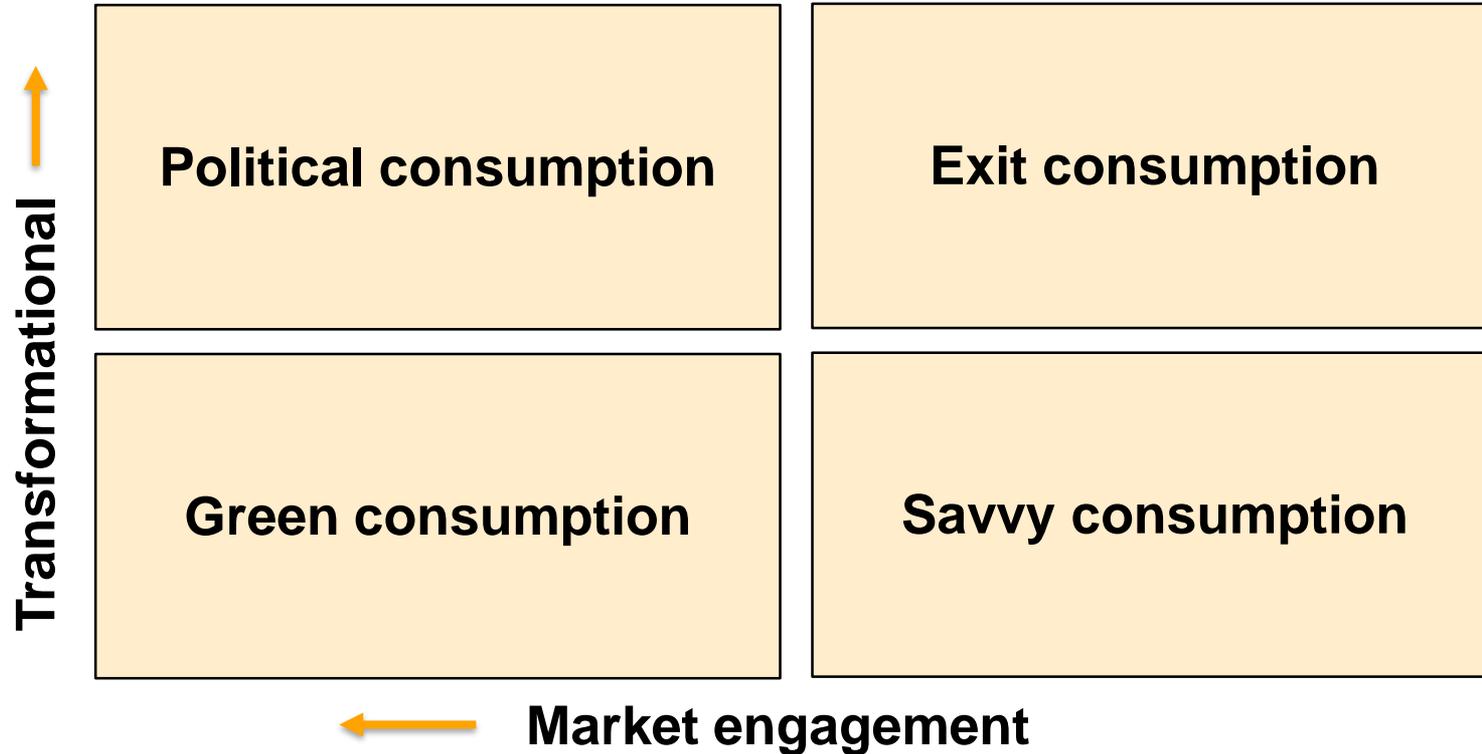
**Consumption = ‘End-user’ activities of utilizing the goods and services produced in the monetized economy**

