Plan for establishing collaborative production

Creating a collaborative ‘formgiving studio’ that supports engaged aesthetic activities across cultures and disciplines

Main areas for development and possibilities
This is a practice-based research project within the field of applied aesthetics and 3-D formgiving in collaboration with creative industry. Applied aesthetics support a sensory-based, holistic reasoning that is used within the formgiving process. It is about reciprocally blending concept development with the creation of physical form. Since the mid 90s researchers from the learning sciences have shown that we enhance our cognitive skills and improve problem solving by engaging individuals in moving back and forth between formulating abstract concepts and shaping materials in response to these concepts and vice versa (Ackermann 1996). In other words, we all have a drive to create artifacts in order to grasp concepts, solve problems and express our desires. It is this common drive to create that motivates this project.

Aims and goal
The project will address the following aims:
1. To explore and open-up the formgiving process to learn more about how artists and designers weave together explorative methods with the drive to create artifacts.
2. To map out the skilful movements employed during the formgiving process.
3. To move between low technology /hands-on sculptural procedures and high technology /digital equipment, such as Rapid Prototyping, and examine if and how they complement each other to enhance a flowing formgiving process.
4. To support the renewal of aesthetic reasoning in art/design in collaboration with other disciplines.
5. To revive the use of clay and other malleable materials in the formgiving process

The main goal is to present scenarios showing how to create a collaborative formgiving studio.

Main actors and activities
The general plan is divided into two stages, conducted in collaboration with Konstfack, Dept. of Industrial design, the firm Kolb Technology, the design firm No Picnic and researchers in the materiality group at the Institute of Industrial Design at Oslo School of Architecture and Design (AHO) (see below).

The first stage consists of documenting activities that go on within the formgiving process in industrial design, crafts, sculptural arts and model making. The focus will be on the skilful movement of the formgivers and how they use tools, forms and materials to support their creative reasoning (Ingold 1993, 2001). We will capture how aesthetic abstractions are developed and integrated in the overall formgiving process. This is not an ergonomic study in the sense of documenting the working conditions in order to make them more efficient, but rather a cultural, art-based study that aims to learn more about play, discovery, and engaged creation.

Method:
Video Documentation of 8 different case studies demonstrating the formgiving processes.
Time schedule: One week for each case study
Total of 8 working weeks (320 hours)
- Each of the four actors; Konstfack, Kolb, NoPicnic & AHO will document two formgiving processes. Each case study involves the following activities:
  - Planning, Film documentation, Editing, Preparing presentations.
The **second stage** concentrates on creating a number of scenarios for a collaborative formgiving studio. These scenarios are developed based on a constructive and critical interpretation of the presentations developed during the first stage. A major concern is how to open up the formgiving process and studio spaces to generously include other participants from non-aesthetic disciplines, while still supporting the skilled formgivers in their professional role. The formgiving studio space, tools and materials should lift aesthetics into a dynamic context that invites collaboration.

**Method:**

*Workshop:* Reviewing the case studies and developing scenarios  
*Time schedule:* 2.5 day  
*Participants from Konstfack, Kolb, NoPicnic & AHO*  
*About 8-9 participants*  
  - Visiting researchers Tim Ingold /Edith Ackermann  
  - Scenario driven (auto-) ethnographic methodology

**Konstfack’s plan for collaboration**

The intentions and aims of this project comply with the research and educational plan at Konstfack (FOUS 2009-2012). Konstfack’s strategy is to create a center of excellence that prioritizes *practice-based research* that supports a *continuum* between artistic practice and scientific work. The school is very positive to cross-pollination processes with industry and society that help develop and expand the unique profile of our artistic disciplines. At the same time we recognize that the meaning of the word “artistic” changes over time and we therefore internally question the boundaries of our own disciplines. An important research strategy is to identify the *radical potential* within the academic culture and expand on this potential. In this way Konstfack supports efforts to uncover our unique profile and nurtures our own disciplines, while at the same time expanding and problematizing this profile through working with other professions, industry and our cultural society.

Konstfack’s educational strategy for the Masters program aims to give students continual insight into new knowledge generated through collaboration with the creative industry and through teachers that conduct research projects and work outside the academic walls. The school educational policy strives to challenge Masters students with courses / projects that strengthen their constructive and critical thinking combined with formative skills to shape (in Swedish: *att gestalta*) change in society.

**Dept. of Industrial Design at Konstfack**

The Dept. of Industrial Design (ID) at Konstfack recently outlined a new Masters program called *Formgiving Intelligence*. The program is designed to both support and problematize different phases in the design process that deals with the transformation from concept to physical form and vice versa. The research and educational strategies of the Dept. of ID support developing knowledge and procedures that open up the formgiving process. This project will therefore be of great value for developing potential courses within this program.

Prof. Akner-Koler at the Dept. of ID (applicant and supervisor) completed her PhD research in applied aesthetics, where she presented a taxonomy of form, building on 3-D aesthetic abstractions. Her PhD thesis also questioned traditional aesthetics and provided exploratory methods for cross-disciplinary studies to open-up the field of aesthetics. She will be using the methods and findings from her thesis to further investigate how designers work with aesthetic abstractions in the formgiving process and how aesthetic reasoning is influenced by context and laborative studies.

