INF5722
Methodological and Analytical Perspectives

Guri Verne
Christina Mörtberg
Nov 6th 2013

UNIVERSITETET
I OSLO

How to analyse and discuss your project

Your project

User group
The design process
Technology
etc
The group work
The prototypes
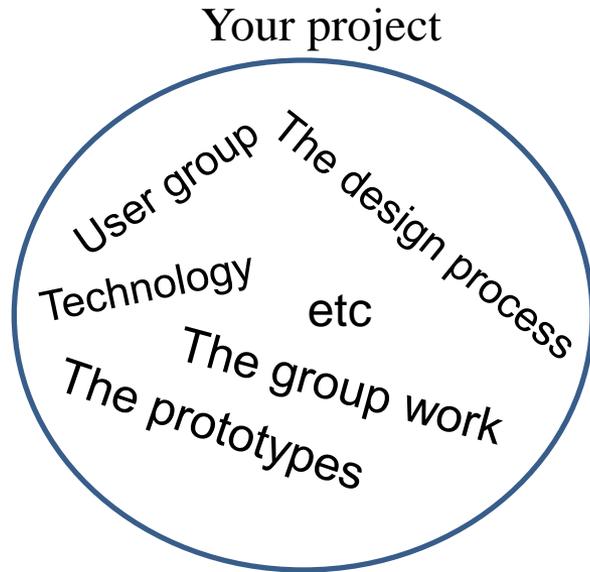
.. seen through the researcher's glasses

UNIVERSITETET I OSLO

Possible glasses to take on for analysis

- Design theory:
  - the design process, PD, UCD
- Computer Supported Cooperative Work:
  - awareness, boundary objects, category systems
- Actor Network Theory:
  - inscription, alliances, agency
- Affordances
- Activity theory
- Feminist perspectives:
  - Located accountabilities, performativity (also (Pickering 1995))

UNIVERSITETET
I OSLO

" we see '*method*' as '*techniques*' or specific sets of research practices such as surveys, interviews, ethnography and the like.

'*Methodology*' however, is a 'perspective' or very broad theoretically informed framework such as symbolic interactionism, or functionalism within sociology, and which may or may not specify its own particular 'appropriate' research method/s or technique/s.
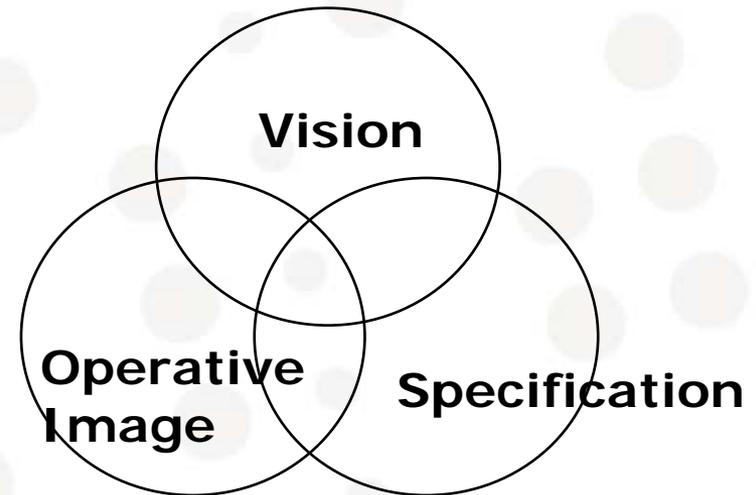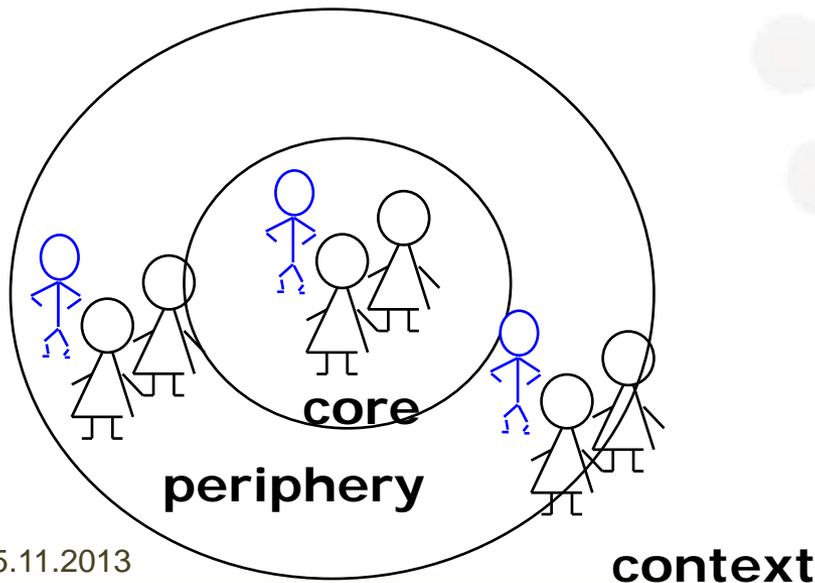
And *epistemology* is a theory of knowledge which addresses central questions such as:
who can be a 'knower', what can be known, what constitutes and validates knowledge, and what the relationship is or should be between knowing and beeing (that is, between epistemology and ontology)"

