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FOCUS: DESTINATION

Borås shows the way

REDESIGNING THE KINGDOM OF CRYSTAL

A POWERFUL PATRON

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COVER:
Workshop in "Glasriket" (The Kingdom of Crystal).
Photo: Conny Olander

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Challenges contain opportunities

PHOTO: CAROLINE LUNDÉN-WELDEN

Eva-Karin Anderman,
Program Director, Swedish
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Design is a creative work process that starts in the present but is also about the future. The starting point is actually the future users. Working with design linked to a destination – a city, a society, a region, one end of the country, a Kingdom of Crystal – is about designing and developing attractive places where people want to live and work or visit. Now and in the future.

History – that collection of experiences and knowledge – can form the foundation of a design process and also help to formulate needs that today's users cannot express themselves.

Over the past year we have worked with a programme focusing on design and destination in the Kingdom of Crystal region in southern Sweden. How can the Kingdom of Crystal be developed with the help of design? We have travelled around the region and met with municipal politicians, residents and design students. At a recent lunch discussion one of the design students said he had not known much about the Kingdom of Glass, that he had not had any relationship with it. But he had now been shown photographs and heard stories about the past, when the small glassworks were filled with people and the large ones were the major employers. His view – both of the present and of the future – had suddenly been changed.

We have a joint responsibility to show today's young people the tradition, history, expertise and experience that are the heritage of the Kingdom of Crystal and other crisis-hit regions. But we also have a responsibility to show what fantastic future scenarios history can contribute to. True, changes can involve a large employer being replaced by many small ones. Or that the knowledge used in the past to produce household utility wares will tomorrow help to develop and produce smart glass for public spaces or buildings. In this issue you can read, among other things, about how Borås, which despite (or perhaps thanks to) major structural changes, continues to be a city which pulsates with design, creativity and strong links to the industry that once existed there. Though now in a completely new guise.

In conjunction with doing the design programme for the Kingdom of Glass, SVID has also implemented an process like the one we did to develop the strategic research and innovation agenda we described in the previous issue of *Design Research Journal*. One of the methods we used in our process was to ask the people we met to step five years into the future for a moment and describe an experience they then had in the Kingdom of Glass. And then to write it down on a postcard addressed to someone they like. After having read all the postcards we received, I fully believe in the future of the Kingdom of Glass. And that this future will contain splendid stories that are worth telling, experiencing and creating. The challenges also contain the opportunities.

Eva-Karin Anderman

Borås – a magnet for more than fashion fans

Borås is currently a shining destination star on Sweden's design map. Longing gazes are turned towards the city in Västra Götaland County inland from Göteborg. Just two decades ago Borås was in acute crisis as a result of its dying textile industry. How was that negative trend turned around? How was the textile industry turned into a resource? What does Borås have that other places don't?

To be a recognised centre of design it is not necessary to have a big-city location. Borås is living proof of that. However, many other factors are necessary. The combination of enthusiasm and decisiveness is probably needed in this context. In addition, many stakeholders – business leaders, politicians and people linked to various institutions – must be able to cooperate. They must also have a history on which they can jointly build.

"To understand what's happening today we have to look back in time. Go back to the beginning of industrialisation – yes, even further," says *Jan Carlsson*, a textile engineer with 40 years in the industry and currently coordinator at the Swedish School of Textiles.

TRAVELLING SALESMEN

It was trade that made Borås the hub of its region. As early as the 16th century, farmers stretched their incomes by wandering around and selling their handiwork. Later, that handiwork also included textiles made on the farms. Sweden's first weaving mill was founded in Borås in the mid-19th century. The textile industry grew and in the 1960s two-thirds of all industrial workers in Borås were working in the textile and clothing industry. But times changed, and the 1970s saw the first shipment of machinery from the Borås factories being sent to manufacturers abroad. Jan Carlsson witnessed the textile crisis from close at hand.

"The clothing industry is a good device for measuring a country's stage of economic development, a cheap investment, and a good way to compete. A textile industry was what third-world countries could start up first. And Sweden was one of the first countries willing to sacrifice its own industry to gain cheaper imported clothes," he says cynically.

"I remember how a congress of the Swedish Cooperative Union in the 1970s attempted to rescue the textile industry by deciding that it should focus on producing a basic wardrobe for people. It was actually a success. I worked at a company called Lapidus then, and we supplied 250,000 garments per year for a while. True, some of them were made in Finland, but still."

So how did Borås manage to survive the textile industry crisis despite the bad odds? Whereas its competitor, the city of Norrköping, which had also had a thriving textile industry from very early on, lost the struggle?

"Business. The ability to make deals. Borås had invested not only in making textiles but also in making clothing and in the retail trade. This meant that the companies here could continue to exist and develop, even though the production itself was somewhere else. But by itself this does not explain why Borås has now become a design city ahead of others. To explain that, we have to look at additional factors. Above all, three important components are necessary for a place to develop as Borås has done."

Those factors, Carlsson says, are: the ability to manage production, knowledge of the market and the ability to do business, and good design – that is, awareness of quality and style. Awareness of the city's cultural heritage (and residents' sense of being rooted in it) has allowed the first two conditions to be met. The Swedish School of Textiles' development into a knowledge-intensive and trendy hotspot has allowed the third to also establish a secure footing.

AN INTERESTING DOORSTOPPER

The story of how the Swedish School of

PHOTO: LOTTA JONSON

The Swedish School of Textiles at the University of Borås

Textile education in Borås began in 1866 with the founding of the technical school of weaving (Tekniska Väfskolan). The Swedish Textile Institute was founded in 1948 and in 1982 it became a separate college within what was then the College of Borås. The Swedish School of Textiles has the use of advanced machinery, a sewing room, a textile printing shop, and machine halls for weaving and producing knitwear, and also has full rights to grant advanced research degrees in textile and fashion.

The school offers seven undergraduate programmes, three one-year master's programmes and four two-year master's programmes. In total about 110 people (2013) work daily with education, research and administration. There are about 1,000 full-time students. The Swedish School of Textiles has 12 professors and about 30 research students.

The Swedish School of Textiles' Textile Research Centre (CTF) has the task of promoting Nordic research in textile and fashion with the aim to "strengthen the CTF as an arena and as part of the infrastructure for research and artistic development work."

The Swedish School of Textiles, in partnership with various actors, has also developed a centre of competency, the Textile Innovation & Competence Center (TIC), for the textiles field. The Swedish School of Textiles is also a member of the Sustainable Apparel Coalition and also participates in much of what occurs within Smart Textiles (see the separate sidebar).

In the last years of the 20th century the Swedish School of Textiles was still regarded as only training designers with a strong focus on the clothing industry. Today, artistic creativity is seen far more often on the catwalks that present the works of the graduating students. For example, in October the fashion students visited Shanghai, where the public was fascinated by the concepts, materials and construction techniques.

PHOTO: LOTTA JONSON

Textiles developed out of the Swedish Textile Institute's strictly vocationally oriented courses into today's design-intensive university-level institute is told in the recently published book *Kunskapens trådar* (The threads of knowledge), a large-format doorstopper in Swedish of almost 400 pages. The book emphasises the importance of research. One important developmental milestone in recent years was when the board of the University of Borås, of which the Swedish School of Textiles is part, decided in 2003 that textiles would be one of two future high-profile areas. The action plan for a programme called "Plattform Design" set out how within five years the Swedish School of Textiles would "become Europe's leading research and development centre for textiles."

Since 2001 the Borås-based design agency FuturLab had been organising an event called Future Design Days, to which well-known design theoreticians and practitioners from the whole world were invited as lecturers and participants. One of them was *Simonetta Carbonaro*. She has since continued to work at the School of Textiles as an instructor and professor of design management. She has also further increased the profile of Borås by arranging (so far) three international seminars on sustainability and innovation (The Design of Prosperity).

MEDIA BREAKTHROUGH

Future Design Days made a huge impact in the media. Design fans went on a pilgrimage to Borås and the event paved the way for an increasing interest in design among both the local politicians and industry. *Kjell Berggren*, CEO of the real estate investment company Kanicos, was among the latter. In 2006 he bought an old textile factory called Simonsland, which is in a

central location in the city.

"I saw the potential right away," he says. "Of course the Swedish School of Textiles should be based here. Near the main square, near the university and campus. For many years 600 people worked here, and at least 600 would work here in the future too. So I went to the municipality, presented my vision, and got everyone to agree."

A city council decision from 2007 confirms this narrative: "The plan for Simonsland will turn the north central area, where AB Svenskt Konstsilke is currently leaving its premises, into a versatile environment for various types of activities. More entrances and pathways will open up the area and make it a natural part of the city core, whilst preserving the area's cultural heritage values." A few years later, in March 2012, we read: "The Property Management Department has signed an agreement to rent 20,000 square metres of premises in Simonsland. Much of that, 8,000 square metres, is for the Museum of Textile History."

And there it stands, the fabulous factory of Simonsland with its rough brick walls and shiny polished concrete floor. The Swedish School of Textiles has recently moved into the large premises. Here we find machinery halls where all the kinds of textiles in the world can be made; there is no need for any practical textile knowledge to be lost. Close by the machines are bright teaching rooms for theoretical studies. The building is built over the Viskan River, which makes the view from the various floors both dynamic and exciting.

SEVERAL INSTITUTIONS

The official name for the whole district is the Textile Fashion Center. In one part of the complex the Museum of Textile History is now being built

PHOTO: LOTTA JONSON

PHOTO: LOTTA JONSON

Above: Anders Eklöf, in the Fashion Design master's programme, is sewing his graduating collection. Opposite: The Swedish School of Textiles is now located in AB Svenskt Konstsilke's old factory in the centre of Borås. Below: Draping with fabric is already considered to be an important step in the first year at the Swedish School of Textiles.

PHOTO: LOTTA JONSON

The Textile Materials Library of Smart Textiles contains fabric samples, threads and yarns in the most unexpected materials.

and will soon be inaugurated. A number of other organisations with an interest in textiles are also present. They include an incubator facility and the Smart Textiles hub, which has its own materials library/showroom for customers and visitors. There is a newly created branch of the Swedish Fashion Council. And there is Marketplace, which "creates infrastructure for companies, business leaders and business partners in fashion, textiles, accessories and related sectors," according to its own definition.

To top it all off, the City of Borås is now also holding an international sculpture event every second year. The first was held in 2008, when a nine-metre-high figure of Pinocchio became a talking point. Today even opponents of the bronze statue must admit that it added fuel to the reputation of the city as a destination interested in culture and design. And of course all the photos of Lady Gaga wearing a hot pink fur jacket (designed by Daniel Bendzovski, a student at the Swedish School of Textiles) that were rolled out into the media in August 2012 did not make matters worse.

DESTINATION DESIGN

In establishing the Borås of today, the word "design" has thus been crucial. It has greatly helped to increase the city's attractiveness. However, the concept of "destination design" has never had to be applied here. In the case of Borås, coincidences and the shared good will of many enthusiasts were the driving force. Yet Borås can still be a model for other places with structural problems. There is much to learn here – not least for designers and design researchers who will in the future be called upon to work with destinations and locations where people are to live and work.

Lotta Jonson

Smart Textiles

Smart Textiles is a research hub at the University of Borås. Since being founded in 2006, it does everything from basic research to developing prototypes. Smart Textiles receives most of its funding from Vinnova.

The R&D done at Smart Textiles is split between applied basic research on the one hand and commercial and needs-directed development projects on the other. The latter are done in cooperation with companies and are supported by research expertise in various fields as required.

TECHNOLOGY LAB (STTL) brings together technological research in the field of Smart Textiles and works to build up a cohesive environment around researchers and doctoral and master's students. This is done as a collaboration between the University of Borås (the Swedish School of Textiles and the School of Engineering), Swerea IVF, SP Technical Research Institute of Sweden and Chalmers University (the Department of Materials and Manufacturing Technology). Within STTL there is also close collaboration with the Chalmers Materials Science research school on issues of materials development.

DESIGN LAB (STDL) mainly organises research and education in smart textiles at the Swedish School of Textiles. STDL collaborates externally primarily directly with companies, organisations and the cultural scene plus nationally and internationally with a range of institutions. STDL's role is to demonstrate by means of experimental research the design possibilities of new materials and new technology and to systematically develop methodology and techniques for a changed textile design profession.

Business Innovation

Smart Textiles Business Innovation has the goal of encouraging and stimulating companies to do innovation and development, and wants to be a natural partner for industry in the strategic work to develop tomorrow's textile products and materials.

Smart Textiles Prototype Factory is a collected resource for researchers, innovators, companies and others for the development of prototypes and new methods in this field.

Destination design: Regional makeovers

The Kingdom of Crystal (Glasriket in Swedish) is a region in crisis. At least, so the news reports have been shouting for a long time. The alarm bells have been ringing for ages without much happening. Now even the glassworks in Orrefors, the Kingdom of Crystal's flagship, have been shut. It's time to find new solutions. Can destination design identify the problems and point to new solutions?

Clink clink… On the television news the warehouses in the Kingdom of Crystal are being cleared out; hundreds of objects are being thrown into a large container, and the grand old man of Swedish art glass design, *Bertil Vallien*, sighs heavily. "It's tragic," he says. Many people surely agree.

The Kingdom of Crystal will never again be what it once was. In the 1960s, for instance, forty glassworks were operating and employed almost 5,000 people. By 1980 the number of glassworks had shrunk to half. In 2010 a total of 425 people worked in the glass industry. When Orrefors, the largest glassworks, bought Kosta (which had previously merged with Boda and Åfors), the new company Orrefors Kosta Boda became the Kingdom of Crystal's flagship. That was in 1989. Less than a decade later the sails had begun to flap in wind and the whole lot was sold to the Danish firm of Royal Copenhagen. In 2005 the Swedish acquisition was bought back by New Wave Group, a "growth group of companies that creates, acquires and develops brands and products", according to its own presentation. Many people believe the reason for the acquisition was the brand, not the glass manufacturing itself. Recently the last dozen employees were fired from Orrefors. (True, design commissions are still being given to glass designers but the head office is located outside Göteborg on the Swedish west coast and the manufacturing is done abroad.) Of the whole of Kosta Boda Orrefors, only part of Kosta's art glass manufacturing still remains. Stillness is descending over the formerly thriving glassworks localities. The region is in crisis. But some positive things can be mentioned. A few small glassworks are still being kept going by individual enthusiasts.