## **Sustainable consumption**

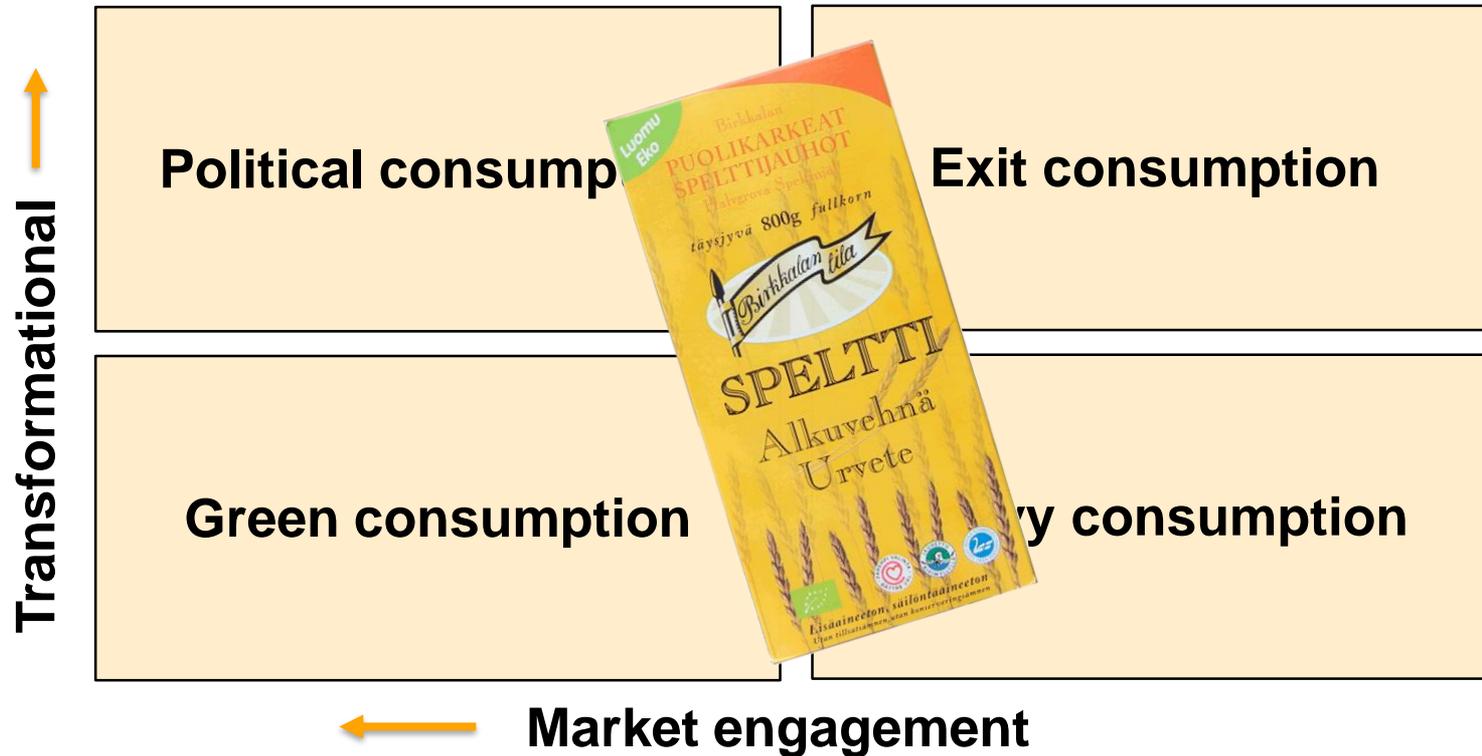
- 1. Consumption of environmentally/socially improved good/services. (‘Green consumption’)**
- 2. Leading/forging market/regulatory changes (‘Political consumption’)**
- 3. More efficient use of goods and services (‘Savvy/thrifty consumption’)**
- 4. Re-orientation away from market economy (‘Exit consumption’)**



# Sustainable consumption



# Sustainable consumption



# Product-service system (PSS)

## Products as ‘service-producing machines’

- We do not need the products, but the services they provide!

## Organise consumption differently!

- ‘Access-based consumption’
- Mobility-as-a-Service (MaaS)
- Energy performance contracts (EPC)
- Life-cycle costs models
- Service business,
- Service-orientation, ‘servicizing’



# PSS as economization of everyday life

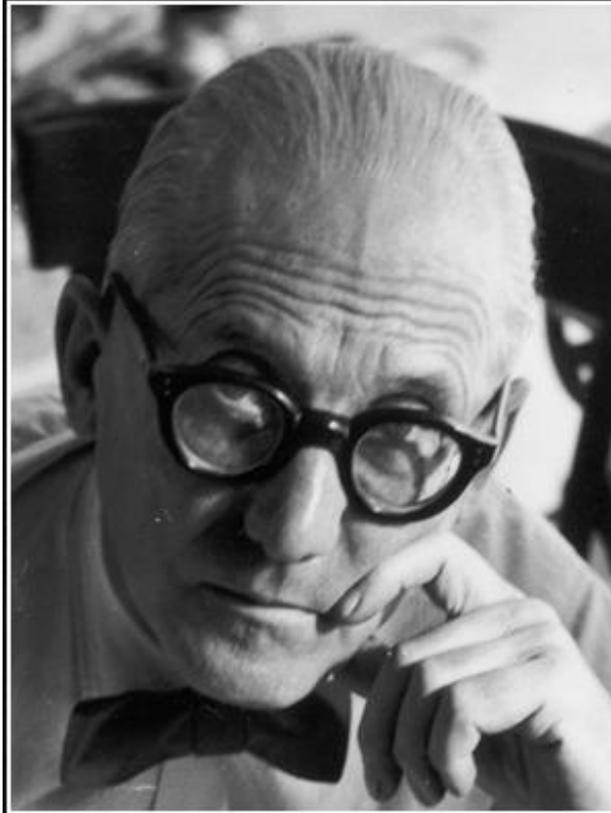
Everyday life as means-ends chains – we only care for the end results and are indifferent towards the present experience.

