**IN 5510
The design process**

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Design of Information Systems

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About design

"The term 'design' comes originally from the Latin *signum* – meaning 'sign', to designate or appoint – via Italian and French, its meaning shifting to mean making, and then drawing or sketching (marks)."

(Bannon & Ehn 2012, p. 40)

"[Indeed], the word 'design' is both a noun and a verb, and can refer to a process or a product. Design can be viewed as a specialised craft or field of study, or it can be viewed as a general ability inherent in almost all human endeavours."

(Bannon & Ehn 2012, p. 40)

A Design Perspective

Löwgren & Stolterman (2005) *introduce a design perspective*

on the creation and shaping of digital artifacts

- like architecture or industrial design
- a reality of complexity and change
- how to think about interaction design
- thoughtful design – being reflective and critical

thoughtful **interaction** design

A DESIGN PERSPECTIVE ON
INFORMATION TECHNOLOGY

JONAS LÖWGREN AND
ERIK STOLTERMAN

Disciplines
Computer science
Software engineering
IS development

Design is

- to shape and compose
- *not in clay, plastic or metal*
- in information technology
- "the material without qualities"

- The material is a composition of technical artifacts and social systems.

- A social process aimed at making change

Löwgren & Stolterman (2005)

Talk with your neighbour

Design is

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What does this mean to you?
How does this fit with your thoughts on design?

Interaction design refers to the process that is arranged within existing resource constraints to create, shape, and decide all use-oriented qualities (structural, functional, ethical, and aesthetic) of a digital artifact for one or many clients.

Löwgren & Stolterman (2005:5)

Design is to create something new

- Not problem solving
  - Who defines what is the problem?
  - Who provides insight into the situation?

- Not formal logic

- No right or wrong design proposal

- Making futures

- Making change

- This is an ongoing process

A design vision:

"appears very early, maybe too early: before you start thinking about any analysis you find yourself thinking about the final solution" [Stolterman, 91: 137 (our translation)].

(Bratteteig & Stolterman 1997:289)

It may be contradictory and fragmented!

Designing the design process

- «There is no clever way to define away the intricacy of design» (L&S 2005)
- Thoughtful design!
    - Who?
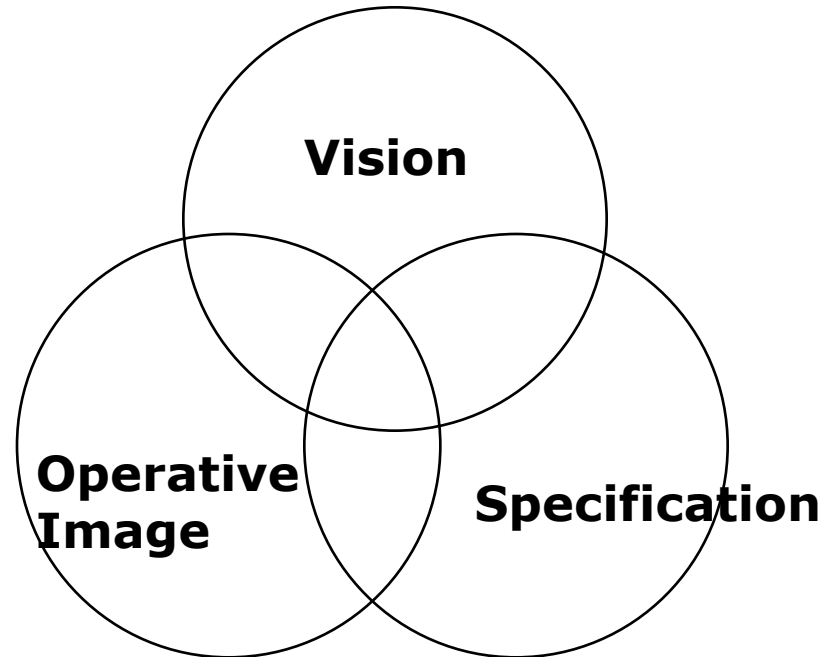   - How?
    - Workshops?
    - Meetings?
    - Prototypes?
    - ….