(Stanley & Wise, 1990, s. 26).

The design process

- The three circles of involvement
- The dialectic early stages of the design process
- Convergence – divergence
- Reflection-in-action and reflection-on-action

core

periphery

context

Vision

Operative Image

Specification

Löwgren & Stolterman 2005

The design process

design criteria

ideas

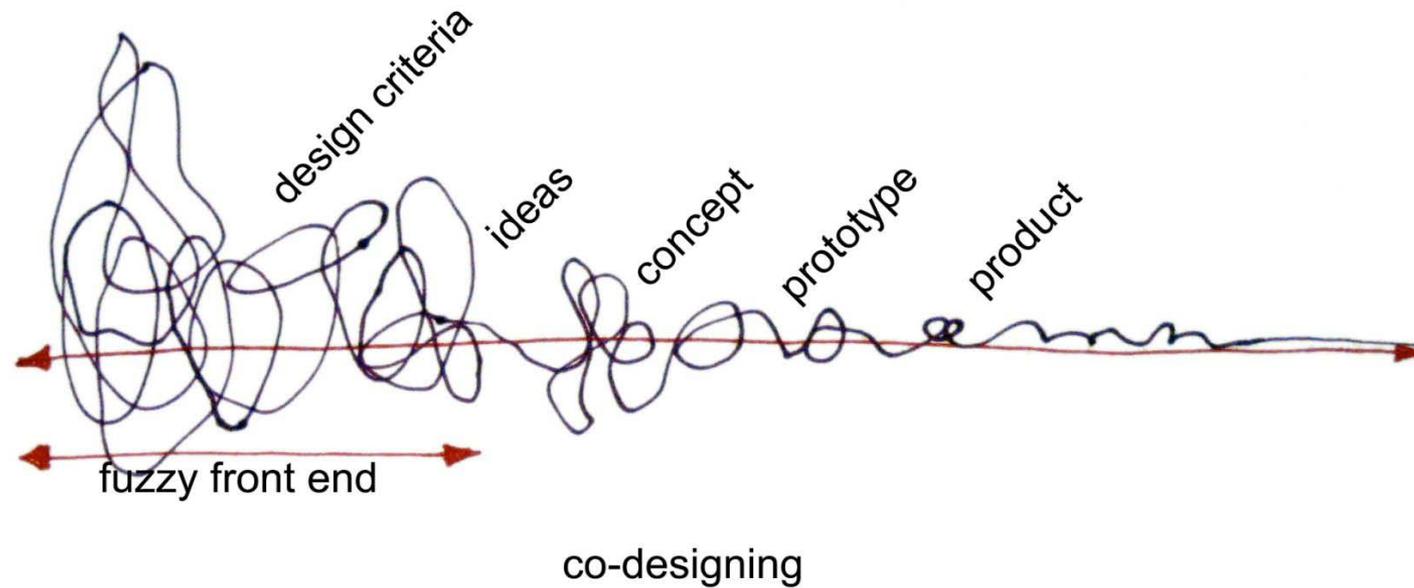concept
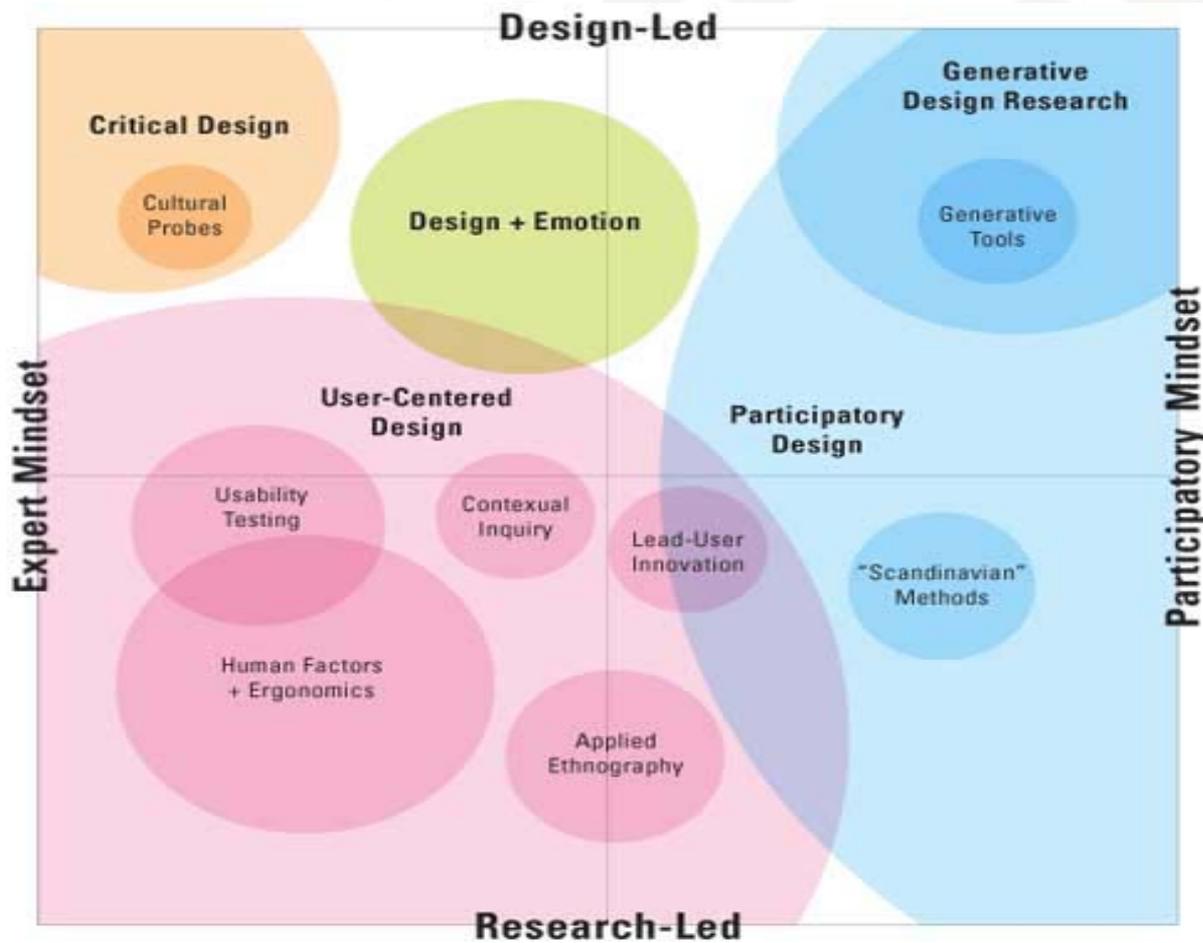
prototype

product

fuzzy front end

co-designing

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)

Expert Mindset
"users" seen as subjects (reactive informers)

Participatory Mindset
"users" seen as partners (active co-creators)

Figure 2 Map of design research—research types (Sanders 2008)

Sanders, L (2008) An evolving map of design practice and design research, *Interactions,* November-December 2008, pp. 13-17