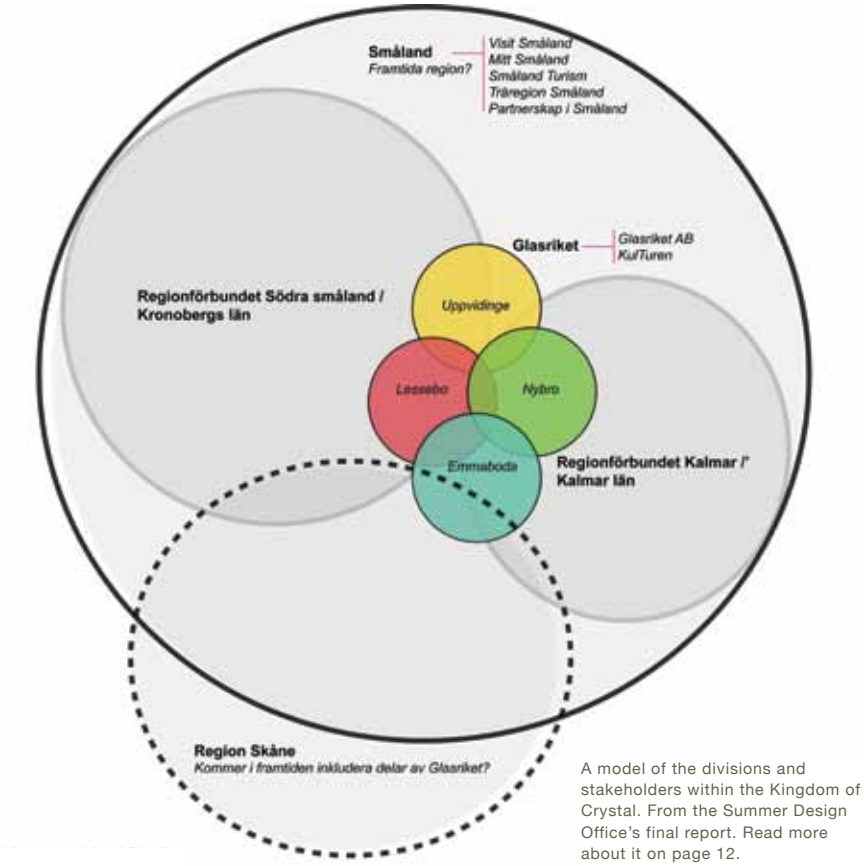
CONFUSING CONCEPT

The actual Swedish concept of Glasriket is slightly confusing. Sometimes it refers to the marketing company AB Glasriket, three-fifths of which is owned by the region's glassworks and two-fifths by four regional municipalities, which jointly publish the company's eponymous magazine Glasriket.

In the rest of this article, the term "Glasriket/Kingdom of Crystal" refers to the geographical region that consists of the four regional municipalities located half-way between Kalmar and Växjö: Emmaboda, Lessebo, Nybro and Uppvidinge. The region faces growing unemployment and the risk that its permanent residents will move out – if no one can succeed in anchoring the region's heritage in the present. It is no longer possible to make a living from glass, especially not if that glass becomes a nostalgic remnant that is only dusted off in the summer when the tourists arrive to eat pickled herring. Glass has been the most important industry here for several hundred years but now new efforts are needed.

A wide-ranging Swedish government commission entitled "The New Kingdom of Crystal – Collaboration, Tradition, Innovation" is currently investigating the region's future. The county administrative board of Kronoberg County is coordinating the project but other involved actors are Kalmar County, the Regional Council of Southern Småland and the Regional Council of Kalmar County in addition to the affected municipalities.

The whole project will conclude at the end of 2014 and, it is hoped, will lead to many constructive suggestions. So far, two interim reports have been presented, most recently in the spring. The website, www.glasrikeuppdraget.se,



A model of the divisions and stakeholders within the Kingdom of Crystal. From the Summer Design Office's final report. Read more about it on page 12.

Destination design

is about both what enables people to enjoy living in a place and what makes the rest of us want to visit that specific city or region. In destination design, design processes are used to map out the possibilities of developing attractive regions, places and environments in which to live, build, visit or work. For the final result to be lasting, genuine collaboration with the local residents is necessary, as is a cooperative business sector and politicians who also want to invest in service design. One pioneer in the context of destination design was *Jane Jacobs* (1916–2006), see photo. Jacobs said that when designing a community, it is necessary to think of the people who live there. In her book *The Death and Life of Great American Cities* she stressed the importance of social capital.

shows how the work is progressing. Quite a lot is actually happening, not least in the field now known as destination design. The commission's first report was based partly on an OECD report from 2011. Starting from that, a number of focus areas were chosen: local and regional leadership, the environment and energy, the Kingdom of Crystal – the living cultural heritage, the tourism industry, incentives for development, and research, development and education. A very brief summary follows below.

LOCAL AND REGIONAL LEADERSHIP

Because the Kingdom of Crystal is comprised of several regional municipalities and extends across two counties, certain problems of leadership and development arise. The report states that values exist – cultural, business and brand – that could be developed more positively if the local and regional leadership would work from a common basis. At the moment a clear framework for collaboration and cooperation is lacking.

THE ENVIRONMENT AND ENERGY

For the Kingdom of Crystal, the main environmental issue has been the need to clean up contaminated areas.

This autumn the four regional municipalities involved agreed to ask the Geological Survey of Sweden (SGU) agency to lead the cleanup work, which can thereby be harmonised and coordinated, an important step forward.

THE LIVING CULTURAL HERITAGE

The cultural issues relate to both the craft still being practised and the historical one. They are about glass art and glass design, about both innovative new ideas and the old glass collections, the glassworks, and cultural environments like the historic small glassworks and worker's cottages. The report says that making all this easily accessibly for visitors to experience and enjoy could build up and develop local, national and international interest in the Kingdom of Crystal. The region could be given a profile and identity based on truly unique values: "The tourism and experience industry can be developed and other businesses can be established and developed with business concepts based on the cultural heritage.

These can be both service companies and producers, large or small."
The report says it is important that the tourism and experience industry also targets the region's residents, as this can also be important to their self-image.

THE TOURISM INDUSTRY

The report says the Glasriket/The Kingdom of Crystal brand is currently stronger than the extent of the glass industry supports, and argues there is more potential for development. The problem is that there is no "central control of the brand and its value development".

Another stumbling block is the infrastructure. To attract visitors, residents and businesses, the transport links to and from the region are of crucial importance. There is no collaboration to develop a common regional strategy between the two closest airports, Småland Airport in Växjö and Kalmar Airport; instead, they compete with each other.

The bus and railway services also leave a lot to be desired. Quite simply, it is difficult and time consuming to get to and from the Kingdom of Crystal without a car. Not to mention to travel between the various urban centres in the region. On this issue there must be development and coordination of the public transport system, both across county borders and between the various types of transport, so that transport links to and from the region are made easier in order to stimulate new businesses and new investments.

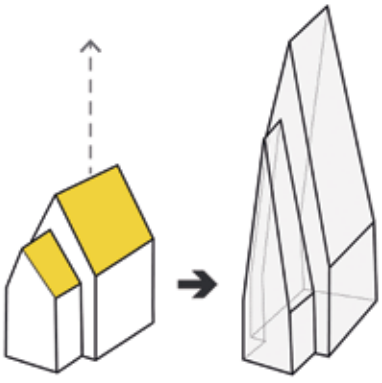
INCENTIVES FOR DEVELOPMENT

The report says the Kingdom of Crystal region needs to promote new ideas. To do this, a local growth centre could be created. Here are some comments in the report:

"The target group for the growth centre will primarily be ideas within the creative and cultural industries.... It should be possible to give the local growth centre in the Kingdom of Glass region a distinct profile by using design as a tool for business development…. Recently, work with the design of services has become more common…. In the Kingdom of Glass region, increased knowledge about the design of 'visitor' and 'experience' services should be able to have great importance in creating better products and increasing competitiveness. Increased knowledge about the importance of design management and about industrial and product design can be very significant."

The report says that the importance of higher education and R&D is highly significant in developing an industry. Glass as a topic and glassmaking as an industry could benefit greatly from a similar development as that in Borås

Below: Granhult Church from the 1220s. Photo from 1906, Granhult Local Folklore Society, Uppvidinge Municipality. The church could be the starting point for a future landmark, according to one of the Summer Design Office's concepts. Below right: Åseda Railway Park and its expanded metal "church".



(see page 4). Why not set up a Kingdom of Crystal Knowledge Centre? People from around the world who want glass-related knowledge in any discipline at all could go there.

As things are now, there is a lack of "a broad approach to glass, in which research issues could exist within a variety of disciplines, such as glass technology, the history of art, design management, artistic development work, consumer science and sustainable development". Linneaus University and the Glafo glass research institute in Växjö could jointly host research in the field of glass. Further, the report states that "an investment in research should have high-level goals that lead to new working methods, cross-disciplinary and in new constellations" and points to already existing proposals for an international educational centre for glass craft, based in Pukeberg and modelled on the American experimental glass school Pilchuck outside Seattle.

THE SUMMER DESIGN OFFICE

As we have seen, the commission entitled "The New Kingdom of Crystal – Collaboration, Tradition, Innovation" has already identified the deficiencies and formulated some ideas about the Kingdom of Crystal and its future. The reports make it clear that there is also an interest in what various types of design expertise could contribute.

Just over six months ago SVID was commissioned by the Swedish Agency for Economic and Regional Growth to launch, within the framework of its Kingdom of Crystal mandate, the project "Destination: The Kingdom of Crystal". Accordingly, this year's Summer Design Office worked on some specific issues there.

The Kingdom of Crystal Summer Design Office 2013 employed six students from various university and college programmes linked to design: *Daniel Hegestrand*, *Fredrik Hellström, Mathias Holmberg*, *Hanna Johansson*, *Ella Järlehag* and *Erika Lindmark*. Together their expertise ranges from architecture and landscape architecture to industrial design, design engineering and design specialising in children's culture. *Dag Holmgren*, professor of industrial design at the School of Engineering, Jönköping University, led the work for the seven-week period.

All in all, the students worked with four different projects, each formulated by one of the four regional municipalities: Approaches to Uppvidinge, The Participatory Process Nybro, Identity Lessebo and Outdoor Environment Emmaboda.

A workshop with involved residents of Lessebo Municipality.

PARTICIPATORY DESIGN

The first project, Approaches to Uppvidinge, focused not only on considering the roads leading to the regional municipality's urban centres, but also to look at parks and central locations that are not fully used today – all to create a better living environment and a better overall impression of the urban centres.

The final proposal included setting up landmarks starting from two existing places: an unused four-hectare green space in the middle of Åseda, Åseda Railway Park, and Sweden's oldest wooden church, Granhult Church from the 1220s, located 20 minutes from Åseda and 10 minutes from Lenhovda.

Long-term investments are needed to turn the proposal into a reality but some ideas can be achieved with simple measures that can be started at any time. Of course, it is important that all the local residents go along with the plans.

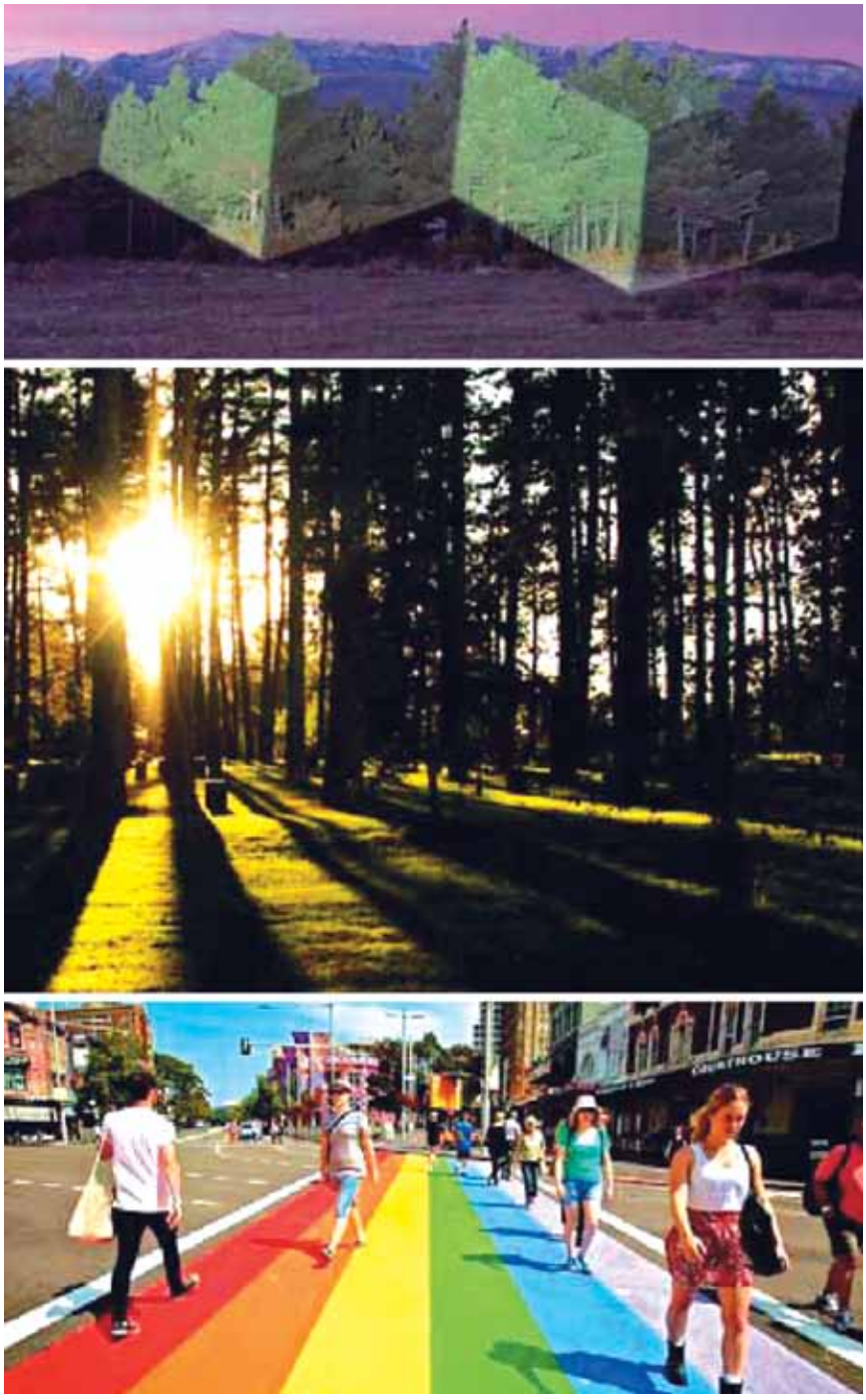
User-driven processes, known as "participatory design", was the theme of another project, whose results and approach are described in detail in the final report, "Destination Glasriket – Sommardesignkontoret Glasriket 2013" (Destination: The Kingdom of Crystal – the Kingdom of Crystal Summer Design Office 2013). For destination design to have any success at all, everyone in the municipality must perceive the changes as overwhelmingly positive.