**‘Resource-man’** guided by economic rationality – self-interested and profit-maximizing (Strengers 2013).

Expansion of markets and market relations?

**HOW ELSE TO DESIGN?...** hedonic, present-minded and myopic, short-sighted individuals are regarded as inferior.





A house is a machine for living in.

— *Le Corbusier* —

AZ QUOTES

Existing participation

**Mobility: people mostly drive cars themselves rather than use a taxi**

DIY, community and other non-market activity

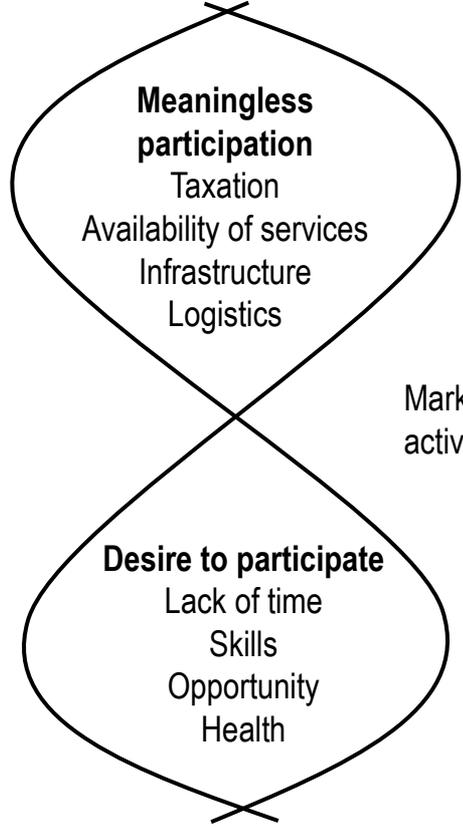
Intrinsic, 'terminal' value

Market activity

Instrumental value

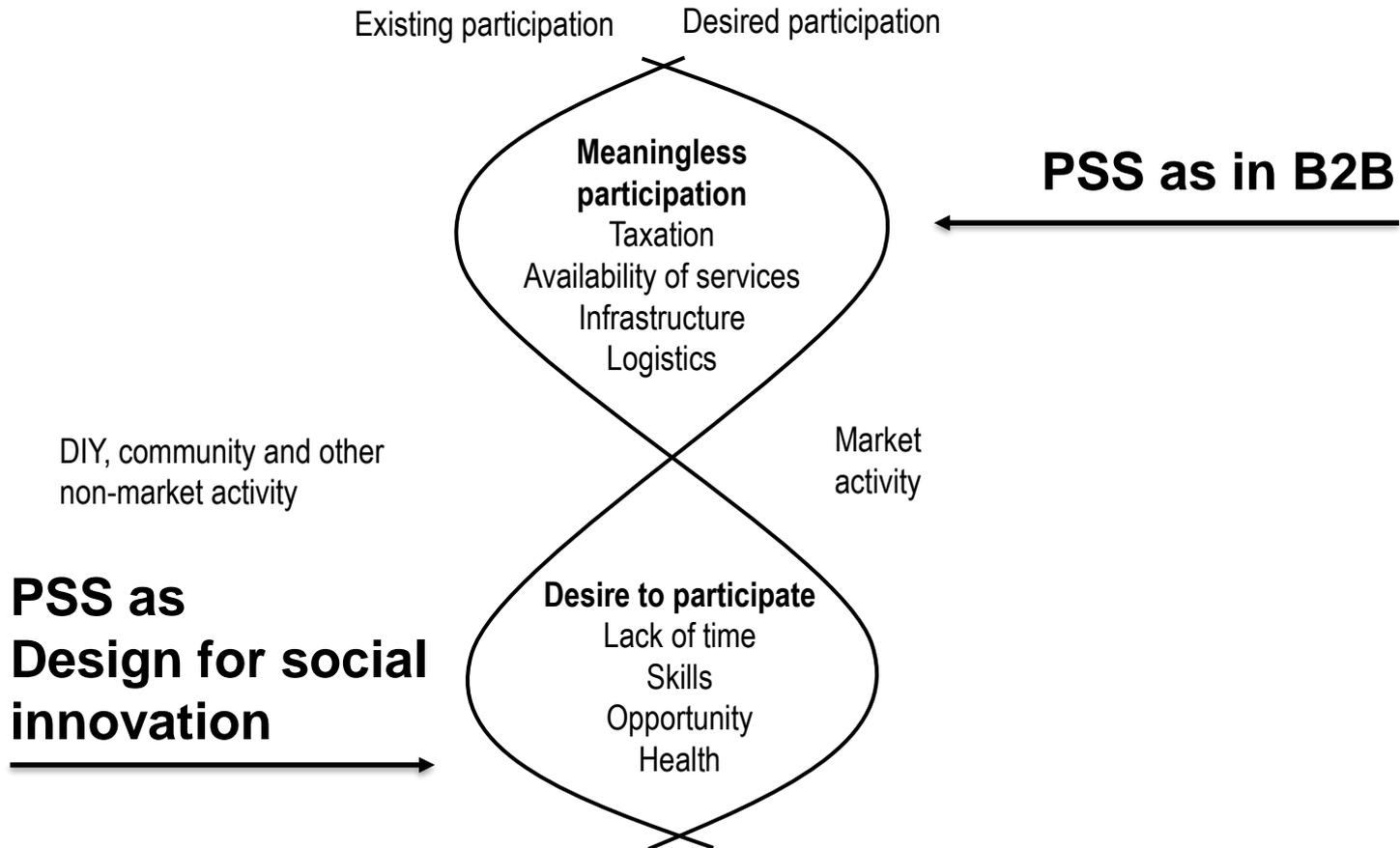
**Housing: people mostly buy houses rather than building houses themselves**