Participatory Design – guiding principles

- Equalizing power relations
- Democratic practices
- Situation-based actions
- Mutual learning
- Tools and techniques
- Alternative visions of technology

UNIVERSITETET I OSLO

CSCW

- Awareness
- Boundary object
- Classification systems
- Interaction through artefacts

UNIVERSITETET
I OSLO

Boundary Object

- To analyze cooperative work in the absence of consensus

- Boundary - Shared space

- Object – a thing, material entity, a theory

- Used between groups

(Star 2010)

UNIVERSITETET I OSLO

Components of a Boundary Object

- interpretative flexibility, e.g. a map

- the structure of informatic and work process needs and arrangements

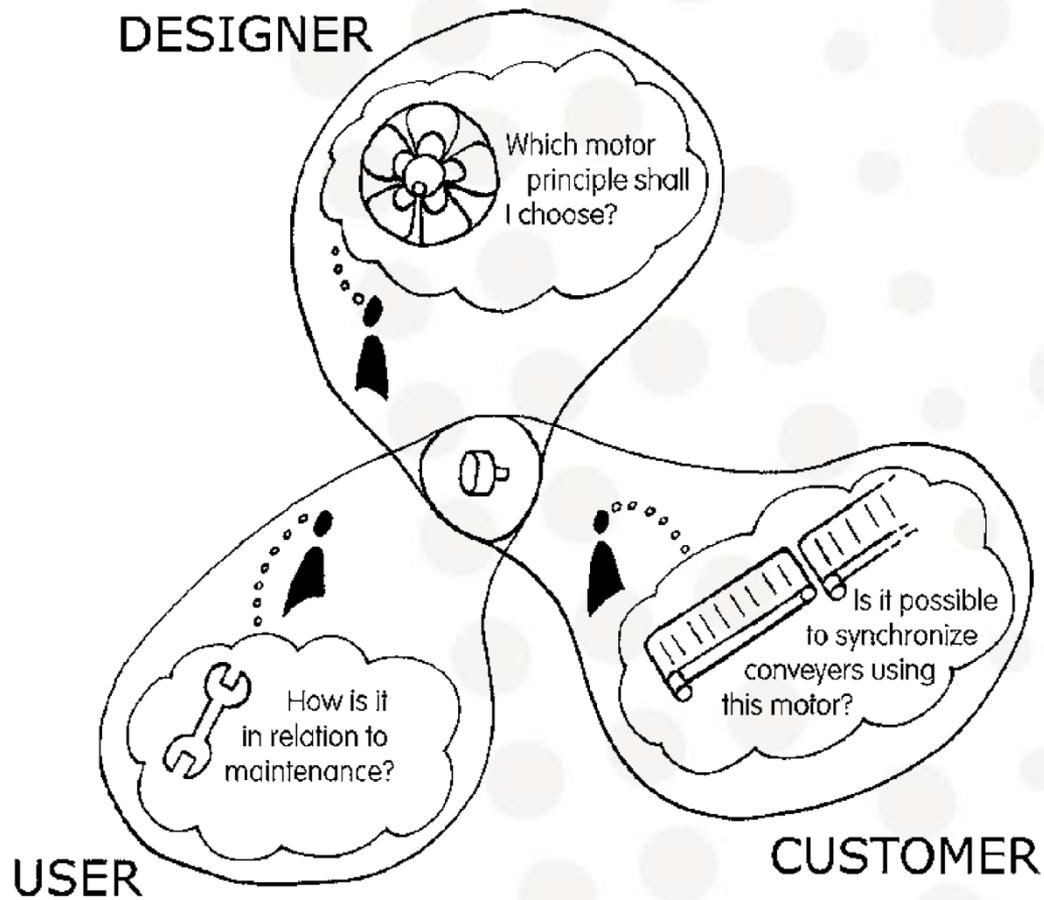- the dynamic between ill-structured and more tailored use of the objects

UNIVERSITETET
I OSLO

Fig. 5 The mock-ups act as boundary objects where different people can under- stand different meanings from the same model

(Brandt 2007, p. 188)

UNIVERSITETET I OSLO

What is not a Boundary Object?