"What makes Lessebo unique?" was the overall question of the third project, which aims to create an identity that strengthens and clarifies the regional municipality and the four urban centres

of Lessebo, Hovmantorp, Skruv and Kosta to both residents and visitors. The aim was also to provide inspiration for future municipal development.

A couple of workshops were held whose participants included women age 30 to 40. After that, artists' depictions were produced to create a picture of the possibilities that exist in Lessebo and encourage conceptual thinking.
A map of the regional municipality was used to illustrate the various identities of the municipality and urban centres. The project suggested that the map could act as the basis for a website that would involve local residents.
The seven summer weeks of work was of course only the beginning of Identity Lessebo. Many more simple measures are needed, such as developing a graphic identity but also more tricky decisions like coordinating public transport across the county border.
Finally, Outdoor Environment Emmaboda focused mainly on the outdoor environment around The Glass Factory and Boda Glassworks in Boda. The result was a concept proposal for how the area can be developed to become a sustainable environment for a long time, with the creation of meeting places for both residents and visitors.

The final report states: "Boda Glassworks is now an artistic and creative location even though it is not perceived as such from the outside. We therefore used glass in an artistic process to develop a design proposal that can reflect the locality's creativity." The proposal uses the metaphor of "broken glass" and includes the suggestion of planting various types of plants to make this clear. Though of course, this is not enough by itself. "In order to link several areas within Boda Glassworks, such as the swimming spot, the sports centre and even the library, it would be good to have a larger-scale



Some changes need more time and more in-depth measures. Others can be implemented quickly, such as these measures for the entrances to the Kingdom of Crystal. Top: lighting creates striking illusions. Centre: thinning the forest can dramatise the surroundings around the entrances. Bottom: a sense of belonging can be created if the entrances are painted. All according to the Kingdom of Crystal Summer Design Office.

Glass shards inspired the environment around Boda Glassworks. A playful place, which highlights the region and The Glass Factory's creative activities. From the Kingdom of Crystal Summer Design Office.

design to continue working with," the report added.

The conclusions of the designer team at the Summer Design Office 2013 after the work finished included this: "To create a cohesive Kingdom of Crystal, the four regional municipalities should merge into a shared region. The many different divisions and boundaries that exist today inhibit the clarity and prerequisites for collaboration between the parties. Thinking in an introverted way and only within the municipal boundaries is actually damaging to the work on a cohesive image of what the Kingdom of Crystal is and will be in future."

The designers also hope that the final report and the design approach it reflects can function as a toolbox for the regional municipalities' future work.

The fact that the Kingdom of Crystal has major potential is shown both by the government commission and by all the interesting design proposals stemming from the Kingdom of Crystal Summer Design Office. Most of these do not focus on glass itself.

TOWARDS A VIBRANT FUTURE

With regard to the future of glassmaking as a craft, the currently very vibrant The Glass Factory in Boda inspires hope. At the end of October it became clear that glass designer Åsa Jungnelius, a lecturer at Konstfack, will be associated with the glassworks there. The plan is that she will help create an arena for both Swedish and international glass projects with the aim of initiating and stimulating cross-disciplinary collaboration. In this way The Glass Factory has the opportunity to become a thriving hub for experimental glassmaking in the future. In addition, the glass museum in Boda, The Glass Factory, was chosen this summer to take part in an EU project entitled "Glass is Tomorrow", which will explore the future of glass and develop its possibilities of surviving. Museum director *Maja Heuer* says we are on the threshold of a revitalising paradigm shift. Let us hope she is right.

Lotta Jonson

Destination design – both big and small

Project for public spaces

Project for public spaces (PPS) is an NGO founded in New York in 1975. Activist and critic of architecture and urban planning *Jane Jacobs* (1916–2006) was a mentor for PPS. The NGO has done work in 40 countries, including Sweden. Here PPS has given courses for social developers and politicians about how to upgrade the building stock. PPS says Swedes are good at urban design but not so good at involving the local community.

PPS uses a variety of methods to work with location development (which it calls "placemaking"). Using public space is an important starting point. As is looking around and perceiving the setting. In addition, the local community must be involved in the placemaking efforts. One of the biggest obstacles for revitalising a location is if the transport links to and from it do not work. Or if everything at the location is only suitable for automobile use.

PPS uses the concept of "slow areas" and says these are necessary. The NGO's placemaking methods can also be applied to smaller localities. Whatever the size, it is always important to make use of the pride of place felt by local residents. This, plus a sense of belonging, can be reinforced, for instance by emphasising the local food culture.

Placemaking requires leaders who dare to start a process without knowing where it will end up. This requires impassioned politicians and collaboration between people from various fields of knowledge. Experience also shows it is best to implement changes gradually – to do small measures at any one time but do them faster and cheaper. Studies in the US conclude that the main reason people move is not their work but the location – they move to be there.

The PPS project "Future in Transportation" uses Pioneer Courthouse Square, Portland, as a model because car traffic is not prioritised there as it so often is in other US communities.

PPS sometimes uses surveys targeting local residents, asking about their desire to spend time in the location, if it is accessible, and if they can do various activities there. A street intersection can be enough to create a good location. What is most important is to start from the individual's sense of belonging.

One of PPS's concepts for the placemaking process is called "Power of 10" (The name comes from the famous film of 1977 by the designer pair of *Charles* and *Ray Eames*, which starts with a picnicking couple – see www.youtube.com). The idea behind "Power of 10" is that it is not enough to only have just one large central location in a city district. A number are needed in order to create a truly alive location.

This June in Stockholm, PPS, in collaboration with UN-Habitat and the Axelsson Johnson Foundation, held the first of three conferences about placemaking. The aim was to collect documentation for the major UN conference Habitat III 2016, which the theme of "For a better urban future".

Conny Olander

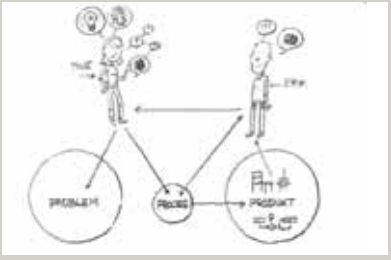
More info at www.pps.org.

Kolding – an experiment

In the Danish town of Kolding there is an unusually large interest in design issues. "Design is about completely different things than just architect-designed furniture and haute couture" is the official message. Kolding has set up a municipal design office to ensure that all design projects will be visible and to give local residents an overview of future plans. The office will also coordinate all design projects and launch new ones. In December 2012 the town adopted a design plan for the entire community: "Kolding – We design life". The vision for 2012–2022 states: "Together we design possibilities for a better life via business enterprise, social development and education. The passion to explore and apply design has made Kolding known abroad as a European design town in which entrepreneurship, social development and education jointly create a proud growth municipality…. We develop knowledge based on design. Kolding is an attractive place to live, where many people can become inventive initiators in the innovative companies and social projects that exist here."

Ten targeted projects taking various approaches will ensure that the vision achieves its goal. Read more at www.kolding.dk.

An animated film with a simple narrative explains the concepts of design and design methodology on the town's website.



Köping – a case study

Köping is located in the Swedish province of Västmanland by Lake Mälaren. The town has about 20,000 residents and a rich history but has problems persuading young people to stay in the area after they leave high school. Something must be done to make Köping a more attractive place to live. As a first (but hopefully not last) step in this direction, the municipality agreed to be a case study in a small university project as part of SVID's Destination & Design programme.

For four weeks, 48 students (from the Business, Technology and Design programme at Södertörn University) studied the town in more detail. Split into ten groups, the students wandered around the town for a day and met municipal and business leaders.

Business, Technology and Design is a business programme whose students also gain an orientation in design basics, including Colour and Form, Design Methodology, and Design Management.

With the aid of design methods, the ten groups were to develop and portray various solutions to make the town more attractive. The results were inspiring. Köping's features include the river running through the town plus a few blocks of old buildings.

One group realised that the town's various districts are not well linked. Coloured markings on the streets were used to indicate various routes and thereby give the town centre a totally different and more cohesive character. Another group focused on the fact that the young adults who had come back to start families must enjoy living there if they are to stay. An innovative and centrally located playground became the focus of this group's concept. Other groups proposed walkways along the river and increased the river's attractiveness with lighting and beautiful places to sit.

Using simple means, Michaela Bergman, Björg Finnbogadottir, Madeleine Klingstedt Asplund, Minna Paavola and Julia Svensson have suggested methods to link the various districts of Köping and have clearly presented them.

"The idea behind this type of education is not to turn the students into designers," explains industrial designer Martin Sjöman, who supervised this section of the course. "They will become economists with a good understanding of the value of design, and I hope they can find roles as purchasers and project managers. I believe it has been good for the students to see that design is not just about attractive furniture, clothes and phones, but can equally well change people's experience of a place."

Lotta Jonson

From emigration to immigration

"It's time to design northern Sweden" is the name of a project at Centek at Luleå University of Technology recently. The project was led by *Helena Jönsson* and it was based on the educational programme "Tourist facilities' form and function", which has existed for a number of years, but Jönsson's project went a step further. The project was not just about raising the tourism status of a locality or municipality. Rather, it focused on stopping further emigration, and getting residents to not even consider leaving.

Representatives of six regional municipalities took part in the Centek project: Arjeplog, Gällivare, Haparanda, Jokkmokk, Pajala and Piteå.

The initial aim was to involve decision makers (municipal, development and/or business managers) and to increase their awareness of what the physical environment and the location's identity mean for growth. In the next stage, the lessons learned will be implemented among the other civil servants. The project ended up being about everything from simple measures, such as fixing broken and out-of-date signs, to searching in the locality's history and trying to get back to its roots. Why do so many place names in Arjeplog have to do with silver? Because there was once a silver mine there. That fact still remains buried in the local collective memory and is an obvious topic to link to. In Jokkmokk, it was natural for people to link to the local Sami culture.

The project participants met on nine occasions (from lunch one day to lunch the next). Helena Jönsson coordinated it all with the aid of architect *Mats Öhman* and industrial designer *Olle Lundberg*. They gave lectures, including on how design thinking can be used to reveal deficiencies that locals, who are too accustomed to them, cannot see by themselves.

So far it is hard to assess the more long-term results of this project but

Jönsson is an optimist:

"All the participants realise the situation is serious. All the municipalities must turn emigration into immigration. Otherwise they have no future. After this programme, all the participants know they have to place the users – that is, the residents – at the centre of the picture. If people enjoy living in a place and feel pride in it, then they can also attract others to move there."

Lotta Jonson

Left: Six municipalities in northern Sweden participated in the destination project.
Centre: Dirty and outdated signs make a place unattractive but are easy to fix.
Above: It was necessary to discover the soul of each place. In Jokkmokk the focus was on Sami culture.
Below: The project participants on an inspection tour. On-site observation is a necessary knowledge-acquisition tool in every destination project.

City Move Interdesign in Gällivare

An early Swedish example of destination design was City Move Interdesign, implemented in 2009. By then, for almost 20 years authorities in Gällivare had been moving houses from their original locations and trying to build up a new community elsewhere because the local mine was undermining the town. The project was complex and met with great resistance.

A closer analysis of the issue made it clear that one of the stumbling blocks was a lack of influence. Moving a town is not the same as moving houses – it is about moving people. The recipient of the development process must be involved if it is to succeed.

To establish a creative discussion from scratch with new, fresh ideas, the municipality agreed to try a concept called Interdesign. Thirty-eight people with expertise in design, architecture, technology, psychology, medicine and more were invited from seventeen countries to come to Gällivare to jointly try to find new ways forward.

For two intensive weeks they worked in a local sports arena adapted for workshop use. The general public and other interested parties could come and observe and take part. Visits were made to homes, workplaces and even the local LKAB mine. All to better understand the situation of the local residents and to work as closely as possible with them. Project funders were the Swedish Ministry of Enterprise, the Swedish Agency for Economic and Regional Growth, the EU, the county council, the municipality and LKAB.

As well as presenting many inspiring examples, the results unequivocally showed that the work process was the big problem. Demands for the future included communicating instead of informing. And to develop and retain the open, inclusive work process begun by City Move Interdesign and to develop a shared vision. Without such a vision and a clearly expressed goal it is hardly possible to persuade people to want to move instead of feeling forced to do so.

During the three years since City Move Interdesign was implemented, Gällivare municipality has tried to gather residents around both shared and individual goals and visions. How that has gone should be the subject of follow-up research, which could then be the foundation of new planning models for attractive communities in the future.

Claes Frössén

After Sandy?