The design process begins when the initial ideas concerning a possible future take shape.
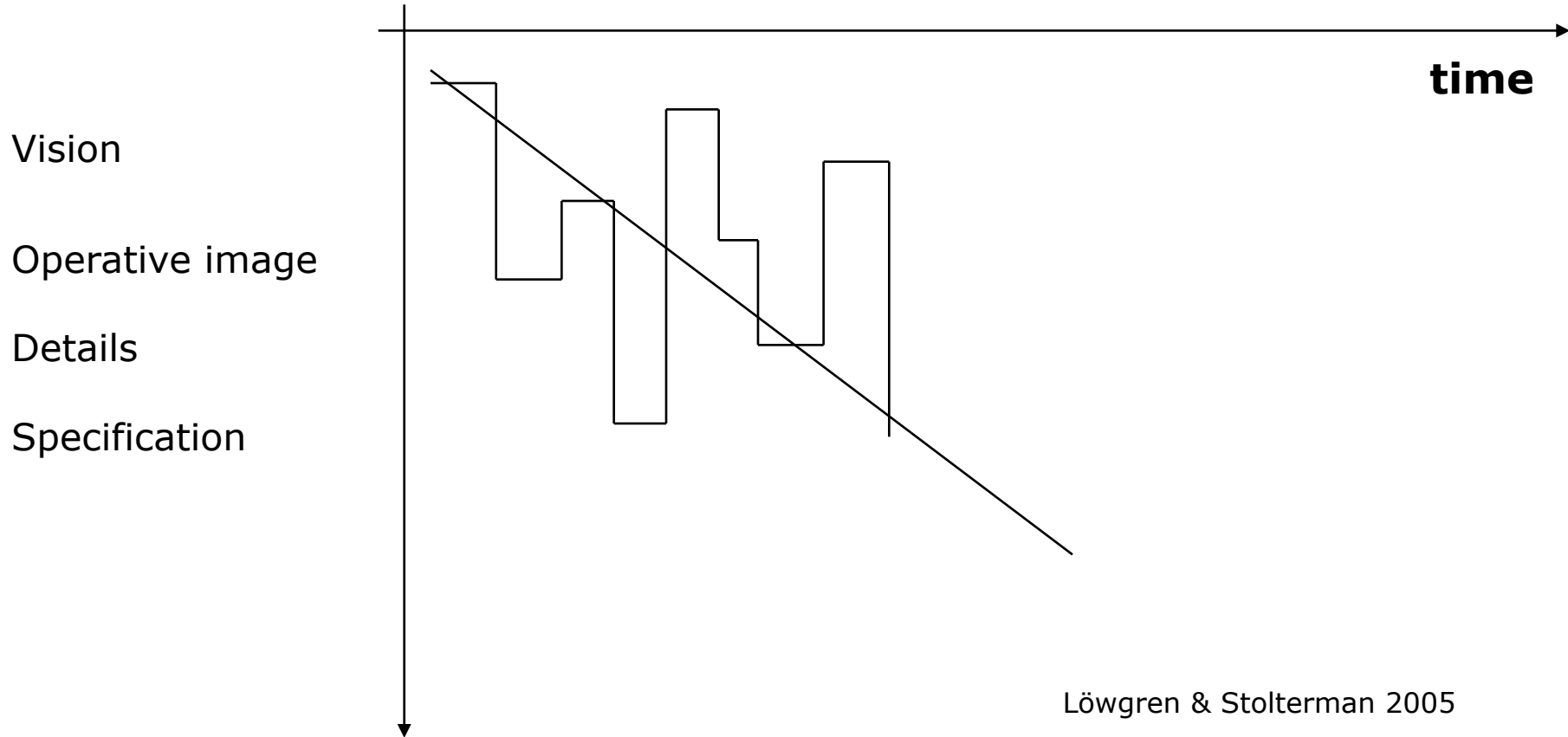

Jonas Löwgren:

«The knowledge is in the practice» (quote 7.9.2018)