- scale

  useful at organizational level

  - Becoming infrastructure, standards etc

- scope

  under some circumstances

  most useful scope is specific

(Star 2010)

Awareness

- Tacitly aligning and integrating joint effort
- "is a placeholder for those elusive practices of taking heed of what is going on in the setting which seem to play a key role in cooperative work"

(Schmidt 2002, p. 285)

Classification Systems

- Coordinative artefacts and practices
- Ordering systems

Socio-cultural perspectives

- Affordances
- Activity Theory

Science and Technology Studies

- Actor Network Theory

- Feminist perspectives

Actor-Network Theory

• Opens up for analysis of social relations inscribed in science, technology and design processes
• how heterogeneous networks (of humans and non-humans) are interwoven and made up by relations between people, software, IS, work practices, systems, e-mail, buttons, Outlook, user interface, requirements, division of labour, gender, methods

In an ANT story,

'all the actors we are going to deploy might be associated in such a way that they make others do things' (Latour 2005, p. 107)

Actors drive the processes

Agency

- Symmetrical
  - Human
  - Material / Non-human/Technological

Concepts

- *Actor-network:* a web of actors (humans and non-humans), heterogeneous
- *Agency*: ability to act, to do, and to influence
- *Inscribe*: visions, existing understandings, norms etc are integrated in artefacts
- *Translation*: modification and reformulation in the networks by a range of actors
- *Building alliances and relations*
- *Circulating references* – elements of continuity, former knowledge as frameworks

Inscription

Designers [thus] define actors within specific tastes, competences, motives, aspirations, political prejudices, and the rest, and they assume that morality, technology, science, and economy will evolve in particular ways. A large part of the work of innovators is that of *"inscribing "the vision of (or prediction about) the world in the technical content of new object."*
(Akrich, 1992 p. 208), in Morrison et al (2010) s 63

Symmetries – asymmetries in networks

Power is
"about whose metaphor brings the worlds
 together, and holds them there"
(Star 1991, p. 52)

Feminist perspectives

- Gender perspectives
- Located accountabilities
- Material discursive practices

Design from nowhere

IT systems are constructed from nowhere to everyone, or the designers are seeing everyone but not seeing themselves

The developers are not aware of their own positions, activities, visions, dreams.

How the disciplines are organised separate use and design

Lucy Suchman (2002)

Detached intimacy

- distance from the specific sites of technologies-in-use

- intimate relations with their own professions and with the companies

Lucy Suchman (2002)

Design from Somewhere

- knowledge is partial, located and situated

- extended set of working relations

- dependent on a range of actors

- connections are partial

Lucy Suchman (2002)

Material discursive practices

- Alternative ways of practicing design
- Agential realism
- Reality is becoming, - *performed*
- Subjects and objects are not pre-given, but mutually constituted
- Designers, users, gender, knowledge, understanding, practices are co-constituted

(Barad 2003, 2007, Suchman 2007)

UNIVERSITETET
I OSLO

Performativity

A different epistemology:

"the object that is known and the subject that does the knowing are co-produced in the same performance, that the epistemological problem (what is true) and the ontological question (what is) are both resolved (or not) in the same moment" (Law and Singleton 2000)

Apparatus for constituting actors and the known

Example: The Black–Scholes equation

$$\frac{\partial V}{\partial t} + \frac{1}{2}\sigma^2 S^2 \frac{\partial^2 V}{\partial S^2} + rS\frac{\partial V}{\partial S} - rV = 0$$

- Describes the price of a stock option over time
- Based on a set of assumptions that were not "true" when the formula was published in 1973
- These assumption has become more true
- A performative effect – it shapes the markets
- "An engine, not a camera" (MacKenzie 2006)

UNIVERSITETET I OSLO

References

Latour, Bruno (2005). Reassembling the social: an introduction to actor-network-theory. Oxford: University Press

Stanley, Liz & Wise, Sue (1990). Method, methodology and epistemology in feminist research processes. I: L. Stanley (Ed.), Feminist Praxis: research, theory and epistemology in feminist sociology. (sid. 20-59). London: Routledge. ISBN 0-415- 04202-X (hft.).