Hurricane Sandy hit New York and the areas south of the city on 29 October 2012. The storm destruction and subsequent ocean surges were unparalleled. Ever since, the ability to create more dynamic systems for quick reconstruction and the reorganisation of important functions has been hotly debated.

Within student-led architecture and construction programmes (Solar Decathlon and Slab), New York Institute for Technology (NYIT) has created a special design expertise that focuses on the skills needed to deal with rapid environmental changes. We call these “Dynamic Design Capabilities”. They focus on the ability to quickly respond, build up, and reconstruct areas that have been subjected to an unexpected event. In previous programmes the students have learned to get sponsors, engage the public, purchase, market, and otherwise ensure that the resources are activated in the best possible way. With regard to the work after Hurricane Sandy, the students applied this knowledge in a very unconventional way. Within two weeks, a group of students had involved NYIT by asserting: “We must find an effective way to help”. Soon after, they founded Operation Resilient Long Island (ORLI).

The students travelled around and met residents and community organisations in some of the hardest-hit places in Long Beach, Far Rockaway and New Jersey. At first, the buses they travelled in met with jeers from the residents. This reaction is understandable because these hard-hit people were constantly being “attacked” by curious groups (who came by the busload to look at the destroyed areas) and salesmen (who tried to offer services for the imminent rebuilding). Their irritation was also because all their appeals to the municipal authorities took far too long to be answered. The students introduced themselves and said they were “design

Above: The destruction after Hurricane Sandy was enormous. Below and right: There are now proposals for flexible buildings that can withstand hurricanes much better. But the important factor is to include in the planning process the people who are to live in the buildings.

students who had come to help". After trust had been established, the students had gained a unique platform from which to work. To assess the situation, they met with residents, emergency personnel in various services, and people from local construction companies and organisations. They immediately began to design a brochure for residents (who had expressed a desire for one). This described various reconstruction problems that could arise (costs/benefits, height requirements for the reconstruction, FEMA regulations, and so on). FEMA (the Federal Emergency Management Agency) is the agency within the Department of Homeland Security that responds to major catastrophes or war.

In a studio at the institute, work began on a "charrette" – that is, a well-prepared workshop that brought together many different groups from the affected areas as well as the university, bureaucrats, medical personnel and the community at large to discuss what design strategies should be implemented in each region.

But what should the students do next? They understood that the wonderful plans would not mean anything at all if they were not transformed from theory into reality. So they asked themselves what they could do that would be both easily managed and longlasting. The result was the launch of the competition Comprehensive Coastal Communities (3C). Via their global contacts, the students received creative entries from more than 300 participants around the world. The 3C website, which presented various reconstruction proposals, had more than 25,000 US visitors per day. A book was published, *Comprehensive Communities Playbook*, which presents important new facts about what is needed in order for communities easily to recover after a crisis.

Frank Mruk

Read more at www.3ccompetition.org

Dubious in Curitiba

For many years Brazil has had ambitions in the field of design and architecture. One of the most creative centres is the city of Curitiba, a well-developed industrial city with many interesting solutions for urban planning and public transport. The city is home to Centro Brasil Design, an organisation that works to persuade the business community to adopt design as a method for innovation throughout Brazil. Much work is being done on implementing design thinking and sustainability as quality drivers both in the development of physical products and to improve public-sector activities.

One of Curitiba's acute problems is that the poor "favela" areas around the city must be moved. Some of these are within the zone that is in danger of flooding, which often occurs after heavy rainstorms. It rains there more than 260 days a year. But the main reason for moving the slums right now is that the football World Cup will be held in Brazil next year and the authorities do not want the slums to be visible to visitors. To me, this is a fairly bizarre reason for trying to test whether the participatory model, which we argue is a factor leading to the success of the design process, can be used even here. It remains to be seen how the field of design will evolve in Brazil. One thing is sure: the conditions and expectations are different there than those we have here in Sweden.

Claes Frössén

Curitiba has attracted attention due to its transport links and tunnel-like bus shelters. Unfortunately the latter have become less and less popular because they attracted criminality.

Design and destination – how do they fit together?

Can a locality in crisis revive and find a new focus with the help of design? Absolutely, is the reply from all the respondents to this survey. Designers can point to tools that will get all the residents and decision makers in a locality to pull in the same direction. Designers and design researchers can inspire people to think in an innovative way. And we are not speaking about tourism but rather about an attractiveness at several different levels in society.

PHOTO: ANDREAS KLIPPINGE

Sara Hyltén-Cavallius

Senior Lecturer at the School for Design, Linneaus University

A number of Sweden's regions, such as the Kingdom of Crystal in Småland, are facing major structural transformations. Can design and/or design research be used as a driver of development in such situations?
"Design research is in its infancy and is working to find its own path within academia. In its encounter with traditional research we perceive an exciting development of both design and academia and the surrounding society."

How can design be used?
"Design is a practical subject that is most often done in project form with processes than can be inclusive. I hope that the ability to go in with no pre-existing bias and see what possibilities exist can lead to viable suggestions and solutions."

Is it actually possible to point to one or more successful examples?
"The Swedish School of Textiles at the University of Borås. There they have used research into such topics as smart textiles to turn a downward spiral in the region into a success. The group that is working to develop the Kingdom of Crystal has also visited (the small locality of) Grythyttan to examine another success story."

From a design perspective what is the biggest challenge with destination design – of course in a broader perspective than just the tourist industry?
"I think it's good and exciting to use inclusive methods so as to include a larger group and gain local support. Of course the biggest problem is how we can create a long-term situation in which the project doesn't collapse after the funding has stopped. From my point of view it is a matter of public policy. Do we want all of Sweden to thrive?"

Daniel Byström

Byström Design, Chair of the Swedish Association of Designers

A number of Sweden's regions, such as the Kingdom of Crystal in Småland, are facing major structural transformations. Can design and/or design research be used as a driver of development in such situations?
"Yes, absolutely!"

How can design be used?
"Regional development using design involves engaging the stakeholders, people from all levels of society, and working within a process that leads to shared visions based on the challenges that they jointly face. Basically, the work is done according to the fundamental principles of the design process, in which the designer contributes an applied creative expertise at all stages, from research, analysis and evaluation to concept development and finally testing and communicating the solutions. Design helps to make use of the shared creative ability in a society, to create increased driving force and to bring together people's knowledge and experience. The work is interdisciplinary and collaborative. It is wonderfully inspirational to participate in these types of processes. Studying design projects that involve social participation can lead to the development and evaluation of new methods."

Is it actually possible to point to one or more successful examples?
"I'm involved right now in a project in Utah in the United States where we are working with design for the regional development of small municipalities. It's about seeing how these societies can become healthier from an economic and social perspective and how the quality of life can be improved for the people who live and work there. We see our solutions as continuing dialogues with the community and that our role as designers is to facilitate changes. We help to define the future. It feels like a very stimulating project. Just as in my previous experiences of working with small communities, there is a great sense of involvement and a lot of good will among the local residents that we can use."

From a design perspective what is the biggest challenge with destination design – of course in a broader perspective than just the tourist industry?
"The biggest challenge is to create participation by all the possible stakeholders. In order to create really solid results, all the people who live and work at the place being developed must share the same driving forces. Everyone needs to strive to jointly create an attractive overall experience of the destination. Experiences are conveyed via all the senses. At the same time, it is often important to preserve what is unique, genuine and real. The destination is developed by creating shared visions and by providing examples of forms of expression that all those involved understand and can be gathered around. A strong identity can be a good starting point for a destination but after that, there are also many more layers that determine the overall experience."

Stefan Moritz
Director of Service Design, Veryday

A number of Sweden's regions, such as the Kingdom of Crystal in Småland, are facing major structural transformations. Can design and/or design research be used as a driver of development in such situations?
"Yes. Design and design research are critical. They help to minimise the risk of failure, make projects more successful and ultimately improve quality of life and economic performance. Service design especially involves a new mindset and way of working to bring cross-functional teams together to create a better future."

How can design be used?
"The key question for destinations seems to me to be 'what could be interesting about our area in the future?' And whilst it may need an outside perspective it only works if it is rooted in the region and community. "Destination development needs to be about re-imagining the prosperity of the area. It's not only about tourists. It is about attractiveness. Service design is especially very good at helping to understand what it is that people desire and need in the future, particularly if you can't own it or hold it in your hand. Destinations can be regarded as services. The design is a process over time. Stakeholders need to be mapped, engaged and they need to take ownership and add value. Destinations are platforms. They mediate between different players. Design involves understanding the whole system and putting solutions in place to improve it. But it's also about daring to look into the future and imagining together what the most desirable future would be."

Is it actually possible to point to one or more successful examples?
"Index in Denmark started as a design competition and created a movement around improving life through design.

Very inspirational. The destination brand Scandinavian Islands started a very interesting journey. I worked with them a while back but am not sure how far they got. Icehotel in northern Sweden is a cliché and very touristy but still a great case. The independent research agency and consultancy Multiplicities in Berlin is interesting. LEO, the Finnish Lapland Center of Expertise for the Experience Industry, is doing very interesting work even though it is focused on tourism. I would also say that Silicon Valley is a great example of an area that owns a certain positioning. And there are many more of course."

From a design perspective what is the biggest challenge with destination design – of course in a broader perspective than just the tourist industry?
"The key challenge I see is in effective participation of the community. It's important to create a tangible vision that is grounded in the local area and that people feel they are part of. Especially in Sweden where people are very humble it's important to dare to have big dreams.
"Design can be incredibly helpful for imagining desirable futures with a systems view in mind. It's not that urban planners have not used design in the past and not tried to communicate with and engage the local community. But the real challenge is to enable them to design together. Designers need to be facilitators that bring tools but also inspiration and new ways of thinking."

PHOTO: JESPER JONSSON

Iréne Stewart Claesson

Design strategist, CEO of Lots

A number of Sweden's regions, such as the Kingdom of Crystal in Småland, are facing major structural transformations. Can design and/or design research be used as a driver of development in such situations?
"Yes, definitely. Because design methods start from people's everyday reality against the backdrop of what is happening in the world at large, this opens up the door for perceiving the development potential."

How can design be used?
"The design process is positive. We talk about needs instead of problems, and see possibilities in what are often regarded as limitations. Instead of starting from previous solutions, we start by defining what people want to achieve. It might be about pride or something else that creates value just as much as about functional needs.
"A research report that I read stated that a technological development process begins with deciding the end product but that the route to get there can be relatively unstructured. This more technological approach permeates many community organisations and companies. In contrast, a creative development process advances in a structured way even though the end result is not pre-decided. The process leaves room for the exploration of totally new solutions.
"The same is true for the approach used in design methodology. This can result in proposals that are

about services, systems solutions, relatively complex arrangements and combinations of projects involving a large number of stakeholders. And this is highly appropriate when we are talking about the future development possibilities of cities and regions."

Is it actually possible to point to one or more successful examples?
"I'm not that up to date about what is being done in Sweden nowadays in terms of regional development but it is clear that regions have a much greater openness and understanding of the services perspective and an interest in working with their values and potential as a destination.
"As early as the 1990s I was involved in the development work of, among others, Olofström municipality as to how the region could become more attractive to live in and work in. But then the starting point was more that initially we were asked to develop a souvenir(!) of Olofström municipality, which on our part quickly led to questions like 'Why would anyone visit Olofström?' and 'Who has a reason to do that?' This was seemingly a critical line of questioning but it led to really interesting suggestions about a tourist industry based on the rich diversity of nationalities and cultures that existed there and everything that comes with that."

From a design perspective what is the biggest challenge with destination design – of course in a broader perspective than just the tourist industry?
"If we're talking about regional development then it is to get many different industrial sectors to pull in the same direction so that the overall vision is achieved and each player reinforces the other. This requires resources and time and also someone who holds the initiative together. Despite everything, this involves companies that have to earn money to be able to survive and function but that also need to be part of a greater whole and understand how they can each benefit from having a shared overall strategy. And then they must have the necessary infrastructure, which can require regional resources and national lobbying."

Olle Lundberg

Industrial designer,
CEO of Lundberg Design

A number of Sweden's regions, such as the Kingdom of Crystal in Småland, are facing major structural transformations. Can design and/or design research be used as a driver of development in such situations?
"Yes, absolutely, but the total development power will be greatest if you collaborate with other types of expertise."

How can design be used?
"I see cross-disciplinary work as a prerequisite for structural transformation projects to succeed – cooperation between architects, social planners, engineers and others."

Is it actually possible to point to one or more successful examples?
"Yes, there are a number, such as the harbour in Malmö, which has gone from being an area of heavy shipbuilding industry to being one with a university, high-tech companies and exciting homes. An area that bubbles with life and optimism about the future. It was clever of the city to put the university at the centre – it creates life and movement in the whole area. Exciting architecture that gives a clear direction and profile to the whole of Malmö."

From a design perspective what is the biggest challenge with destination design – of course in a broader perspective than just the tourist industry?
"The projects require great insight into and understanding of how various processes occur within municipalities, county councils, cities, etc. This is fundamental in order to be able to drive the various projects."

Interviewer: Lotta Jonson

A POWERFUL PATRON

If more decision makers in both the public and private spheres realised the importance of investing in independent and critically thinking design research, both Sweden and the rest of the world would benefit. Design Research Journal is launching a series of articles about who is providing funding to design research and how they can increase in number. First out of the gate is IKEA, which has become an important academic support pillar.

Obtaining funding is generally difficult, especially in such a young field as design research. Applicants must often phrase it in other terms to obtain funds. And it certainly is easier to do projects with clear corporate links or to conduct research at an institute or department with a lot of its own money. Otherwise researchers must rely on such sources as private foundations, the EU, Sweden's innovation agency Vinnova or the Riksbankens Jubileumsfond.

But then suddenly a large amount of money just rolls in. Like in 1998, when the Stichting Ikea Foundation announced a 250 million kronor donation to the Faculty of Engineering at Lund University (LTH). The result was a completely new building – the Ingvar Kamprad Design Centre (opened in 2002) and when it was finished SEK 160 million still remained to support an industrial design programme with almost twice as many students as before and to fund industrial design research with several million kronor per year.