Existing participation      Desired participation

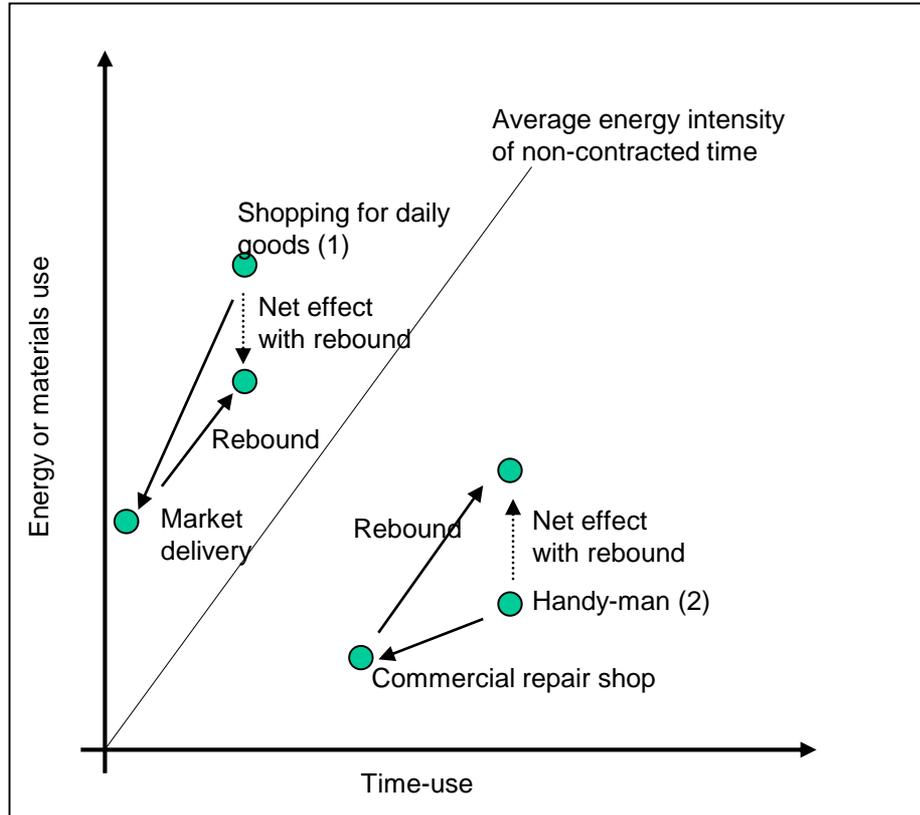


DIY, community and other  
non-market activity

Market  
activity



# Time-use rebound-effect



*Two examples, from the Product service systems literature*

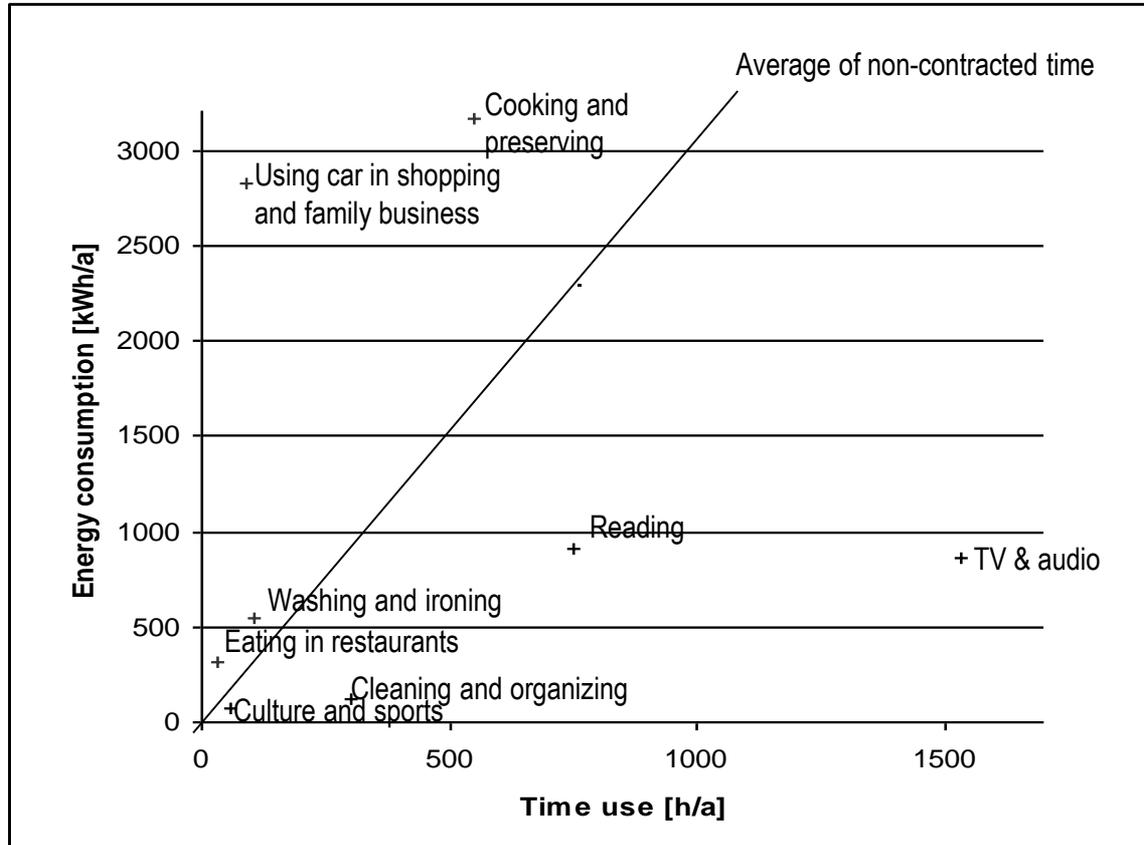
*Generalization:  
The net effect depends on the direction of the initial improvement*

*Upper left corner indicates net increase*

*Lower right corner indicates net reduction*

# The energy intensity of household activities

- a two-person Finnish household in 1987-90



Sources: Finnish time use survey 1987-88, consumer expenditure survey 1990, resource intensity of final consumption 1990

**Thanks for your attention!**



Autotelic,  
Non-instrumental

Goal-directed,  
Instrumental

### Development

- Practical action for which there exists agreed and shared standards of excellence
- Continuous efforts towards developing and furthering capabilities, skills and knowledge
- Complete at any and all points in time
- Frequent in areas such as sports and crafts

### Ritual

- Re-occurring symbolic and expressive performances
- Repetition is driven by the internal logic of the action
- Synchronises actions of individuals both in the public and in private life
- Takes place both during special ceremonial events as well as in unmarked regularities of everyday life.

### Production

- Discrete and finite episodes of time directed towards external goals
- Achieving the goal is self-eliminating for the action
- Frequent in capitalist production of objects as well as desired states of affairs

### Labour

- Constantly reappearing externally defined repetitious actions
- Effective towards external goals such as reproduction, replenishment and restoration of low states of entropy.
- The achievement of the goal does not eliminate the need for action
- Frequent in 'domestic' sphere

Linear

Cyclic

# DIY

Let's share some stories as to why we have engaged in DIY or why we think people do so?

