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**Cross pollination – Nordcode Seminar**

**"Development of creative/artistic methods used in an untraditional cross disciplinary context can lead to innovation."**

Seating object 2005, Arild Berg
reinforced concrete and porcelain tiles.

Figure: This product is developed from a cross-disciplinary project with artists, architects, and therapist.

**Objective to be studied:**

**How can creative/artistic methods be developed in cross-disciplinary communities to support innovation?**

**Summary:**

Innovation can solve new challenges in a changing society. Research in innovation has in general a problem of not being realised in practice:1. The new knowledge might often end up only as interesting articles in a magazine. This can be changed by a combination of more practice based research in design, and research methods from social science. It support the development of innovative qualities in the product itself as well as the organisational change needed to implement the product in society:2.

It is a common understanding that artistic skills and creative methods can contribute to innovation. It would be interesting to examine these processes more closely; what qualities are needed for success in this field? In different professions, and in different communities of practice, how can the artist contribute to innovation? Through art productions related to case studies; a chapel, a secondary school and a hospital, it is possible to look closer to these topics from different cultural angles. Participatory learning processes open up for cross disciplinary research. With basis in user oriented processes, communicative qualities in products can be developed:3, Artistic knowledge can, to a greater extent than how it is employed today,

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[1] Aris Kaloudis og Per M. Koch, "De næringsrettede instituttenes rolle i det fremtidige innovasjonssystemet", NIFU STEP, 2004, Norsk institutt for studier av forskning og utdanning. Senter for innovasjonsforskning. Rapport, s 108.
[2] Reason, P & Heron, J. (1986) Research with people: The paradigm of co-operative experiential inquiry. *Person Centered Review*, 1: 456-475
[3] Vihma, Susann, Design semantics and aesthetics http://home.snafu.de/jonasw/PARADOXVihmaE.html

contribute to create new products with good semiotic qualities. Artistic processes in general can be methodically documented :4 and can be integrated in multidisciplinary research projects. Multidisciplinary cooperation can also add new ethics and new values in the product development :5. The cooperation with other research fields related to nursing, theology and pedagogical science have some interesting meeting points, but also challenges.

The expected result in the PhD. is to contribute to theory about creativity in material related processes and to theory about communicative design.

**Introduction**

**Development of creative/artistic methods used in an untraditional cross disciplinary context can lead to innovation.**

Conflicts can be the result of a cooperative project involving several professions with different values. To create synergy effects it can be valuable to first develop some common ground or to identify common values. With related aims can different professionals easier get together and work better in groups. When a product designer is going to develop a product with communicative qualities and semantic values, there are two questions which can be good to bear in mind, to create a win - win situation: .

1. How can they contribute to improve my products?
2. How can my product contribute to improve their practice?

In practice this might work well, but in research projects problems might rise because of research traditions. Research traditions are different in different professins. There can be different views on what knowledge is. Science tradition in theology is different from science tradition related to practical nursing. Internationally and nationally there is a discussion about how to do research in the field of art and design.[6] The epistemology, the view on what is truth and what knowledge, can differ in different traditions. This might bring new perspectives to both parts, which might influence the design process, and create new values in the design product.

Art and design can create new values in different ways. In time, there have been a variation of perspectives to understand objects, and the design process has been related to this. From a rational production perspective the cost and distribution have been valued factors. The industry produces objects as fast and cheap as possible. The idea is that the cheapest object is chosen by the customer. Lately the user experience of the product has become more important to consider. Desired qualities in objects should be adjustable according to the changing needs of different users. The product might reflect the identity of the user. Shifts in the focus from the technical and rational production to the more social aware design have led to new types of design products.

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[4] Jon Prosser, Image-Based Research: A Sourcebook for Qualitative Researchers by Authors: Released: April, Routledge,1998

[5] Beck, Ulrich (1997): Risikosamfundet, København: Hans Reitzels Forlag (oversat fra "Risikogesellschaft. Auf dem Weg eine andere moderne", 1986

[6] Halina Dunin Woyseth, A continuum from scientific research to creative practice? Noen tanker omkring forskning I skapende og utøvende fag. Kunstnerisk utviklingsarbeid, praksisbasert forskning. Artikkel, Nordisk Arkitekturforskning, nr 1 2003.