At the presentation ceremony, *Ingvar Kamprad* stated: "good design must be accessible to the broad general public, and that only happens if it is combined with a low price. This requires designers who base their work on knowledge about customers' needs and situations, as well as about production, distribution and husbanding resources." It was emphasised that the Dutch donator is completely independent of Ikea and that the latter had no intention of intervening in the new educational programme. Nonetheless, the new industrial design programme enabled by the donation had the express goal of "combining good form and function with lasting quality and a price that is low enough that the products can be accessible to the broad general public" according to the press release issued in 1998.

Since 2003 the Ingvar Kamprad Scholarship is also awarded annually to two master's students at the School of Industrial Design, Lund University. A total of SEK 160,000 per student funds their living costs for two years. Since 2011, when the Swedish government introduced fees for students from outside the EU and EEA, the Stichting Ikea Foundation also provides two scholarships each worth SEK 200,000 for two years to cover the student fees.

LONG-TERM GOVERNMENT SUPPORT IS PREFERABLE

Claus-Christian Eckhardt, professor of industrial design at Lund University, says it is terrific when private initiatives support and develop the field of design research. At the same time, the link to a large funding body can involve some degree of vulnerability. The best scenario would be if considerably more actors showed an interest in design research and in funding its projects.

"As the hype about design declined drastically in Sweden after the Year of Design in 2005, it has become harder and harder to finance design research," he says. "Even inside companies, design no longer has the same priority – the situation is tougher for both practitioners and researchers. In order to establish and conduct research in our field while simultaneously protecting academic integrity, we need more long-term funding from the universities and the government. For instance, it is completely impossible to find external funding to conduct research in design history today."

Eckhardt goes on to emphasise the importance of more effective bridge building between academia and industry so as to increase both knowledge about and understanding of design research's broad areas and possibilities.

"We should look at what others have done and learn from those who have succeeded better. I strongly believe in an open, free and creative academic community."

Campus Helsingborg is part of

Lund University and currently has about 3,000 students. Ikea is one of their biggest favourites in terms of possible future employers. The Ikea Group moved its head office to the Netherlands in 2001 but located a variety of staff functions in Helsingborg, where plans for a new post-secondary institution are taking shape.

The idea was to gain access to a new recruitment base by playing an active role in the new Campus Helsingborg. For instance, by inviting Ikea employees from around the world to be guest lecturers, by enabling thesis collaborations, and by organising workshops, including for the students in the biggest specialisation, Retail Management, which is one of four specialisations in the undergraduate programme in Service Management. The other programmes are Logistics Service Management and Equality & Diversity Management.

"The last-mentioned programme is new and is about how to work with equality and diversity issues in private and public operations, both nationally and internationally. When it was to be validated, we asked for a person from Ikea to participate because we believe they are very knowledgeable in this field. And no, we haven't designed the programme based on their needs. However, we can request what types of lectures we need and they will arrange it," says *Christer Eldh*, head of the Department of Service Management and Service Studies.

He adds that the multi-year collaboration is very valuable and gives the students both cutting-edge expertise and future opportunities. In addition, researchers at Campus Helsingborg are behind some of Ikea's smartest packaging solutions, such as the one for tealights.

From a video for IKEA's campaign "Soft Toys for Education", 2013.

The Stichting INGKA Foundation

The Stichting INGKA Foundation was founded in 1982 and owns Inka Holding B.V., which in its turn is the parent company of the Ikea concept's biggest franchisee – the Ikea Group. The Stichting INGKA Foundation also supports charity work via the Stichting Ikea Foundation, which originally only supported architecture and interior design but which since 2009 also promotes children's rights in developing countries and helps them and their families to have a better future. In 2012, 82 million euro was given out.

ADJUNCT IKEA PROFESSORS

And then it happened again. This time it was a billion-kronor Ikea rain onto Linnaeus University. *Lena Fritzén*, now pro-rector of Linnaeus University, describes what happened:

"Ingvar Kamprad contacted me in 2009 when I was rector of Växjö University. He was one of our honorary doctors and wanted to give a donation to a professorship about the relationship between production conditions, home life, and the bridge between the two. In other words, an exploration of the paradox 'high quality at as low a price as possible'. We were to receive SEK 25 million for a total of ten years. In 2010 we received an additional SEK 25 million for five doctoral candidates and two adjunct professors in wood and design – *Gudmund Wollbrecht*, formerly forestry manager at Ikea and *Lars Dafnäs*, formerly design manager at Ikea respectively."

Fritzén adds that the doctoral students' focus is also on production conditions, home life and consumptions patterns. She stresses that their research is not commissioned, because "the results will benefit other companies". She also emphasises that this donation was related to Ikea, in contrast to the capital from the Kamprad Family Foundation, which everyone can apply for.

"The foundation currently has capital of SEK 2.8 billion and prioritises research and education at Linnaeus University. In the longer

The Family Kamprads Foundation

Founded in 2001, the Kamprad Family Foundation aims to support, stimulate and reward down-to-earth education and scientific research in such a way as to promote entrepreneurship, the environment, competence, health and social progress. Priority is placed on research and education that are conducted in or benefit interests in Småland County and which occur in the context of Linnaeus University. It is important that the results quickly and cost-effectively benefit the broad general public. The foundation's SEK 2.8 million was donated by Ingvar Kamprad, his family, Inter Ikea Group and Ikano.

term global projects will also receive support."

Lena Fritzén is on the board of the foundation and underlines that the research is totally independent "even if the Kamprad family has formulated the goals."

She concludes: "For collaboration to be successful there must exist a respect for each other's time perspectives – industry is fast and academia is slow. And the disadvantage with such a heavyweight funder might be that we risk losing our critical gaze, but it is my main responsibility as pro-rector to ensure that that remains intact. We have everything to win from that."

WIN-WIN AND RISKS

After our conversation I looked through my research containing information about Ikea funding for everything from forest research at the Swedish University of Agricultural Sciences in Alnarp to an annual scholarship at Beckmans College of Design. The clear win-win situation is obvious in terms of research results and recruitment possibilities. I considered the good, socially beneficial aspects versus the risk that the donation recipients become blindly uncritical to their benefactor. I noted the widespread presence of Ikea products at the institutes of higher learning where the company is active. I regard this situation as being equally an economic support as a possible influence on young students' wide-open senses.

A way to create goodwill in the everyday environment of future consumers. So should we just be grateful to such a major research funder or is there cause for concern?

Torbjörn Lind, research secretary at the Swedish Research Council's department of research funding, replies:

"Of course there are risks of becoming too dependent on a powerful funder, especially if that funder controls the issues being studied too closely. When we go in and co-fund, the research quality is most important thing to ensure. And it is better to have several funding options in order to be both more independent and less vulnerable. Co-funding is often a necessity for large, expensive projects. Personally, I usually recommend people map out all the possibilities and what demands are being made. This includes foundations both large and small – for instance, people often forget the Swedish wage-earners' investment funds.

"It's also a matter of making the research field better known, more public and more attractive, which becomes easier as more master's and doctoral students graduate. Preferably casting it in a social improvement light – then it tends to be easier to find funders, especially for a young field such as design research."

Susanne Helgeson

The board of the Kamprad Family Foundation consists of Katarina Olsson, Lennart Nilsson, Anna Carlström, Lena Fritzén, Kristina Alsér, Leif B Bengtsson, Ingvar Kamprad and Johannes Stenberg.

Three design researchers hope for more challenges

Finally! After years of work the thesis lies there on the desk. And it has been passed – good cause for relief and probably also some pride. But perhaps it also leaves an emptiness – what happens next? *Design Research Journal* has spoken with three design researchers who recently defended their theses on the current situation, the future, and the dissemination of results.

Marcus Jahnke, *Anna Persson* and *Ulrika Wänström-Lindh* recently each successfully defended their respective theses. Now they are all lecturers in design at various educational institutions. Jointly they represent a small cross-section of the broad field that is design research. For instance, Anna Persson was originally an interaction designer. Her research was about textile materials and interaction.

"In my results I consider two issues. First, how can we use these new materials? What new design variables do they offer and how should we approach those? Second, and at least as important, is what should we not use these materials for. What is meaningless design? Instead of just going ahead and producing masses of stuff we have to take a step back and think."

The goal of Ulrika Wänström-Lindh's research was to explore spatiality in relation to light distribution, starting from design in practice. Throughout her thesis she discusses the visual limits of a space and what that means to people's sense of security, for instance. She has been interested in light ever since training as an interior designer.

"I studied at HDK (the School of Design and Crafts, Gothenburg University) and in 1995 we had a joint course with Konstfack University College of Arts, Crafts and Design. We had to design light fixtures but I felt something was missing. Light is concrete and abstract and poetic. I just wanted to find out more about it."

DESIGN AND INNOVATION

Finally, Marcus Jahnke's thesis focused on how design can contribute to innovation work in traditional industrial and engineering companies. He studied how five designers were paired with five companies and how they then created a process – a "journey" – together.

"My research was about how we can understand design's contribution to innovations beyond common concepts like problem solving and creativity. They are insufficient for us to understand design's contribution as professional expertise. The process is about so much more – creating meaning and linking that creative process with innovation. The problem with that, is that "creating meaning" is a difficult concept that is not used in these contexts. So we also have to stake a claim to those words, too. It isn't easy."

In order to discuss content of a more abstract nature, Jahnke has used a hermeneutic*) research process. Much of what he writes about also deals with silent knowledge and the transmission of experiences – a process that takes time and is not visible.

"This time aspect is central to my thesis's conclusions. Processes must be allowed to take time. In the case of more radical innovations, we must work with very long processes. I hope my thesis can help create a bridge between design and innovation but also that companies can better understand and respect what design can mean at a deeper level."

Inevitably we arrive at the question of how to convert research results into practice. All three researchers say this is exactly what they are doing in their teaching: trying to get their students to delve deeper and discuss more. But

*) In hermeneutics people talk about pre-understanding and prejudices respectively. The hermeneutic research process tries to answer the question: What is revealing itself and what is its significance?" Hermeneutics uses interpretation as its main research method and says there is no absolute truth. (Source: Wikipedia.)

Below: Marcus Jahnke's thesis *Meaning in the Making – Introducing a Hermeneutic Perspective on the Contribution of Design Practice to Innovation.* Right: Marcus Jahnke did a doctorate at HDK, (the School of Design and Crafts, Gothenburg University), where he now has a lectureship. He is also associated with the Business & Design Lab. The research was supported by Vinnova. Marie Loft of SVID played a major role in matching companies and designers and coaching them during the processes.

PHOTO: EMANUEL CEDEKVIST

PHOTO: EMANUEL CEDEKVIST

apart from that? I ask. Isn't more work required for their results to spread like ripples on a pond?

Yes, says Wänström-Lindh, who has travelled around and lectured on her results, both within the industry and at international research conferences. She plans to continue publishing articles about her results and has sent copies of her thesis to strategic individuals. In turn, these people have, for instance, organised an exhibition of her results in conjunction with an international workshop called "Lights in Alingsås".

"It's hugely important to be written up in the media, so more people can hear about my topic," she says. "I'd also love to write a popular science version of my thesis. It could be used as an instructional book in creating spaces with light, both within an educational system and as an industry manual."

BASIC RESEARCH

Anna Persson has slightly different plans.

"I present various parameters, for instance about how a material reacts when it is touched. Fairly basic stuff. Should the reaction happen just once or should there be a rhythm that continues? If so, how do I design it, how do I want it to be programmed? So it is about design via programming."

She says it would be interesting to work more with function, for instance more like the medical research being done at the Smart Textiles centre in Borås. But in her thesis work she had no aim of conceiving any product, rather, the reverse.

"For me it's been important not to get bogged down in product development issues. My research is more basic. That's largely due to a project I did earlier with another researcher, Linda Worbin, and the rug manufacturer Kasthall. We developed three interactive rugs. The process was important both for us and for the company. How could we use craftsman-like methods in the company's machines? What products would be interesting for the company to make interactive? But far too many people took it all too literally and saw the ideas as finished products.

"Then the risk is that the result is some kind of superficial design. We have to consider what is sustainable in the long term, especially with interactive materials, which use energy to such a great extent. They offer a lot which can be used in a good way but also in the opposite way."

FOR VARIOUS TARGET GROUPS

Jahnke's research was partly funded by Vinnova (the Swedish Governmental Agency for Innovation Systems). It was therefore natural to write his thesis such that a variety of people could read it: interested professionals, practising designers, and project managers working with innovation issues. Jahnke has presented his thesis as a directory and as a chapter in a Vinnova book. He wants the thesis to be disseminated outside the university. This assumption that publication is self-evident is presumably because he has strong links to the Business & Design Lab (a joint project between the Stockholm School of Economics and the Faculty of Fine, Applied and Performing Arts, Gothenburg University), where thesis publication is customary.

Jahnke is also using his research results in his teaching at HDK.

"For example, when the design students, especially at the master's level, go more into depth about issues to do with their own professional expertise. But also in the Business and Design programme, which focuses heavily on

innovation and the contribution of design. There, my research results are directly relevant. The students have to impel and lead these types of processes, and the various cases presented in my thesis are directly useable for illustrating reality."

BETWEEN VARIOUS CONTEXTS

All three researchers confirm that research is an occupation that requires both solitude and the opportunity to discuss issues with other people. But of course their experiences are not completely comparable.

Ulrika Wänström-Lindh comments:

"There were many people around me who were interested but no one was actually doing the same topic. I've always worked in between various different kinds of contexts. Between design, architecture, lighting research and the social sciences. In this situation there is a risk of being misunderstood by all camps. There is research that I can relate to in all the various fields but no one has done the same thing.

"In art or design contexts it is very unusual to do statistics, for example. And in other contexts, like lighting research, they question many phenomenological**) methods. One always ends up between the various stools. But one also receives confirmation that one has staked a claim to one's own distinct field. And maybe also proof that what one does is needed, because it is at an intersection that no one had focused on before."

