

# Design Research and Philosophy of Science

PhD course at the Swedish School of Textiles Fall 2010

The purpose of the course is to give an introduction to philosophy of science within the context of doing design research in the shape of practice-based research – and a bit beyond. The literature is chosen to present the most important of current discussions within the field as well as to provide a solid foundation for the participants to form their own stance in the field. Conceptually we work with Design and Artistic research as one but there may be situations during the seminars where we find it desirable to differentiate between the two.

The course is organized around seven discussion seminars with a specified agenda outlined by the curricula for that seminar. The course will end with a written assignment where the participants are to frame their own work within a discourse of, for instance, Design Research.

The seminars will take place every other Monday afternoon (13 – 15 approx.) except for the first which will be Thursday September 16. The planning is not yet complete thus the schedule below will be updated as we go along.

## FIRST SEMINAR: THURSDAY SEPTEMBER 16

This seminar is themed around the relation between practice and theory.

Reading suggestion: Start with Frayling, then Biggs, then the rest.

Allen, S. (1999). Practice vs. Project. *Praxis, 0*, 112-123.

Biggs, M. (2022). The Rhetoric of Research. Proceedings of the *Design Research Society International Conference (Common Ground)*, Stoke-on Trent, UK, Staffordshire University Press, pp. 111-118.

Buchanan, R. (1992). Wicked Problems in Design Thinking. *Design Issues, 8*(2), 5-21.

Frayling, C. (1993). Research in Art and Design. *Royal Collage of Art Research Papers, 1*(1), 1-5.

Frayling, C. (2007). Foreword. In S. Kemp (Ed.), *RCA Research* (pp. 10-11). London, UK: RCA.

Pickering, A. (1999). The Mangle of Practice - Agency and Emergence in the Sociology of Science. *Science Studies Reader, 25*, 382-404.

Zimmerman, J., & Forlizzi, J. (2008). The Role of Design Artifacts in Design Theory Construction. *Artifact, 2*(1), 41-45.

Zimmerman, J. et al. (2010). An Analysis and Critique of Research through Design: towards a formalization of a research approach. *DIS 2010*, August 16-20, 2010, Aarhus Denmark

## SECOND SEMINAR: MONDAY OCTOBER 4

The theme for this seminar is research methods within Design Research.

- Binder, T., & Redström, J. (2006). Programs, Experiments and Exemplary Design Research. Proceedings of the *Design Research Society conference (Wonderground)*, Lisbon, Portugal, November, 1 - 4, Lisbon: IADE.
- Brandt, E., & Binder, T. (2007). Experimental Design Research: Genealogy -- Intervention -- Argument. Proceedings of the *International Association of Societies and Design Research*, Hong Kong.
- Koskinen, I. et al. (2008). Lab, Field, Gallery, and Beyond. *Artifact*, 2(1).
- Scrivener, S., & Chapman, P. (2004). The practical implications of applying a theory of practice based research: a case study. *Working Papers in Art and Design*, 3.
- Vallgård, A., & Bendixen, C. (2009). Developing Knowledge for Design by Operationalizing Materials. Proceedings of the *Nordic Design Research Conference*, Oslo, Norway.
- Page 4-85 in Losee, John "Historical Introduction to the Philosophy of Science"

## THIRD SEMINAR: MONDAY OCTOBER 18

The theme for this seminar is research communication.

- Baker, M. (2004). Representing Invention, Viewing Models. In N. Hopwood, & S. de Chadarevian (Eds.), *Models - The Third Dimension of Science* (pp. 19-42). Stanford, CA: Stanford University Press.
- Biggs, M. (2002). The Role of the Artifact in Art and Design Research. *International Journal of Design Sciences and Technology*, 10(2)(2), 19-24.
- Biggs, M. (2004). Learning from Experience: approaches to the experiential component of practice-based research. In *Forskning-Reflektion-Utveckling* (pp. 6-21). Stockholm, Sweden: Swedish Research Council.
- Biggs, M. (2006). Necessary, Unnecessary and Sufficient Conditions. Proceedings of the *Design Research Society Conference (Wonderground)*, Lisbon, Portugal, Lisbon: IADE.
- Buchanan, R. (1985). Declaration by Design: Rhetoric, Argument, and Demonstration in Design Practice. *Design Issues*, 2(1), 4-22.
- Griesmer, J. (2004). Three-Dimensional Models in Philosophical Perspective. In N. Hopwood, & S. de Chadarevian (Eds.), *Models - The Third Dimension of Science* (pp. 433-442). Stanford, CA: Stanford University Press.
- Hopwood, N., & de Chadarevian, S. (2004). Dimensions of Modeling. In N. Hopwood, & S. de Chadarevian (Eds.), *Models - The Third Dimension of Science* (pp. 1-15). Stanford, CA: Stanford University Press.
- Scrivener, S. (2002). The art object does not embody a form of knowledge. *Working Papers in Art and Design*, 2.
- Page 86-131 in Losee, John "Historical Introduction to the Philosophy of Science"

## FOURTH SEMINAR: MONDAY NOVEMBER 1

The theme for this seminar will be artistic research.