The design process – early phases

Löwgren & Stolterman 2005

A DIALECTIC process

Vision

Operative image

Details

Specification
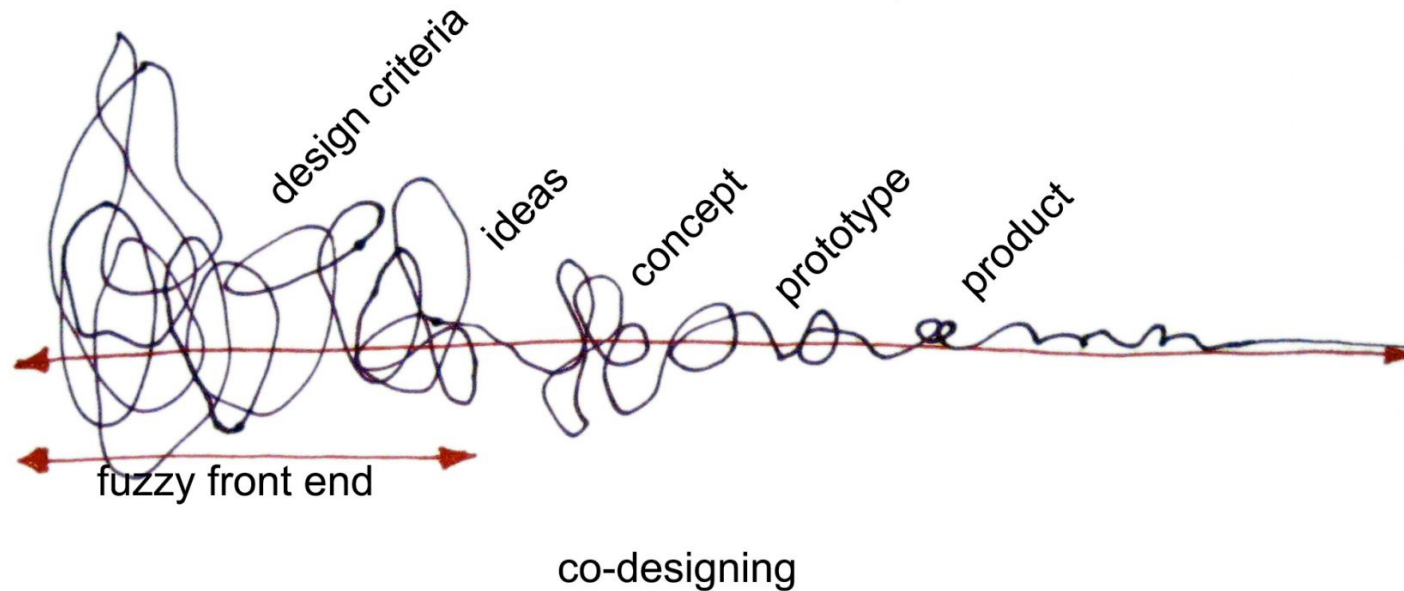
time

Löwgren & Stolterman 2005

The fuzzy front end

Figure 2. The front end of the design process has been growing as designers move closer to the future users of what they design.

(Sanders & Stappers 2008, p. 6)

Design moves

- Testing out ideas, retracting if it does not work with the designer's understanding

- Seeing – moving – seeing
  - See what's there (descriptive)
  - See how it functions (a judgment)

- Design as a conversation between the designer and the materials
  - The material talks back

- A cumulative process of discovery

(Schön and Wiggins 1992)
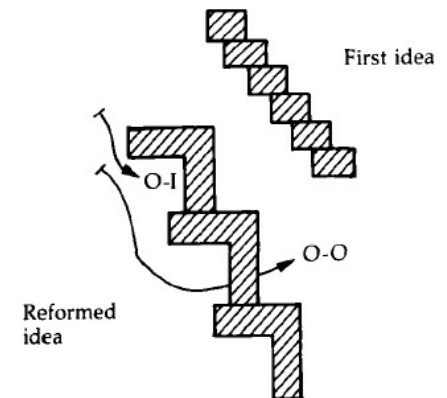
Figure 1: Petra's Move. How Petra, a design student, illustrated her design reconceptualisation (for a school) for her studio master.

The material plays a role in what you can make

«Båtbyggerne er avhengig av eik for å kunne bygge et vikingskip. Eiken gir dem emner til spantene. Men ett tre gir bare ett eller to slike emner.» (Aftenposten 29. april 2019)
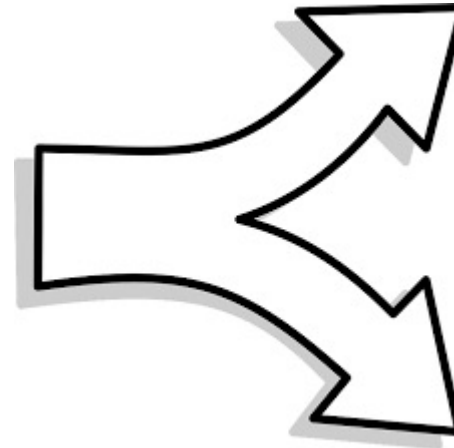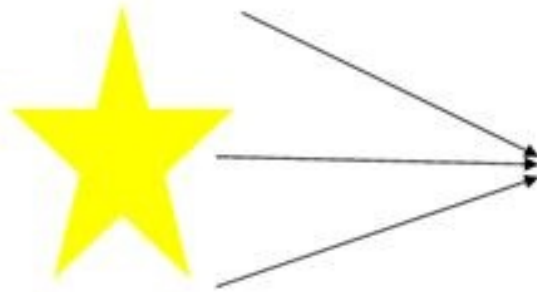
Approaches