Ordinary everyday objects are usually understood to meet functional needs, like washing up or cutting the lawn. They also can be understood to represent values, which reflect political, psychological or social values. Examples of objects with these types of signals are national costumes, religious jewellery, expensive brand objects, or wildlife-clothes. The semantics of the object is the visual message of the object, which can reflect life style and values of a person.

Products that earlier used to be satisfying, practical and functional, now meet competition from products with added values related to identity, experiences, or status. Coca Cola is a well known example of a brand product, and car brands sell identity and status through their brand building. Grandmother chooses the home for elderly people that satisfies her needs, and her demands for life quality. Some customers choose new types of potatoes in the grocery store, based on their form. Traditional Norwegian potatoes are rejected, and imported potatoes are chosen, because they have a more circular form. The aspect of experience is growing into old, established markets. New rules of the game are appearing. This is an interesting challenge.The experience society, and the economy of experience is related to more than Circus and cinema, it melts into our everyday life in all levels.

In product design this development has given a higher consciousness about the meta-level of a product, the meta-product. The product has an added value, which can be the breaking point in the moment of the sale. The customers are acting emotionally and not rationally. When there are many products that all fulfill the same function or desire, people buy the solution that they "feel" is the best. A term like emotional design[7], is an example that represent this direction. This leads to a discussion about, and development of, the immaterial value of the product.

Artistic knowledge and artistic practice form a relevant base to deal with immaterial values. Artists has experience in transforming abstract ideas and values from words to a material, an object or to a visual expression. The German philosopher Martin Heidegger describes the art object like this;

*"Presumably it becomes something superfluous and confounding to inquire about [the artwork] because the artwork is something else over and above thingness. This otherness which is in it constitutes its* ***art****-ness. The artwork is, indeed a manufactured thing, but it says something other than the mere thing itself,* ***allo agoreuei****. The* ***work*** *makes public something other than itself; it manifests otherness; it is an allegory. With the manufactured thing something other is brought together in the artwork. To bring together in Greek is called symballein. The* ***work*** *is a symbol."* [8]

Craft and material based art are terms often used in the disciplines of ceramics, metalwork, glass, wood and textile. After the industrialisation an ideology developed claiming that good products should be designed by artists and artisans, with a particular experience in the material. Bauhaus in Germany was an example of such a school. This tradition has been developed further in many countries, from the arts- and craft-movement. Craft in Norway is crossing borders both to the fine arts, conceptual arts and to design. The difference between fine art, design and craft can be moving, and related to innovation, experience and industry it is exactly these faded borders between the disciplines that can be important. To work across

[7] http://www.designandemotion.org/search_papers.php

[8] "Kunstverkets opprinnelse" Martin Heidegger, Pax Forlag A/S Oslo 2000, (Der Ursprung des Kunstwerkes 1935/36), s 11.

professional borders is not unusual, but definitely not obvious, not even in the art and design communities.

In the contemporary art scene there is a tendency and will to make art projects outside ”the white cube”, thus the art can be seen as more free, and integrated in different levels of society, as an important power. Art should not only be harmless, beautiful products for the bourgoise, controlled in a gallery. Seen in this perspective, one might understand several communities in art and culture who themselves want new ways of working, and this might be a base for different varieties of innovation. Artists can contribute to the process of creating good products for the experience society. Art can find new arenas to unfold. This demands a new way of understanding the role of the art scene, both for the artist and the art related society. New roles, new ideas and innovation often meet resistance.[9] This is a challenge both for the creative professions and for society[10].

Art and design can influence a situation with people with both associative and communicative qualities. In the creative process, people can be involved in different ways to communicate their feelings related to a product. If people’s fantasy is challenged in certain ways, and the outcome is documented, it can contribute to new and interesting elements in the conceptual process, and in the making of the concrete object.

The starting point for the work was to examine how ceramic tiles could be applied in the border field of art, design and architecture. Whereas tiles often are seen as functional ware, to cover bathroom interior, or outside facades, there are other aspects hidden in this media, if it is explored and developed. Tiles can, in a unique way, be a media for communication with a target group. The experiential qualities in rooms can create new values both in a human and social perspective. In this project the aim has been to use tiles to create new values in the environment.