- Hannula, M. et al. (2005). Artistic Research - theories, methods and practices. Gothenburg, Sweden: Artmonitor.
- Page 132-176 in Losee, John "Historical Introduction to the Philosophy of Science"

#### FIFTH SEMINAR: MONDAY NOVEMBER 15

This seminar we will analyze the nature of Dunne's research contribution in the context of design research based on what we have read so far. (This was his dissertation, more or less)

Dunne, A. (2005). *Hertzian Tales - electronic products, aesthetic experience, and critical design* (2nd ed.). London, UK: MIT Press.

Page 177-235 in Losee, John "Historical Introduction to the Philosophy of Science"

#### SIXTH SEMINAR: MONDAY NOVEMBER 29

The theme for this seminar will be research rigor, which will also be the theme for your paper. We will reread some papers and it is important that you actually reread them since part of the exercise is to see if you have learned something – if you read them in a different light this time!

Biggs, M. (2006). Necessary, Unnecessary and Sufficient Conditions. Proceedings of the *Design Research Society Conference (Wonderground)*, Lisbon, Portugal, Lisbon: IADE.

Binder, T., & Redström, J. (2006). Programs, Experiments and Exemplary Design Research. Proceedings of the *Design Research Society conference (Wonderground)*, Lisbon, Portugal, November, 1 - 4, Lisbon: IADE.

Frayling, C. (1993). Research in Art and Design. *Royal Collage of Art Research Papers*, 1(1), 1-5.

Frayling, C. (2007). Foreword. In S. Kemp (Ed.), *RCA Research* (pp. 10-11). London, UK: RCA.

Koskinen, I. et al. (2008). Lab, Field, Gallery, and Beyond. *Artifact*, 2(1).

---New texts -----

Sokal, A. (1996). Transgressing the Boundaries: Towards a Transformative Hermeneutics of Quantum Gravity. *Social Text*, 46/47, 217-252.

Weinberg, S. (1996). Sokal's Hoax. *The New York Review of Books*, XLIII(13), 11-15.

Page 236-278 in Losee, John "Historical Introduction to the Philosophy of Science"

#### SEVENTH SEMINAR: MONDAY DECEMBER 13

Texts on Hermeneutics and Critical Theory

Rouse, J. (2005) Heidegger on science and naturalism. In *Continental Philosophy of Science*, G. Gutting, (Ed) Malden, MA, USA: Blackwell Publishers.

Heidegger, M. (2005) From on "Time and Being". In *Continental Philosophy of Science*, G. Gutting, (Ed) Malden, MA, USA: Blackwell Publishers.

Ricoeur, P. 1981 Hermeneutics and the critique of ideology. In *Hermeneutics and the human sciences: Essays on language, action and interpretation*, Cambridge, UK: Cambridge University Press.

Ricoeur, P. 1981 Phenomenology and hermeneutics. In *Hermeneutics and the human sciences: Essays on language, action and interpretation*, Cambridge, UK: Cambridge University Press.

Alcoff, L. M. (2005) Foucault's philosophy of science: structures of truth/structures of power. In *Continental Philosophy of Science*, G. Gutting, (Ed) Malden, MA, USA: Blackwell Publishers.

Foucault, M. (2005) From "The history of sexuality, vol. 1: an introduction". In *Continental Philosophy of Science*, G. Gutting, (Ed) Malden, MA, USA: Blackwell Publishers.

*Bonus texts:*

May, T. 2005 Gilles Deleuze, difference, and science. In *Continental Philosophy of Science*, G. Gutting, (Ed) Malden, MA, USA: Blackwell Publishers.

Deleuze, G. and Guattari, F. 2005 From "What is philosophy". In *Continental Philosophy of Science*, G. Gutting, (Ed) Malden, MA, USA: Blackwell Publishers.

Ricoeur, P. 1981 What is a text? Explanation and understanding. In *Hermeneutics and the human sciences: Essays on language, action and interpretation*, (Ed) Cambridge, UK: Cambridge University Press.

Ricoeur, P. 1981 The model of the text: meaningful action considered as text. In *Hermeneutics and the human sciences: Essays on language, action and interpretation*, (Ed) Cambridge, UK: Cambridge University Press.

#### WRITTEN ASSIGNMENT

As written in the beginning of this document you are to submit a written assignment as well. It should be a reflection on your own project and how you ensure research rigor.

The text could be a first draft to a methods chapter or a conference paper. In other words it should be of a certain quality. Of course the substance of the text will depend on the progress of your work. Some parts may be speculative stating an intention and others more descriptive arguing what you have done to ensure research rigor.

You should reference some of the texts from the course but you are also welcome to reference other as well.

Deadline: December 21