- Divergence
  - Find more alternatives
  - Explore more alternatives
  - Keep design ideas open
  - Work with more than one idéa

- Convergence
  - Focus on a specific solution
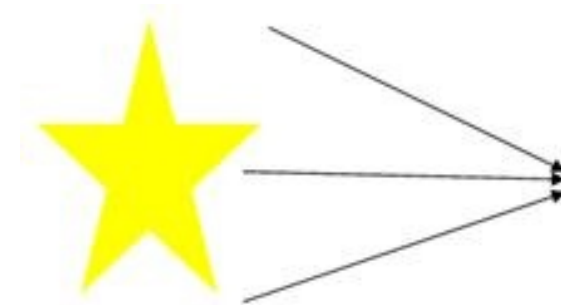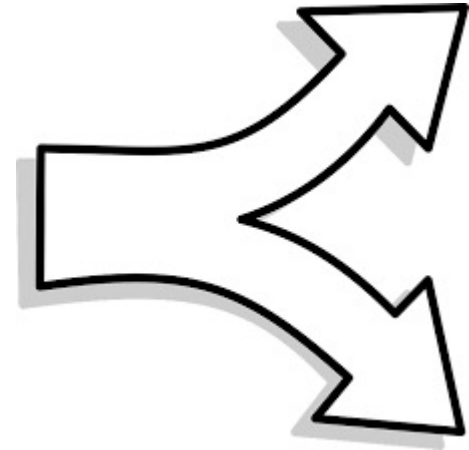
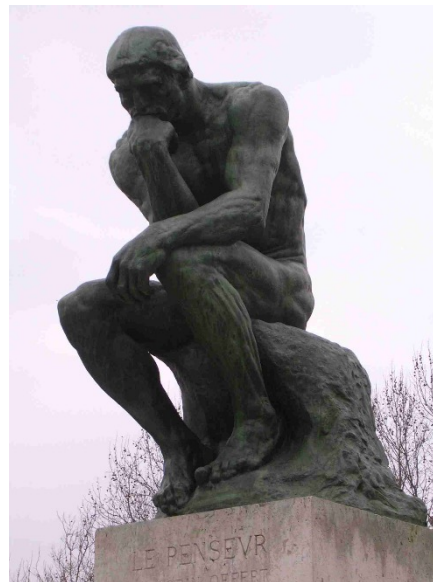 (Löwgren & Stolterman 2005, See also Sefyrin & Mörtberg 2010)

Talk with your neighbour:

- Can you recognize convergence and/or divergence from previous design processes?