The general interest for other practitioners might be to have a deeper understanding about how cross disciplinary cooperation can feed back to designer to create products with semantic and communicative qualities.

The research question is
**How can creative/artistic methods be developed in an untraditional cross disciplinary contexts to support innovation?**

**The state of the art.**

Several people have been studying this subject from different perspectives. In Ireland Mads Haahr has studied the art and technology interface at the Department of Computer Science University of Dublin: Innovation and Identity in Information-Age Ireland
He points out that Ireland was subject to a considerable transformation towards the end of the 19th century and again at the end of the 20th century with the Celtic Tiger boom. The latter can be seen as a particularly fast-tracked phase of a longer transformation of Irish society from an agricultural/industrial society into an informational society. He traces current trends in this transformative process and proposes that the interface of art and technology will come

[9] Gustav Erling Karlsen: Innovasjon og motstand. I: Norsk Pedagogisk Tidskrift. (1988) Nr. 6. s. 354-63.
[10] Solhjell, Dag, kunstsosiolog, Formidler og formidlet, en teori om kunstformidlingens praksis, Universitetsforlaget 2001

to play an important role for two key tasks for the informational society: the fostering of innovation and the construction of identity.[11]

Another perspective is represented in Bratton and Garrett-Petts article "Art in the Workplace: Innovation and Culture-Based Economic Development in Canadian Small Cities."[12] They points out that in recent years, much has been written about creativity becoming the currency of the brave new world of worker empowerment and learning at work, and about the need to attract a new creative class to our cities, but relatively little attention has been given to ways we might nurture or otherwise invest in local creative capital. They see evidence that exposure to arts and culture in a small city contributes to developing reflexive and innovative labour processes. They also argue that bringing art and artists to the workplace stimulates creativity and, in the process, expands otherwise restrictive definitions of the "creative class."

For a designer or an artist who act as a legitimate peripheral participant in an untraditional professional context, there is a big potential for new ideas and innovation. There is a great potential of innovation in cross disciplinary competence. The expected effects of synergy can be weakened by difficulties in cross disciplinary communication. There might be unwillingness for change from old habits. Different cultures meet. Different values come to the surface. The professional languages are different. The choice of methods is different. The cultures can be so different that it might seem to be no common denominators. The success can be great, but there are many challenges. In such challenges in studies, work-life and business, communication models, and certain research strategies can be used for better cooperation.[13]

**Methods**

Learning is processes to obtain knowledge, skills and thoughts. Different models of learning, can give different result. One example is problem based learning which can relate to a more practical and realistic learning situation. Co-operative experiential inquiry[14] can give higher validation of a research process. Through a social anthropological start of the project the learning process can have a sense of coherence, where the participants feel that their lives and thoughts are included in the processes. What kind of groups or individuals can this be relevant for?

Design is in it's nature a cross disciplinary discipline. Methods that will support cross disciplinary actions can be useful. A possible modell to structure the project is suggested in figure 1. It is a visual interpretation of a structure of hyphothesis made by Mette Mo

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[11] The Art/Technology Interface: Innovation and Identity in Information-Age Ireland Mads Haahr Department of Computer Science University of Dublin, Trinity College

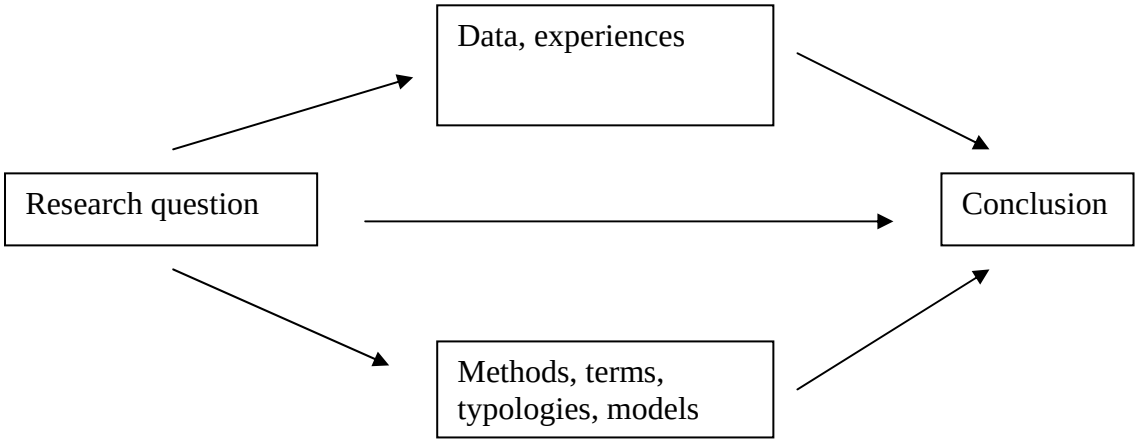
[12] John A. Bratton and W.F. Garrett-Petts, "Art in the Workplace: Innovation and Culture-Based Economic Development in Canadian Small Cities." Thompson Rivers University, Kamloops, B.C.