**) Phenomenology is a philosophical theory and method. It focuses in particular on the relationship perception and the object being perceived, but does not study primary causal connections. Phenomenology claims that absolute knowledge about a thing cannot be achieved because all knowledge is conveyed via experience of it. (Source: Wikipedia.)

MORE FELLOWSHIP TODAY

Anna Persson has also found herself slightly in between academic fields as an interaction designer at the Swedish School of Textiles, Borås University. The field of interaction has long seen an intense theoretical discussion about what the knowledge should be used for. In recent years, though, a lot has happened in that respect in Borås too.

"It is definitely linked to the school's desire to profile itself as research oriented. Now there is a totally different movement and more meeting places compared with my first research years here. Of course one sits in one's room and thinks, but all doctoral students also meet in doctoral seminars every other week and at design seminars once a week. Originally there were six or seven of us. Now we're about fifteen design researchers, so there's a huge difference."

Nedan: Ulrika Wänström-Linds avhandling *"Light Shapes Spaces: Experience of Distribution of Light and Visual Spatial Boundaries"*
Nederst: Ulrika Wänström Lindh doktorerade på HDK (Göteborgs universitet, konstnärliga fakulteten) och undervisar numera på Jönköpings Tekniska Högskola.

PHOTO: ULF CELANDER

Despite several years of in-depth study of their respective fields, none of the three newly graduated doctoral students has become bored with their field – quite the reverse.

"Absolutely not," Persson says. "It feels good. Now I want to check out what opportunities exist for implementing some of the things I've looked at. Right now I'm considering what might feel meaningful. And there is still masses to study at a basic research level. As I mentioned, it's super important not to advance too quickly."

MANY PROJECTS

There is also a lot to do in the future in Ulrika Wänström-Lindh's speciality. "I now see how much design research is lacking in the field of lighting," she says. "At the big lighting research conferences almost no one talks about the design of outdoor environments. I will continue to research in the field and follow up leads from my thesis. I have many projects and materials for further studies and articles. But I also hope to work with other researchers in lighting, energy saving, the built environment, environmental psychology, design and art. My own results can best be seen as many hypotheses within a theoretical construct. They need to be confirmed with many more studies in various contexts and with many test subjects. "My current ideas include studying the significance of lit walls in relation to energy saving, to write a review of qualitative research in the field of lighting, to study the impact of pattern effects via lighting in urban spaces in relation to perceptions of size, spatial shapes and rhythms, plus people's ability to orientate. And to study the experience of safety in relation to how light is directed."

For his part, Marcus Jahnke is already fully underway with a new project.

"Vinnova wants to have a tool it can use to drive its organisation work," he says. "I couldn't have taken this on before I'd done my doctorate – I didn't have the tools then."

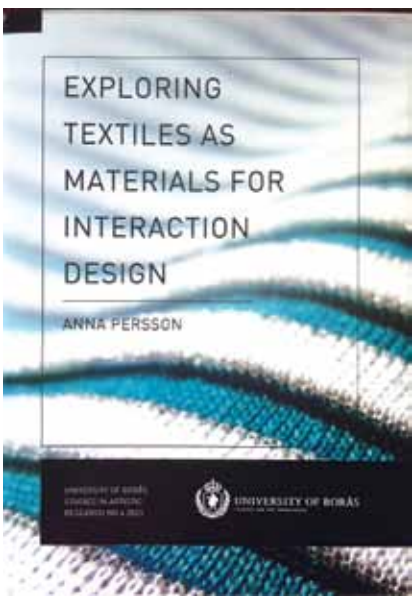
Called the Gender Lab, the project starts in the beginning of 2014 and is about gender and ideas about equality. The question is whether it is possible to challenge those ideas within organisations and thereby access new ideas and thoughts that can stimulate the innovation climate.

"Actually I'm not at all finished with the overall issue: that of design's contribution to innovation and social change in general. My research has been about companies but I'm very interested in design's ability to contribute to processes of social change and other aspects of social development. I would really like to work with that at some point."

In an interview from earlier this year I read that Jahnke's aim in the longer term is to be able to influence the EU's future policymaking on innovation issues. And why not…

Lotta Jonson

PHOTO: LOTTA JONSON



Right: Anna Persson's thesis *Exploring textile materials for interaction design.*
Above: Anna Persson did a doctorate at the Swedish School of Textiles, University of Borås (specialising in smart textiles) and now has a lectureship at the same university.

Design is a dynamic process

LISBETH SVENGREN HOLM
Professor, The Swedish School of Textiles, University of Borås, Sweden

Design and innovation belong together. The dissemination and recognition that exist today of the role of the design process in development and innovation are partly due to the fact that design has shifted its focus from the logic of products to that of services. One consequence of this shift is what industrial designers assert: that design is not about either the product as such or the product's surface but rather about the process, the methods, the way of attacking problems and seeking solutions. Not least, the concept of "design thinking", which Tim Brown, CEO of IDEO Design, launched in an article in *Harvard Business Review* in 2008, has contributed to a breakthrough for the understanding of design as a process. As a proponent of design for many years, I am therefore pleased to note the great interest in design amongst a young generation of researchers. I was recently a member of a grading committee for a thesis at Chalmers University of Technology entitled "*Design Thinking as an enabler of innovation*" (Lisa Carlgren). In several issues of *Design Research Journal* we have also published articles about "design thinking" as a concept, and have also had a critical discussion about the concept's value and whether it is not just a fad that will soon fade away. Regardless of whether "design thinking" is a vogue term or not, designers' method of working innovatively has won recognition. This is clear from the research into innovations and design methods that is being done at both technical institutes and design institutes.

This issue of *Design Research Journal* includes four articles that in totally different ways shed light onto research into design and innovation, and design and knowledge. The article by Julian Malin and Melehant Nil Gulari contributes to the discussion about the role of universities in helping small enterprises become more innovative – a role in which design knowledge plays a large part. Karin Havemose's article draws on Roland Barthes' analysis of the poster *Encyclopedia* to depict the otherwise hard-to-explain design process. In their article, Ulla Johansson and Jill Woodilla compare how artists and designers work respectively, and also compare art management to design management. Finally, the article by Leon Cruickshanks, Gemma Coupe and Dee Hennessy highlights how the designer's role changes in open design processes (co-design), and how this places new demands on the methods and tools of the design process. These articles refer to the concept of design thinking, which shows the extent to which it has spread.

I do not believe it matters to design as a field how long the term "design thinking" will be used. However, I do believe that design as a concept will survive even if its contents are developed. Design is a dynamic process. Design methods will continue to be an area for development not only for designers but also for everyone who participates in developing products and services. That is because the way of approaching problems and the use of visual tools to communicate between the various stakeholders in the process lead to better results. There will be a lot of room for continued research and development into various actors' situations and use of design, and this means that new methods will constantly be tried out.

Lisbeth Svengren Holm

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EFFECTIVE APPROACHES FOR INNOVATION SUPPORT FOR SMEs

BY JULIAN MALINS & MELEHANT NIL GULARI

KEYWORDS:
Centres for Design & Innovation, Knowledge Exchange, Experiential Learning, Trialogical Learning

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ABSTRACT

Providing appropriate innovation support to small to medium sized enterprises (SMEs) is an on-going challenge. Governments offer a range of initiatives from advice, to research and development grants; however, the underlying methodological frameworks for these interventions are often unclear. Universities have an increasing role to play in providing an understanding of the learning frameworks that surround innovation support and by providing design-led interventions that follow a design thinking approach. This paper considers the ways in which innovation knowledge can be transferred to SMEs based on a constructivist model of knowledge development. The development of Communities of Practice that support innovation making use of IT systems is also explored. Observations are made on the most effective ways of providing support for SMEs applying an experiential learning model, based on the authors' experience of directing and working within the Centre for Design & Innovation (c4di) at the Robert Gordon University Aberdeen.

INTRODUCTION

It is often assumed that small businesses or SMEs are enthusiastic when it comes to innovation, after all why wouldn't a business be concerned about remaining at the cutting edge of its field continuously looking for improvements in its products or services? However this assumption cannot be taken for granted. Any form of innovation implies change and a degree of risk and can also act as a major distraction at a time when a business may be focused on other priorities such as maintaining their current market share. In practice the priority for most businesses is making a profit and as long as they continue to do so, significant changes that require major investment or the diverting of resources, or potential restructuring, may be unwelcome. Providing appropriate support to SMEs for innovation remains a priority for Governments who recognise the importance of SMEs who account for over 90% of the European Community business turnover (Horn et al 2009). This difference between SMEs and government priorities creates a challenge for organisations wishing to provide design-led innovation support. However the need for this support has increasingly been recognised by the European Union as a way of driving innovation (European Commission 2013) and as a strategic approach to innovation. This paper considers what are the best ways of supporting SMEs to engage with innovation especially during a time of economic stress when they perhaps are often reluctant to take risks. It considers some of the current approaches for innovation support for SMEs and examines the issues from a knowledge exchange perspective.

The positive benefits of applying design to SMEs (Potter et al 1991: Roy et al 1986: and Walsh et al 1992), suggests that design is still not fully conceptualised and exploited by SMEs (Thenint, 2008). SMEs approach the use of design sceptically (Brazier, 2004), for many SMEs, engaging in design is not seen as a priority and the link between design and innovation is often unclear. Their reluctance is not only due to their lack of understanding it is also a result of a shortfall of credibility surrounding designers which may be due to a tendency for the designer to be a generalist rather than a domain specialist (Gulari et al. 2013a).

SMEs who recognise the need for innovation may seek external advice and support if they lack the internal resources to develop innovation in-house (Nieuwenhuis et al. 1999: Rothwell 1984). Government funded business support agencies will provide helpful advice on how to innovate. This would generally be based on what may be termed an 'instructional model' where a mixed group of businesses will be invited to listen to an inspiring presenter after which they will be left to internalise and interpret the information before trying to apply it to their own circumstances. This might be described as a 'dialogical' relationship if follow up advice is being provided. Alternatively, they may turn to a design consultancy business, which may provide a new product or service improvement in response to a design brief. The disadvantage of this approach is firstly the cost to the SME and secondly the potential lack of knowledge transfer in the consultancy-SME relationship. It may also be the case that the business has no experience of setting a design brief, which can result in an unsatisfactory outcome (Press & Cooper 2003: von Stamm 2004).

As an alternative to these two models, 'instructional' or 'consultancy', we might consider a model based on knowledge exchange provided by University supported innovation projects such as The Box at the London School of Economics and The Sandbox at the University of Central Lancashire, or the Centre for Design & Innovation at the Robert Gordon University in Aberdeen. These 'innovation labs'/centres bring together multidisciplinary groups to encourage creative thinking and idea generation in support of SMEs (Jolly 2011). The aim is to provide an understanding of how to bring about innovation applicable to the SME's particular context. The principle might be described as "Give a man a fish; you have fed him for today. Teach a man to fish; and you have fed him for a lifetime".

The following paper considers some of the ways in which effective innovation support can be provided to SMEs based

on an experiential learning model (Kolb1983: Beckman & Barry 2007), which overcomes some of the principle disadvantages of an instructional approach or use of a design consultancy. The paper examines the role of Universities within innovation frameworks and considers some of the key challenges that affect the innovation relationship. The paper also considers some IT based developments, concluding by speculating on future approaches to innovation support for SMEs.

EXISTING MODELS FOR PROVIDING INNOVATION SUPPORT

The most common form of innovation support provided by Business Support Agencies for SMEs is the one-off event. The dominant learning model for this type of intervention is based on the invited 'expert' providing the theory followed by Case Study examples of successful companies who have succeeded in innovation development. It could be argued that this has limited value mostly because of the number of SMEs that can be involved in this process, and secondly because of the difficulty the SME has when it comes to applying the information to their own particular context.

The establishment of an Innovation Centre or 'Lab' based within a University has the potential to provide a longer-term relationship between SMEs and advisors, however many projects only receive funding for a few years at a time which makes it hard to sustain an extended relationship. Again the number of businesses that can be supported is going to be limited. As a way of extending the effectiveness of the Centre, case studies are sometimes presented however these are often not of a critical nature, giving an over-simplified impression of the innovation process, which in many cases is perhaps considerably more complex (Gulari et al 2013b). Some of these Centres/ Labs for example c4di at RGU (www.c4di.org.uk) and the Centre for Design Innovation at Sligo Institute of Technology in Ireland (http://www.designinnovation.ie) follow the model originally developed by the UK Design Council under their 'Designing Demand' Programme. http://www.designcouncil.org.uk/resources-and-events/designers/continued-professional-development/training-for-designers/designing-demand/. The Design Council's programme provided for three levels of intervention. An initial one-to-many workshop focused on design opportunities; a more in-depth one-to-one project focused consultancy of approximately 5 days in duration and a third level concerned with an extended project development making use of a Design Associate working closely with an SME over a 12–18 month period of time. The programme employs design methods based on a participatory and collaborative relationship. The programme has been very successful for those companies involved. However, its principle disadvantage is its cost and the relatively small number of companies it is able to support.

An alternative framework for innovation support funded through the Technology Strategy Board (TSB), is represented by Technology Innovation Centres (TICs) (www.innovateuk.org), (Hauser 2010). The Renewable Energy Centre based at the University of Strathclyde, Scotland, provides an example of a TIC. In addition to the TSB initiative the Scottish Government are in the process of funding the establishment of several more new sector-specific Innovation Centres in Scotland (http://www.sfc.ac.uk/newsinformation/Circulars/2012/SFC0612.aspx).