# Design and DIY

Philip Hector



Aalto University  
School of Arts, Design  
and Architecture

# DIY Lecture Overview

**1. Multiple meanings:** Lifestyle choice, antithesis of design, expert craft, amateur pastime, socializing, learning, financial necessity (Atkinson 2006)

**2. Collectiveness:** every DIY activity relies on knowledge made available by others → Do-it-together (DIT)(Meyer 2017) or Do-it-with-others (DIWO) (Furtherfield.org)

**3. Spaces for collective DIY** differ regarding level of institutionalization and intensity of collaboration

# Consumer or...?

Kohtala et al. 2019 overview on the continuum of use

## Level of engagement:



## Dimensions of engagement:

e.g.: objects (clothes repair), meaning (attending a repair event to socialize) and even on collective level: e.g. platforms (like repair cafes)

Producer, participant, co-creator etc...

# Repair vs. Design

Repair and consumption are often **less visible** than production and novelty (Russel and Vinsel 2016)

Further, acts of repair are not necessarily reserved to mere restoration but often are highly **creative workarounds** (Alter 2014)

However, repair remains different to DIY insofar as it has a clear link to **resource circulations**. What will happen to repair in a Circular economy?

# Amateur or Expert?

Expertise based on **experience**:

Routinised learning in the sense of a craftsman or woman  
(See Sennett 2008 or Pye 1968)

Are you important enough? Expertise based on **legitimacy**  
derived by others (Merrifield 2017)

→ Interesting for activism

Who is watching your experiment or demonstration and to  
whom is it useful and relevant?

→ The role of institutions like a library

# Terms around collective DIY

**Community** based on personal, close ties  
vs. **society** based on impersonal or indirect  
interactions (Tönnies 1887)

**Movement** like the right-to-repair movement  
when several actors form a coherent whole  
with collective claims (cf. Graziano and  
Troglal 2017)



# Terms around collective DIY

**Publics:** Those affected by an issue e.g. missing access to repair infrastructure, missing access to power to change those things (Dewey 1927)

→ see also democratic leisure

How can the affected change something if they are removed from the tools and institutional power needed? Building infrastructures on their own?



# Infrastructures

Infrastructures are usually seen as large, hidden systems (e.g. transportation networks)

Something that enables a practice. Means **different things to different people at different times** and can be forgotten and rediscovered. (Moss 2016)

Libraries can serve as multiple free infrastructures at the same time.



# Bike Kitchens

What points about the paper did you find relevant/interesting for our case project?



# Example of Bike Kitchens

Illich's (1973) **tools for conviviality** enable citizens to design for autonomy (= to control the flow of resources which are needed for a good life) See also **appropriate technology** (Schumacher 1973)

**Autonomy in a collective sense.** Tools and infrastructures that should be open for everyone to use and develop further.

Difficult role of funding: Free infrastructure is important but sometimes it can counter self-organized projects that become reliant on funding.

# Spaces for collective DIY

Maker spaces, Fab Labs, Repair Cafes are **highly institutionalized** and branded in comparison to Hacker Spaces, Open Workshops, Bike Kitchens and Swapshops/ Library of Things.

Repair Cafes and Library of things are often **event or service based**. In other examples people can come individually and for a short time as much as there might be **intense collaboration**.



# Summary of useful DIY aspects for Design

## **Individualist to collective:**

From individualist to collective practices and institutions for the basic needs of everyday life.

## **Circulation of knowledge in new institutions**

Power of creating alternative infrastructures and networks which circulate knowledge even when projects are over

(Schlosberg and Coles 2016)

## **Design as continuous repair:**

Everyday creativity and appropriation instead of innovation

# Literature

Atkinson, Paul. 2006. "Do It Yourself: Democracy and Design." *Journal of Design History* 19 (1): 1–10.

Dewey, John. 2012. *The Public and Its Problems: An Essay in Political Inquiry*. University Park, Pa.: Pennsylvania State University Press.

Graziano, Valeria, and Kim Trogal. 2017. "The Politics of Collective Repair: Examining Object-Relations in a Postwork Society." *Cultural Studies* 31 (5): 634–58.

Kohtala, Cindy, Sampsa Hyysalo, and Jack Whalen. 2019. "A Taxonomy of Users' Active Design Engagement in the 21st Century." *Design Studies*, December, S0142694X19300845.

Meyer, M. 2013. "Domesticating and Democratizing Science: A Geography of Do-It-Yourself Biology." *Journal of Material Culture* 18 (2): 117–34.

Merrifield, Andy. 2017. *The Amateur: The Pleasures of Doing What You Love*. London ; New York: Verso.

Pye, David. 2010. *The Nature and Art of Workmanship*. London: The Herbert Press.

Russell, Andrew, and Lee Vinsel. 2016. "Innovation Is Overvalued. Maintenance Often Matters More." *Aeon*, 2016.