[13] Staging for creative collaboration in design teams, models, tools and methods, Eril Lerdahl, doktor ingeniøravhandling , Institutt for produktdesign, IPD-rapport 2001:11, s. 101

[14] Reason, P & Heron, J. (1986) Research with people: The paradigm of co-operative experiential inquiry. *Person Centered Review*, 1: 456-475

Jakobsen[15], where the cross disciplinary way of working reflects a cross disciplinary subject like product development, where there is a coherence and interaction among the different research subjects: ”Complex problems in a complex environment require cross-disciplinary science”.

The nature of the research question should to a certain extent decide the choice of methods, that will produce some data material and experiences, which through analysis can lead to a conclusion. It should be a relevant and reliable coherence between these elements. This is shown in this figure by Kalleberg. [16]




**Through cross disciplinary research methods the research question is going to be examined further related to three case-studies with art in architecture:**

The multidisciplinary professions at Akershus University College are a good base for research in this field, as there are practice based researchers related to different traditions, like nursing, social work, teaching and nutrition. They have practical research experience to situations of life and death, to learning strategies and to sociology. These are interesting fields in the meeting with research in art and design.

There will be three cases related to the research question: the chapel, the school and the hospital.

**Case 1 : The chapel**

There is a room in a church where the deceased is shown in a open coffin to family and friends for a last farewell. The room is naked and for some people, it makes the situation scaring and worse. My task is to intervene in the room, presumably with ceramic tiles, to give it a better quality. I have already started this project, with co-operative inquiry with the users, the priest, the community and the architect. This is a a three hour long focus group interview,

[15] Mette Mo Jakobsen, Development of competitive product concepts, a contribution to a systematic approach for small and medium sized companies. Doktor ingeniøravhandling, Institutt for produksjons og kvalitetsteknikk, NTNU, 1995:69

[16] Kalleberg, R. (1992) Konstruktiv samfunnsvitenskap. En fagteoretisk plassering av “aksjonsforskning”, Institutt for sosiologi, univeristetet i Oslo.

recorded on a mini-disc. I apply for that this interview material can be integrated as relevant data related to my ph.d plan. The art should be in the chapel around summer 2006.

Detail from the room

Detail of tile

**Case 2. Case: The school**

Two groups of seating objects should be made to communicate with the pupils in the secondary school. There has been a cross disciplinary cooperation. I have made visual and written references to local persons and nature, which also refer to the user of the sculptural sitting objects. These objects are delivered in spring 2006.

Seating objects under construction, april 2006.

**Case 3: The hospital**

The biggest hospital in Norway is under construction in Akershus. The school has a formal cooperation with this hospital, and the plan is to develop some sort of product related to the building or to the users. This is not based on a specific contract yet, but something that would be possible in either way, a short period intervention, or maybe a longer. No time is yet decided about this project. I find that it can develop grounded on the earlier experiences.

**New values in a cross disciplinary field**

**At first it can be difficult to realize how much influence another profession actually can have on the creative process, because there are different values related to different professions, and one are in a way captured inside a tradition of values.**

People who get together outside their regular professions can find new and better ways of doing things. The cross disciplinary trust in a project might be strengthened in different ways. One way is to search for common values, based in several user groups. In this case there was a dialogue between architect, artists, engineers and teachers. To open up for cooperation might lead to some disagreements, and crossing values. From crossing cultural values, new solutions might rise, even better than anyone would have imagined on their own.