Scottish examples of TICs are based on proposals initiated by University research groups led by industry consortia. This represents a considerable investment (£10M in 2012 and a further £20M in 2013) however there are a number of assumptions that underlie these TIC initiatives, which may be important to question. The first assumption is that clustering around a particular sector for example Energy, Food & Drink or the Creative Industries, will automatically lead to innovation as opposed to Innovation Centres that are not sector specific but are deliberately cross sectorial. It could be argued that the bringing together of expertise across disciplines is more likely to lead to new pathways to innovation, for example applying micro-electronics to Life Sciences or sensor technologies to Food & Drink, or more generally combining the approaches and expertise from the Creative Industries with the Sciences, deliberately encouraging cross disciplinarity and challenging existing paradigms of enquiry. This echoes the philosophy proposed by Paul Feyerabend (2010) when he offered a challenge to the existing scientific paradigm in his book 'Against Method'.

Another implicit assumption inherent in these Centres relates to the idea that the Centre should be industry demand led. This assumes that the industry partners will know where future demand is going to come from, where in practice, very few industries are sufficiently future-focused to anticipate society's future needs. Also, most businesses will naturally focus on what they feel comfortable producing and will be unwilling to explore completely new avenues, indeed this may be unwise from the commercial partner's perspective depending on how the company is positioned. A potential drawback of the TIC model is the possible disconnect

between the needs of end-users and the technology being developed that may not find an immediate application and indeed which might be superseded by an alternative technology before it can find an appropriate use. This is reinforced by the matrix used to measure the success of the TICs such as number of patents lodged. Too much emphasis on the application of a particular technology can obscure the potential for much cheaper alternatives that might be based on behavioural change rather than a particular technology fix, for example an Innovation Centre focused on computer based solutions might fail to consider lower-tech alternatives as this would not fit their remit.

LEARNING MODELS FOR SMEs

There is no shortage of helpful books offering advice on innovation for SMEs to turn to, however learning about innovation by reading about it, is always going to be limited in its effectiveness because of the need to move from generalisations to specific application in a given context. Developing opportunities for SMEs to explore ideas through experiential learning approaches, which involve learning creative problem solving techniques, may be a more effective way of developing an understanding of innovation appropriate to the particular SME context. Bringing together individuals representing different business sectors within a workshop situation can provide opportunities for the cross-fertilisation of ideas. Bringing businesses together from a single sector however, runs the risk of individuals being worried about giving their intellectual property away to other rival concerns. Creating a space that allows for creative thinking to flourish requires careful planning to ensure that individuals feel confident in putting ideas forward, hence the need for non-specific activities to be used within workshops which may appear to be play-like in nature but which have a valuable contribution in building a collaborative working atmosphere. The term 'serious-play' (Schrage 2000) has been coined to describe this type of activity in which adults are given permission to explore ideas without feeling constrained by normal hierarchical relationships or feeling judged as being 'non-creative'. In his TED talk 'Build a Tower Build a Team' Tom Wujec's Spaghetti Challenge provides a good example of a serious play activity. This exercise is designed to emphasise the importance of prototyping as early as possible and questioning assumptions http://www.youtube.com/watch?v=H0_yKBitO8M.

Applying an experiential learning approach has clear advantages over the instructional approach when the aim is to promote 'situationist' learning (Lave & Wenger 1991). It is also important to recognise the nature of what is being taught. In the example of design-led intervention what is actually being taught is not a theoretical framework or a set of accepted facts. The intervention can be thought of as constructed knowledge based on shared exploration of issues within a specific context (Bruner 1960). Design methods may be applied to make the process more effective but the aim is not to turn all SMEs into design companies, rather the aim is to develop new perspectives to allow new insights to be identified. Visual methods used within participatory workshops are an effective way to overcome communication issues between discipline specialists, for example the use of image cards to establish core values of companies who are encouraged to identify qualities represented by particular images that they associate with their organisation. This simple method is used to encourage conceptual non-literal thinking by participants (Malins 2011).

The role of the innovation facilitator or the designer is to question the existing assumptions that often lie behind the way in which the original problem has been framed. The designer has to be able to acknowledge the human factors, in particular the users' emotional responses that make the difference between a successful or an unsuccessful solution. Once the problem has been clearly identified the designer's role is to reframe the problem trying to avoid existing assumptions. At this point appropriate technologies can be sought to provide a solution (Malins 2013).

Universities provide a source of academic knowledge derived from research and their remits include knowledge exchange. Increasingly Universities are trying to develop income streams based on commercialisation of their assets both intellectual and physical. This can sometimes lead to potential conflicts of interest between the goals of research and commercial development and competition between Universities and commercial providers.

A large part of Knowledge Exchange between Universities and SMEs is supported by Knowledge Transfer Partnerships (KTPs) in which an associate is appointed to carry out a specific project with a company under the supervision of an academic. However KTPs are not particularly easy to establish and the number of companies that can be helped in this way is always going to be limited (O'Nions 2007). More than 2.5 million new connections were made between experts and facilitators through Knowledge Transfer Networks in 2009 (Jolly 2011).

The relationship between funding agencies, industry and universities is a complex one. Sector specific Innovation Centres are being funded, but how they are going to bring

about new forms of innovation is as yet unclear (Malins ibid). Some are following a technology push approach, others will have to develop methodologies whilst making do with the existing infrastructures provided by Universities. However, generally, University administration structures which are geared up to provide a quality assurance framework for students have not been designed for the consultancy model in mind which can lead to excessive bureaucracy and an insufficiently agile response to the needs of companies. The academic timetable does not recognise the need of the business client who has different goals and often operates on a different timeframe.

THE CHALLENGE OF INNOVATION

Many SMEs are described as lifestyle businesses, which are not intended to expand or outlive the original proprietors. There were 261,000 new business start-ups in the UK in 2011 according to the Office of National Statistics. By definition these new companies are demonstrating some level of innovation and as such it may be inappropriate to encourage further innovation support until the company is more mature, however it would still be valuable to imbue these businesses with a culture supportive of continuous development. At the opposite end of the business cycle, are businesses that may have a declining market. These businesses may have left it too late to initiate major change. In contrast a minority of businesses are highly receptive to innovation. These are usually businesses which have included innovation as part of the company ethos and which welcomes and rewards new ideas for development.

One of the most significant challenges for an SME is how they bring about a shift in what they perceive as their core business or main areas of expertise. How do companies move from an internal view, perhaps an individual's perspective e.g. that of the CEO, to an external view? Simon Sinek (2009) writing in his book 'Start with Why' provides an interesting model which he terms the 'Golden Circle' based on the idea that companies that describe why they are in business, in other words what their core values are, are likely to be more innovative than those who describe themselves in terms of what they produce or offer. He uses the example of Apple, expressing their core value as 'always challenging the status quo', allowing them to shift their perspective from a computer company to a company that is known for its innovative design and attention to the user experience appealing to their customers at an emotional level. This challenge of moving the company's understanding of its own purpose is one area in which external support can be most effective.

Buchanan (1992) suggests that the core skills possessed by designers provide them with a unique skillset that can be applied to any context. These skills include the ability to take a new critical position on an existing problem perhaps because of the way in which designers are able to deal with ambiguity (Michlewski 2008). Designers have a particular form of creativity that means they can envision alternative ways in which a problem may be resolved. This has been described by Cross (2001) as 'designerly ways of knowing'. Design consultancies that offer business innovation support may apply design methods but may not actually be using designers. Perhaps the most successful ones are using multidisciplinary teams with a range of backgrounds and experience (including psychologists, ethnographers, and various design specialists). Kelley and Littman (2009) writing about the IDEO design consultancy describe this idea in their book The Ten Faces of Innovation. SY Partners provide another example of a design consultancy with a multidisciplinary base, offering innovation support (http://www.sypartners.com/we/the-team/).

One of the difficulties for an SME is to identify sources of appropriate innovation knowledge. This is partly a result of the difficulty of being able to articulate and recognise this expertise, which may be based largely on tacit knowledge (Polanyi 2009). The result is that somewhat ambiguous phrases such as 'design thinking' are used to describe whole areas of knowledge and expertise. A further issue arises from the very different cultures that exist between Universities and SMEs, resulting in problems of establishing credibility with SMEs by academics, and recognition of the Universities' core competencies by the SMEs. As a result, communication materials such as websites tend to provide an oversimplified view of the innovation support, which does not make it easier for the SMEs to assess whether the support is going to be appropriate for their needs.

Developing credibility can be improved by developing a long-term relationship with SMEs or by the designers providing a more domain specific service (Gulari et al 2013a). Establishing a set of shared beliefs and recognising the ways in which decisions are made within the organisation is also an important factor in establishing an effective innovation intervention. Initiating a relationship with an SME can often prove problematic. Impinging on areas of professional territoriality can result in internal conflict. Without commitment from the key gatekeepers in the organisation, for example senior management, the innovation support is unlikely to succeed, individuals further down the hierarchy

will not be motivated to engage with the process. Achieving involvement from all levels within the organisation must be a priority if the intervention is to be successful.

Irrespective of the nature of the business, common challenges recur, each of which have associated strategies for providing appropriate solutions. These challenges may be internal to the business, for example, relating to managerial, organisational or communication structures which reflect behavioural issues or external challenges such as competition, legislation and changing customer needs. Given sufficient examples, it suggests that an approach based on Case Based Reasoning (CBR) might provide a starting point for how some of these issues can be approached. CBR is a field of computer science, which uses algorithms to provide solution predictions based on previous examples.

Much of the innovation support available to SMEs relies on a one-to-one relationship between the provider (advisor) and the SME (recipient). Whilst this may be very effective, it is always going to be limited by the number of advisors and the time it takes to create the one-to-one relationship. Developing web-based applications that can be used to extend the reach of the advisory process has clear advantages. It brings the possibility of involving customers (end-users) into the innovation process creating a trialogical learning relationship. Trialogical learning is based on a constructivist model of knowledge development where learning draws on prior knowledge, is constructed (rather than passively assimilated), and takes place within a social context. This is a 'situationist' model of learning (Greeno, 1998), which refers to knowledge situated in activity and dependent upon social, cultural and physical contexts (Gibson, 1977). Adopting a situationist model of learning may be a more effective way of creating a deeper engagement with and ownership of learning. Developing 'communities of practice' (Lave & Wenger, ibid) within the framework offered by new media can lead to interaction between individuals (or groups) who develop 'shared objects' (actual or conceptual) that mediate a specific type of knowledge generation. This concept is being pioneered within the Food & Drink Industry where businesses have addressed customer concerns relating to food provenance creating a much closer relationship between customers and producers. http://provenancesupply.co.ukwebsite.

Another fast growing movement relying on Internet connectivity is the 'Open-Innovation' movement, which is similar to the Open-Source movement in which programmers exchange code on a non-profit making basis. These open-innovation websites provide an opportunity for accessing a global audience of potential innovators. Increasing connectivity and the use of mobile computing has potential to support whole new classes of objects that are either made or adapted in response to the sharing of information.

The use of the Internet to establish an on-going relationship between manufacturer and customers allows for the exchanging of information about the performance of an object and the changing uses that it may be put to. This is very different from the normal form of transaction, which is essentially a one-off occurrence. The establishment of this continuing dialogue has potential for a number of benefits including a source of information on which to base new product development and ways in which value can be added to objects throughout their lifetime thus helping to make products more sustainable. Our consumer habits allow us to identify other likeminded individuals, building on the notion that our consumer habits are in effect 'tribal' (Dixon 2005). For example buying Apple products allows us to join the 'Apple tribe', which defines us as part of a design conscious IT savvy tribe. Shared information based on Social Networking allows us to form new networks of enthusiasts or informed users, who can provide a useful source of information for identifying opportunities for incremental improvements.

Future models of innovation will inevitably make more use of web-based platforms supporting open-innovation and the use of Social Networking to fundamentally alter the relationship between end-users and providers.

CONCLUSION

Universities have an important role to fulfil in supporting SMEs with their efforts to innovate and it is important that this role is clearly understood and shared. Universities are very good sources of knowledge both for innovation and learning frameworks which can support effective experiential approaches. The University's role is to empower through learning and knowledge exchange. The aim should be to develop innovative cultures within SMEs rather than providing specific design solutions, which may be better left to design consultancies.

Design teaching has always adopted an experiential approach, which is appropriate for the type of learning required by the majority of SMEs who need to be able to apply the knowledge directly to their own situation. Drawing on design methods which encourage a shift in perspective, provides an effective way to deliver innovation support to SMEs. Unfortunately there is still considerable misunderstanding as to what design represents to SMEs.

Developing clearer definitions for terms such as 'design thinking' is a necessary prerequisite for improving the relationship between Universities and SMEs.

Much of the innovation support that is presently available to SMEs is ineffective in bringing about sustainable innovation, as the learning models do not allow SMEs to apply the learning to their own context. A model of knowledge exchange based on experiential situationist learning is most likely to provide a pathway to sustainable innovation for SMEs.

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ARGUING FOR DESIGN THINKING INTERVENTIONS AS A FORM OF ARTISTIC INTERVENTIONS

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ABSTRACT

Drawing on data from two projects where artists used their artistic competence as organizational change facilitators, we argue for a theoretical coupling of the discourse(s) of design thinking to research streams within art-and-management. The artistic dimension of design, the practice perspective and the artistic process should be considered if we are to understand the full potential of design thinking for companies.

This paper describes two artistic intervention projects that highlight valuable ways artists can contribute to organizational innovation and change. We begin with the theoretical frame of reference and a short methodological statement, followed by the empirical material. In the analysis section we point to ways in which such interventions are similar to ones led by designers when we consider the designer's process as individualized and contextualized. Finally, we draw conclusions.

THEORETICAL FRAME OF REFERENCE

Our theoretical framework is multidisciplinary in that our area of interest intersects design, art, and management/ organization theory. Here we present relevant academic areas, shown schematically in Figure 1.