The thoughtful designer

- Shows conceptual clarity

- Designs the design process

- Acknowledge there are no recipes to follow

- Shows critical judgment in design decisions

- Creative and analytical
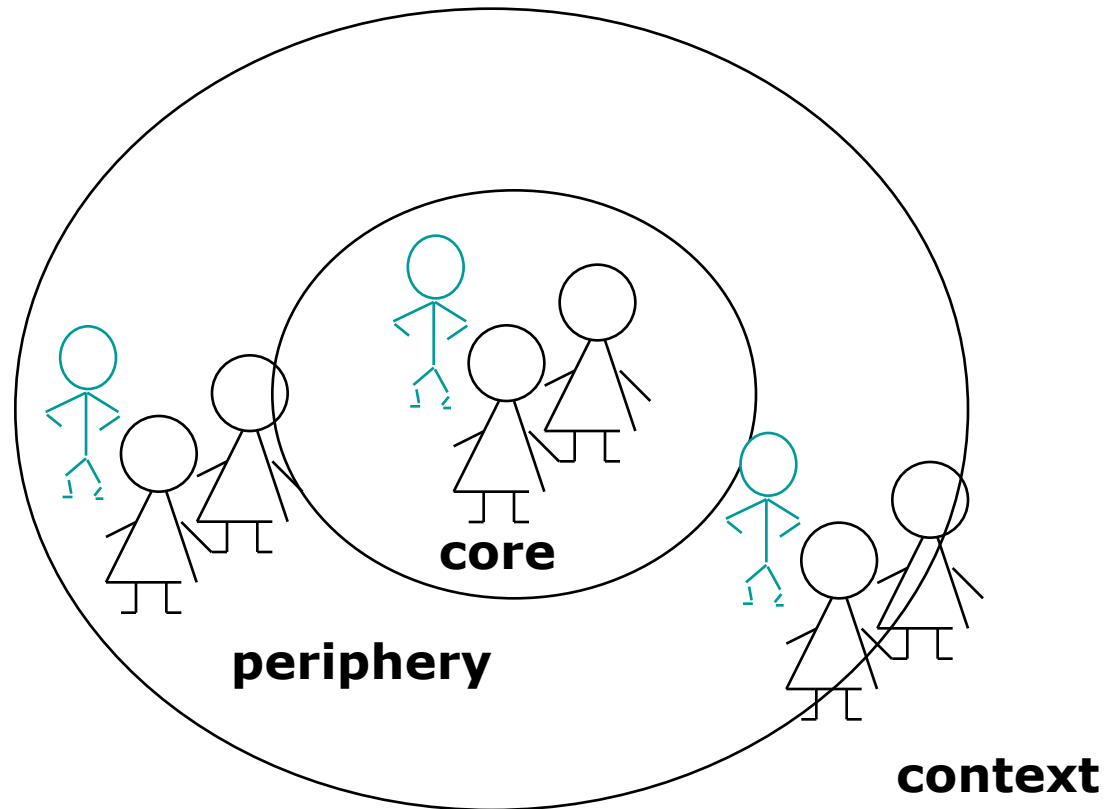

«The thinker»
Auguste Rodin

Three roles of the designer

- The computer expert
  - Offers technical expertise

- The socio-technical expert
  - Cooperate with users in developing an understanding of the underlying problem

- The political expert
  - Who does the design help?

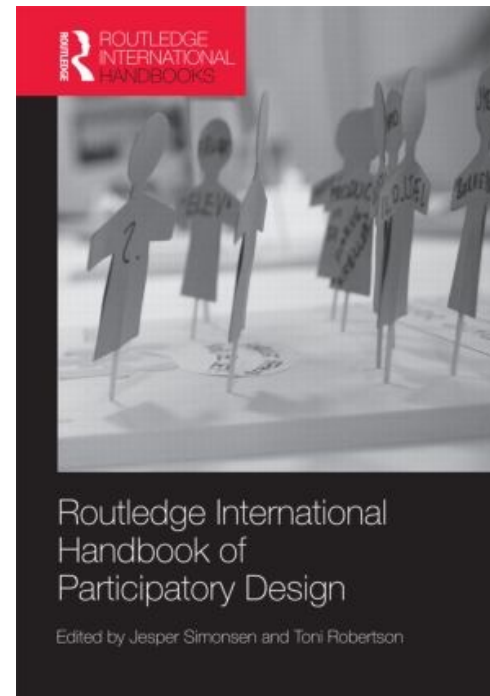Jazz group as a metaphor
for a design group.

The three circles of involvement

Löwgren & Stolterman 2004

Participatory Design

- Aims at creating closer connections between design ideas and conditions for use by involving future users in design

- Designing own futures

- Having a voice

- Having a say

Participatory Design

has its roots in phronesis (practical wisdom) and the orientation 'to serve the common good and avoid harming people's possibilities to develop a life of their own' (Kanstrup and Christiansen 2006, p. 328)

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τέχνη

λόγος

Reflective practice
versus
rationalistic problem-solving model

φρόνησιϛ

Guiding principles of PD

- Alternative visions about technology

- Equalizing power relations
- Democratic practices
- Situation-based actions
- Mutual learning
- Tools and techniques

Participatory Design – Scandinavian tradition

- Democratisation of working life

- Democratisation of the development process

- Cooperation on equal terms

- Give space to all voices (margins)

- Based on union projects in the 70-ies
  - (Kristen Nygård)

When does the design process stop?

- ".. as design changes the conditions for use, use is changed and will change the knowledge and through this the work of which use is a part. Use changes the ideas of design, and design through this changes how the materials are viewed – and by this the design work is changed" (Bratteteig 2004, p. 3)

- Design-in-use/ Design-after-design
  – Enables empowerment-in-use and design-in-use,
    eg. The open-source washing machine (Storni 2014)
    adaptable to local conditions and washing technologies.

Starting: Getting in contact

Access to groups you want to work with

- Projects grows out of existing relationships:

  - Work place

  - Relatives – family friends

  - Babysitting

  - Colleagues

  ….

- Work in parallel with different contacts

- Be the best version of yourself (Crang and Cook, 2007)

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- Löwgren & Stolterman (2004) Thoughtful Interaction Design

- Sefyrin & Mörtberg (2010) 'But that is a systems solution to me' – negotiations in IT design, CoDesign, 6:1, 25-41

- Schön and Wiggins (1992) Kinds of Seeing in Designing, Creativity and innovation management, 1992-06, Vol.1 (2), p.68-74

- Simonsen & Robertson (2012), Chapter 3

- Storni, C. (2014). The problem of de-sign as conjuring: empowerment-in-use and the politics of seams. Proceedings of the 13th PDC