Three collaborating actors

Kolb Technologies http://www.kolb-technology.com

Kolb Technologies has a history from the early 1900 in creating tools and materials for sculptors. Today they are a leading company in producing and supplying solutions for the creative world with car industry as their major client. Their focus is on modeling and studio systems that support prototype development. Kolb is currently interested in defining future modeling studios for different clients, which was the theme for their show room in Frankfurt Euromold fair in December 2007. They are interested in the modeling needs of the industrial design profession and can easily identify with the aims of this project. Since they do have roots in working with sculptors they are especially aware of the overlap between sculpting and formgiving.

This project has a strong potential to affect the creative culture within Swedish design firms by Kolb practically supporting the development of collaborative formgiving studios. During this project Kolb is prepared to

- Take part in the documentation of modeling/formgiving studios
- Offer expert advice in scenarios developed for creating a future formgiving studio
- Develop a collaboration with the actors in this project to explore the further development of tools, materials, layout and digital modeling technology.

No Picnic http://www.nopicnic.com

The design firm No Picnic AB, founded by former Industrial Design students at Konstfack, has successfully applied principles of 3-D abstraction (outlined in Part 1. of Akner-Koler’s PhD thesis 2007) within their formgiving process. They recognize the importance of aesthetics and holistic reasoning that give their company a strong profile, which sets them apart from engineering design and superficial styling design firms.

No Picnic has been instrumental in inspiring further investigation of aesthetics through supporting a workshop lead by Akner-Koler, created for the design team at No Picnic. The experience from this workshop gave a number of shared experiences for the design team that inspired changes in their aesthetic profile. The open explorative “laborative” methods developed for this workshop were later used to initiate a three year project “Cross-disciplinary studies of Complexity and Transformation” funded by the Swedish Research council.

Oslo School of Architecture and Design (AHO) www.aho.no

A research group on the theme Materiality has been started by Professor Jan Capjon at the Institute of Industrial Design (IDE), with the objective to initiate inquiry into design processes where physical modeling is used actively to stimulate sense-based engagement and iterative work patterns. Cross-professional collaboration and employment of the Rapid Prototyping tool are central aspects of this approach. Participation in the proposed project nicely supplements the strategy of the product design department, partly because the forming patterns basically employed in aesthetics are seen here as appropriate to adapt in other professions. The institute presently considers establishment of a facilitation site for collaborative design where the experiences of this project could be of high value.

IDE plans to take responsibility for studying and documenting two student case projects where agreed upon aspects of the ‘formgiving studio’ strategies are implemented.

Jan Capjon and Håkan Edeholt from AHO will be actively applying methods and models from their PhDs thesis:
- Capjon (2004). Trail and error based innovation: Catalysing shared engagement in design conceptualisation.
Expected results

- Methodological insight about the formgiving/modeling process
- Archive of 8 scenarios of how formgivers act and reason in their studios
- Concrete plan of how to develop a design process for the creation of collaborative formgiving studio
- A number of scientific papers will be written and presented at relevant conferences.

By learning more about the formgiving process that has developed within aesthetic disciplines we can inspire actors from other, “non aesthetic”, disciplines to engage in the making process. We will also refer to:

Gärdenfors, Peter (2000) *Conceptual Space: the geometries of thought*

Ackermann, Edith (1996) *Perspective-taking and object construction*

Ingold, Tim (1993) *Tool-use, sociality and intelligence*

Ability to complete the collaborative goals of the project

- Kolb Technology successfully collaborated with professor Akner-Koler at the Dept. of ID at Konstfack, on a project in 2004 to adapt car modeling clay to the needs of ID students. The collaboration resulted in a new clay called *InDeclay*, which has become a valuable material in supporting the formgiving process at Konstfack. Since the clay was introduced on the market in 2004, many design schools and firms in Sweden have chosen to work with it.

- A three year collaborative project; *Cross-Disciplinary Studies of Complexity and Transformation* funded by the Swedish Research Council (VR) run by Akner-Koler from Konstfack, received a very positive evaluation from VR council (Vetenskapsrådets rapportserie 6:2007). This exploratory study involved physicists from the Royal Institute of Technology and Stockholm University as well as architects from Chalmers and independent artists, designers and curators. The project is published in Akner-Koler, PhD thesis (2007) *Form and formlessness*. Further information can be found at: [http://www.complexityandtransformation.com](http://www.complexityandtransformation.com)

- At AHO, Jan Capjon has lead a number of successful design projects that support cooperative conceptualization design process with manufacturing firms. One of the projects with Jordan (a major manufacture for Hygiene products) recently won a prize for design innovation. Capjon PhD thesis describes the process and theoretical models and an article by Capjon can be downloaded at: [http://nordcode.tkk.fi/oslo.html](http://nordcode.tkk.fi/oslo.html)

- No Picnic has conducted many workshops that aim to give their clients insight into the formgiving process. The workshops have greatly improved communication during the entire design process which in turn leads to more successful formgiving solutions.

Educational relevance for higher educational institutes (HEI)

The ID profession has shifted, to a large extent, from technology driven- to culturally driven product development strategies. As cultural issues become more important, aesthetic holistic reasoning and art-based formgiving skills are gaining support in higher educational institutes. The proposed project addresses this shift.

The plan and aims of the present project supports the HEI educational goals by strengthening ties to scientific methodology and the field of aesthetics. Three researchers involved in the project (Cheryl Akner-Koler, Jan Capjon and Håkan Edholt) are professors/researchers teaching in design and architecture. Their PhD theses involved practice-based research methods in case studies engaging student and cross-disciplinary participation. The methods, results and experiences from the project will be of relevance for the development of educational programs at both Bachelor, Masters and PhD-levels at the respective schools.