Sennett, Richard. 2008. *The Craftsman*. New Haven: Yale University Press.

Schlosberg, David, and Romand Coles. 2016. "The New Environmentalism of Everyday Life: Sustainability, Material Flows and Movements." *Contemporary Political Theory; London* 15 (2): 160–81.

# Literature Suggestions

- Beveridge, Ross, and Philippe Koch. 2019. "Urban Everyday Politics: Politicising Practices and the Transformation of the Here and Now." *Environment and Planning D: Society and Space* 37 (1): 142–57.
- Bogers, Loes, and Letizia Chiappini. 2019. *The Critical Makers Reader: (Un)Learning Technology*. Institute of Network Cultures.
- DiSalvo, Carl, Andrew Clement, and Volkmar Pipek. 2013. "Communities – Participatory Design for, with and by Communities." In *Routledge International Handbook of Participatory Design*, edited by Jesper Simonsen and Toni Robertson. New York: Routledge.
- Foster, Ellen K. 2019. "Claims of Equity and Expertise: Feminist Interventions in the Design of DIY Communities and Cultures." *Design Issues* 35 (4): 33–41.
- Iveson, Kurt. 2013. "Cities within the City: Do-It-Yourself Urbanism and the Right to the City." *International Journal of Urban and Regional Research* 37 (3): 941–56.
- Turner, Fred. 2018. "Millenarian Tinkering: The Puritan Roots of the Maker Movement." *Technology and Culture* 59 (4S): S160–82.

# Design Basics

Philip Hector + Tatu Marttila



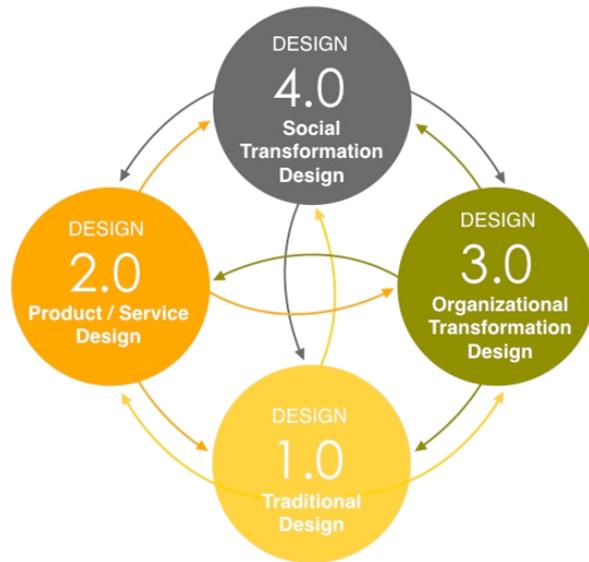
Aalto University  
School of Arts, Design  
and Architecture

# Lecture Overview

1. Expanding design action and its changing objectives and requirement.
2. Design process and descriptive models
3. Critique of the term Design Thinking

# 1. Expanding Design Action

Model by Van Patter and Pastor, 2005



# Orders of Design (Buchanan 2001)

1<sup>st</sup> order: Visual symbols

2<sup>nd</sup> order: Material things



# Orders of Design

3<sup>rd</sup> order: Design focusing on human interaction mediated through objects.

4<sup>th</sup> order: Environmental design as ideas and thoughts which order systems.



# Questions so far?

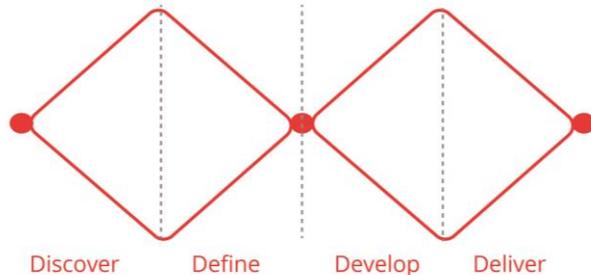


Aalto University  
School of Arts, Design  
and Architecture

## 2. Design process

There is no one design process, but most descriptive models share:  
Iterative process, expanding the perspectives and re-focusing it

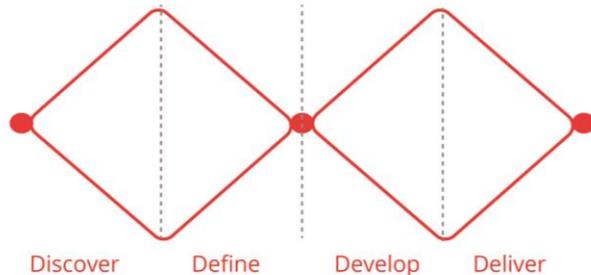
Double diamond model: 4 steps, but these four steps will include a constant back and forth (Design Council 2005)



# Step 1: Discover

The first part focuses on an **initial idea or inspiration**, often sourced from a discovery phase in which user needs are identified.