Star, Susan Leigh (2010). This is Not a Boundary Object: Reflections on the Origin of a Concept. *Science, Technology & Human Values September 2010 35: 601-617*

doi:10.1177/0162243910377624
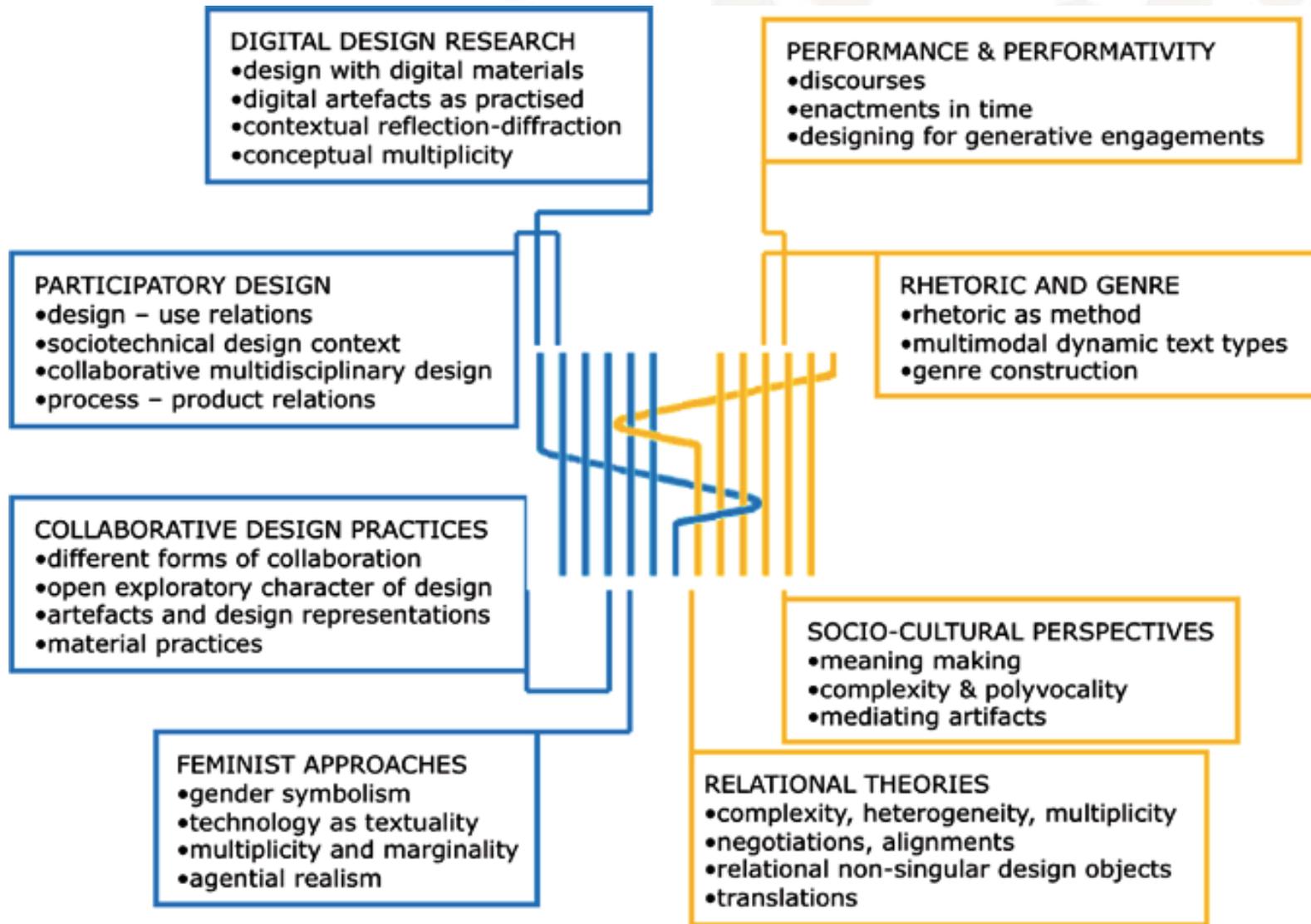
Fig. 1.2 Outline of our multidisciplinary approaches to digital design research