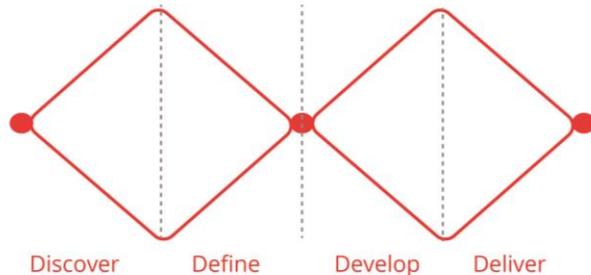
Market research, User research, Managing information, Design research groups.



# Step 2: Define

The second part represents the definition stage, in which interpretation and alignment of these needs to business objectives is achieved.

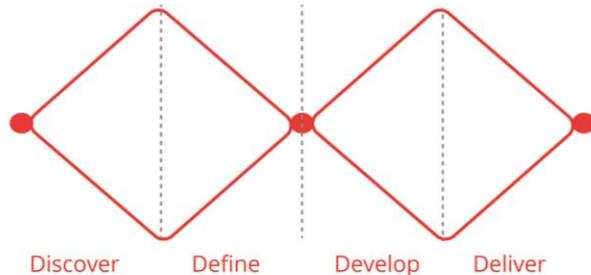
Project development, Project management, Project sign-off.



# Step 3: Develop

The third part marks a period of development where design-led solutions are developed, **iterated and tested** within the company.

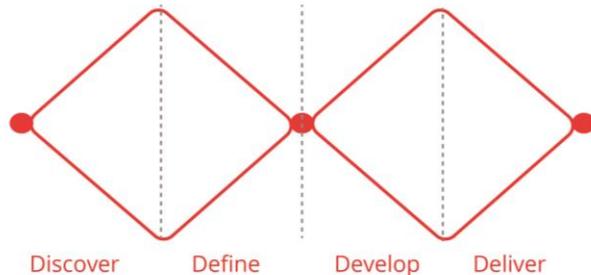
Multi-disciplinary working, Visual management, Development methods, Testing.



# Step 4: Deliver

The final phase represents the delivery stage, where the resulting **product or service is finalized** and launched in the relevant market.

Final testing, approval and launch, Targets, evaluation and feedback loops



# Questions so far?



Aalto University  
School of Arts, Design  
and Architecture

# Exercise in breakout rooms

Discuss 5-10 mins:

Why has design thinking become so appealing?

What does she support and what does she want to change?

What does design need to consider in community settings compared to commercial settings?

# 3. The notion of Design Thinking

What are your thoughts on Kimbells critique?

# Summary of her critique

1. Binary between thinking and knowing, as well as between designers and the world.

2. The diversity of design practitioners, practices and institutions is ignored. (Different origins and ways of describing design thinking see image)

3. The designer is usually privileged as the agent of change, as a hero designer.

	<i>Design thinking as a cognitive style</i>	<i>Design thinking as a general theory of design</i>	<i>Design thinking as an organizational resource</i>
Key texts	Cross 1982; Schön 1983; Rowe [1987] 1998; Lawson 1997; Cross 2006; Dorst 2006	Buchanan 1992	Dunne and Martin 2006; Bauer and Eagan 2008; Brown 2009; Martin 2009
Focus	Individual designers, especially experts	Design as a field or discipline	Businesses and other organizations in need of innovation
Design's purpose	Problem solving	Taming wicked problems	Innovation
Key concepts	Design ability as a form of intelligence; reflection-in-action, abductive thinking	Design has no special subject matter of its own	Visualization, prototyping, empathy, integrative thinking, abductive thinking
Nature of design problems	Design problems are ill-structured, problem and solution co-evolve	Design problems are wicked problems	Organizational problems are design problems
Sites of design expertise and activity	Traditional design disciplines	Four orders of design	Any context from healthcare to access to clean water (Brown and Wyatt 2010)

# Next steps

**Thursday (21.1.):**

***System design and circular economy***

Teacher: Tatu Marttila

**Lecture topics:**

- **Sustainable Product-service system design**  
Reading: Ceschin & Gaziulusoy (2020) Design for Sustainability, Chapter 7: Product-service system design for sustainability
- **Systemic design and circular economy** (optional reading Chapt 10)

# Thank you!



Aalto University  
School of Arts, Design  
and Architecture