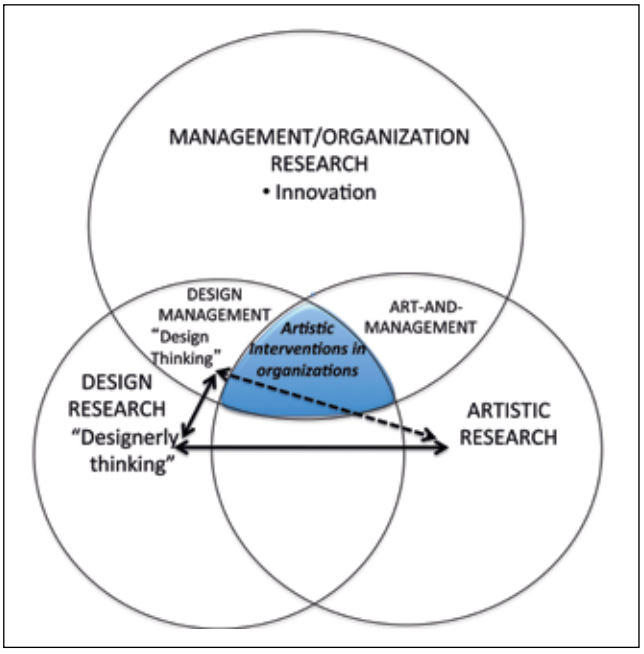

Figure 1. Theoretical Frame of Reference

DESIGN AND DESIGN THINKING

Design can be understood in different ways: as deliberate human creation to change reality into a preferred one (Simon 1996); as a reflective profession (Schön 1983); as the resulting artifacts, a design history perspective (Forty 1992); as an open process that is individual for every designer, yet with common characteristics (Cross 2011, Lawson 2006), or as the creation and re-creation of meaning (Jahnke, 2013 Krippendorff 1998, 2006, Verganti 2006, 2008). These academic discourse streams have different epistemologies and lead to different approaches to understanding design thinking (Johansson-Sköldberg et al 2013).

In this paper we consider design and designers' work as meaning-making, a perspective that draws attention away from the artifact as such, and directs it to the emotional relation – or sense-making – that occurs between the human being and objects of different kinds. The designer may still design artifacts, but the meanings other human beings bring to these artifacts are a vital part of the design process. Considering the designer as a meaning creator leads to regarding him or her from a hermeneutic perspective where meaning and interpretation are at the core (Alvesson & Sköldberg 2009). However, design is not only a matter of interpretation of something existing, but also active creating, a profession conducted in a workshop rather than taught only through books or lectures. It is a competence or knowledge-in-action (Dreyfus & Dreyfus 1980) rather than cognitive knowledge, and is therefore best understood through a practice perspective (Bourdieu 1977).

DESIGN MANAGEMENT AND MANAGEMENT BASED DESIGN THINKING

Design management relates to activities concerned with managing the design process within a company. At first practicing designers used traditional management concepts when trying to explain "design", but when the CEO of the world's largest design company, IDEO, introduced "design thinking" as "shorthand" for what designers do (Brown 2008, 2009), the concept and corresponding practices were embraced by managers, allowing designers to present their own vocabularies and ways of working. Early cases of companies using a design thinking perspective (Rae 2008), and successes at the operational level (Martin 2011) were accompanied by toolkits (e.g., Leidtka & Ogilvie 2011).

Like the discourse of designerly thinking, management-related design thinking has a number of different origins and expressions depending on the audience (Johansson-Sköldberg et al 2013). Along with others (e.g., Kimbell

2011, Rylander 2009), we are concerned about the lack of scholarly attention to the management-related design thinking discourse, and the need to remedy this if design thinking is to develop its theoretical grounding and practical application.

ART AND ART-AND-MANAGEMENT

Various forms of art, from visual arts and architecture to performing arts and literature, may be created for different purposes, ranging from communication to an expression of the imagination to entertainment or healing. In fine art there is no purpose except engagement in an aesthetic experience (Dewey 1934). Like design, art as produced by artists is a practiced discipline (McDonnell 2011), with clear research streams related to the various forms. Common to all artists, regardless of their specific technical expertise, is an *artistic process* involving the four discrete aspects of discovering the subject, sensing an audience, searching for specifics, and creating a design (Apps 2007).

We recognize, and take as our position in this paper, similarities and differences between the artistic process and design thinking. Similarities exist in the processes used for identifying and getting to the bottom of a problem though searching out new or alternative ways of dealing with its components. Differences are based in the more scientific or analytical logic of design while the artistic process is more intuitive and emotional.

Art-and-management, unlike design management, originated within academia, with theorizing related to organization theory. The discourse has developed along themes of recognizing emotions and senses as part of organizational life (e.g., Guillet de Monthoux 2004, Strati 1999, Hatch 1999), making metaphorical connections to artistic practice (Vail 1989), and forming links with leadership (Steed 2005) and entrepreneurship (Daum 2005).

Within the art-and-management literature there are many suggestions and case examples of *arts-based learning in business*, when leadership or organizational development practitioners use artist's tools for individual or organizational learning, development or organizational change (Nissley 2010), or in management education (e.g., Nissley 2002). Quite separate are considerations of arts in business, the exhibition or performance of artistic work in corporate or workplace settings for display or enlightenment, or the *business of art* as the funding, locating, and managing displays or performances of arts for pleasure, entertainment, or economic gain.

Artist in residence programs include a wide range of opportunities where artists and other creative people take time away from their usual environment for reflection, research, presentation or production, or interactions with others, enabling cultural exchange and mutual growth (e.g., Harris 1999). Closely related are *artistic interventions*, defined by Berthoin-Antal (2009:4) as

> *a wide range of short- and long term forms of bringing people, processes, and products from the world of the arts into organizations. … to intervene means to come between, to involve someone or something in a situation so as to alter or hinder an action or development. Intermediary organizations, artists, and host organizations define the nature of the interaction, e.g., collaborative, provocative, entertaining, or playful.*

Various accounts exist of artistic interventions in the UK, US, and Europe, including the ARIS project in Sweden (Styhre & Eriksson 2008), forerunner of the project described here. The projects were diverse, involving artists from different areas in contact with different sized groups of employees, and had varying success. In many, outcomes cited were intangibles in the form of different ways of thinking and doing with little business evidence of impacts.

THE RELATION BETWEEN DESIGN, ART, AND MANAGEMENT/INNOVATION

Although the academic discourses of design management and arts-in-management show little epistemological resemblance, there are many practical similarities. Both rely on a merger of knowledge from the faculties of art and of management. Art and design differ in the way that design is more purpose oriented and thereby could be seen more as applied art than as art in itself. Both art and design practice are taught in studios where individual learning and emotional inclusion are recognized. If the relationship of design with art is removed, it is no longer design, only technology/production (Johansson & Svengren-Holm 2008). Design deals with aesthetic relations and the senses of human beings, which are at the core of art, yet there appears to be a rift between design and art in our culture (Coles 2005).

Innovation provides one connection between management and design, in particular through the use of design and design thinking. Design-driven innovation became fashionable through Kelley's (2001, 2005) descriptions of IDEO's practices, Verganti's (2006) presentation of Italian designers, and numerous examples in the business press. Here we extend our understanding of "innovation" to encompass innovative organizational

change and development initiatives, as shown by Jahnke (2013). Organizational change has long been a theme of organizational theory, with organizational innovation consistently defined as the adoption of an idea or behavior that is new to the organization (Hage 1999). These frequently include changes in organizational culture, as the shared knowledge, values, meanings, and the "unconscious mental models" of organizational members (Smircich 1983). Prior research in artistic interventions suggests that some artistic interventions produce lasting and possibly innovative cultural changes, in addition to changes with immediate economic impact (Darsø 2004, Reaves & Green 2010).

TOWARDS ARTS-RELATED DESIGN THINKING

Metaphorically, designers have one foot in artistic work and one foot in production or technical implementation, thus designers are artistic and something more. Their artistic competence becomes clearer when considered in relation to artists working in similar processes. Confronting an initial indeterminate problem as "the blank canvas", sketching as visualization or prototyping, and reflection in action are aspects of the work of both artists and designers, and also the most basic elements of design thinking.

The above literature review suggests that the discourses of art-and-management and design management each deal with interventions from artists and/or designers and that these interventions have implications that are interdiscursive in the sense that they affect organizations in ways that are far from restricted to traditional design or art perspectives. Both artists and designers can affect organizational culture and work processes, even if their work is not explicitly directed towards those areas: an artist works through emotions to create an experience, while a designer communicates that something exists for a purpose. Rather, the value of design and artistic interventions may be the side effects of the artistic work done.

EMPIRICAL MATERIAL

Methodology

The empirical material comes from two Swedish projects, the KIA initiative (*Kreativa Innovationer i Arbetslivet* or Creative Innovation in Working Life) that are part of a larger European study of artistic interventions in working life. Researchers used a combination of qualitative methods, including informal conversations with company representatives at KIA conferences, and telephone interviews with the CEO, participants, and artists involved in each of the projects. The interviews were recorded, transcribed, and analyzed using an inductive and reflective method similar to grounded theory analysis (Glaser & Strauss 1967). All the work was conducted in Swedish. Here we analyse the empirical material using our theoretical framework and provide examples and quotations as illustrations for our arguments.

TILLT and its Role

The projects were established by TILLT (www.TILLT.se/in-english/), an organization that produces artistic interventions in organizations (the discipline can be any artistic form: dance, theatre, music, literary or conceptual), leading to both the artist and organization members rethinking what they do, why they do it, and how they work or operate, which is a key to development.

A member of TILLT, called a process leader, worked with organization leaders and their goals to develop a statement of need ("the challenge") then appointed an artist based on an assessment of fit between the organization and artist (See Table 1). The artist used his or her competence to develop and manage the process in the organization, with the process leader providing support as needed. Projects lasted between 7 and 18 months. The organization's CEO evaluated the results and outcomes.

The organizations, their goals, and artists are shown in Table 1 below.

Organization	Organization's goal	Artist's challenge (Developed by TILLT & organization)	Artist selected by TILLT
1. Pomona Balance Provides HRM services for businesses.	To give employees more power and creativity.	(1) Develop materials that present and clarify Pomona's services for staff and clients - film, print or experiences (2) Start a process to update Pomona's stated values in order to better market all of Pomona's activities and services.	Martin Bronze, magician and filmmaker.
2. Regional Newspaper	To reach new audiences.	(1) Reach new groups of readers (women and young people 20-40) (2) Develop sports and news pages (3) Develop the newspaper's look and content.	Linn Greaker, visual artist and web designer.

The Projects
The organizations appear to have few similarities, and project goals differ, though both deal with communication or cultural development on a group level. However, the details below show that the outcomes are much more alike.

1. Pomona – a magician/filmmaker works with company values.
The magician/filmmaker thought the employees "were using their heads too much". "We think about processes and … we talk and talk.... So the artist thought we needed to work with the body, so that became the essence of the whole thing", said one of the participators. The artist therefore started with some simple exercises, "to release and be free".

Initially the company wanted to make videos for their website about how their values show in their work. But after a few meetings participants realized that it was not necessary to film their work. Instead they worked with their artist as if they would make a film: working with role-playing and building crowd scenes based on their values. For example, one of their value principles was about 'meeting all where they are', meaning everyone should be acknowledged and treated with the same respect, whether it was an electrician or a customer or an employee. This is how one of the employees described it:

> *We made scenes such as, 'how we meet an alcoholic, or a dark-skinned stranger, or a very wealthy person, or an impoverished person.' In the different scenes we were testing company values against our own internal images, so we are able to deal with prejudices. We played some exaggerated scenes. We had to feel what it is to be a low status person - what is low status for us? So, we had to visualize it, or try to show it to each other. How did we look? How did it feel? There were plenty of these exercises.*

At the end they had a day when everyone tried the different exercises. According to the CEO:

> *We laughed so much together, and perhaps the greatest benefit, we were clearly connected to each other even more. Now we have new energy, joy, and permission to be playful.*

After the project ended employees continued to use role-playing as a problem solving method. In this way they became capable of seeing the situation and the problem in a new perspective and thereby also capable of creating new solutions:

> *When we are stuck in a situation and don't know how to solve it, we ask a colleague to join us in role-playing to find new solutions.*

The project was innovative in two ways: with the help of the artist, employees discovered new tools for their professional work and learned how to gain more energy from having fun together. The latter could maybe be classified as a cultural innovation, as new ways of behaving that were both accepted and encouraged.

2. A web designer-artist helps a newspaper innovate and find new target groups
This intervention concerns a newspaper that wanted to reach their target group of those who ordered subscriptions, "women 25-40 years old". Employees also knew they communicated more effectively with elderly people than with younger ones. One of the participants described the process:

> *We met with the artist/web-designer each week. First it was about how to 'open the senses'. We had to do different things -- all kinds of things. We could choose images to show different characteristics, or we could paint or draw ourselves and describe things. We went out and about with cameras to use them for different tasks, and so on.*
>
> *After a month we started to talk about what we could do with our product to improve it. The only thing we'd already decided was that we should appeal more to a specific audience, women ages 20 to 40, …and .. we are sometimes a bit old-fashioned. …. So, that was what should be improved.*
>
> *We talked a little about how we could do it, and our positioning to make a fresher newspaper. We did some survey research on the town, asking what people thought about the newspaper and so on. We discovered that most people liked the newspaper - but it scored high on giving an archaic impression. We continued with identity studies of the type: If you had to give the newspaper names and ages as a person - whose name and age would you give? And if the newspaper was food - then it was home cooking. What animal did the newspaper resemble - a Saint Bernard dog!*

But we came to some answers. Page two was incredibly dull and not read by many. Instead we decided to have some lighter material on that side, called 'the chronicles.' We hired some skillful young women writers to write about different themes: children, sex education, entertainment, and the environment- things we learned were important issues for women. We've added some lighter material, such as amusing events, photos from readers, surveys, and questionnaires. We linked it to our Facebook page where we write about things separately from the newspaper and where we get a lot of opinions.

We keep working to try to expand the news and introduce a new angle, what happened but adding some additional items, and giving the story more life by putting people in focus. We are trying to be a little more alert, become fresher. We have accomplished a strategic move. Overall, there has been an improvement, certainly a facelift.

The newspaper employees have also started a more structured way of holding meetings. Every morning they have a short meeting when they plan the work of the day, and one day each week they have a longer meeting when they plan for the long run. It has helped create more order and be more proactive, they say. This is probably not what you primarily expect from an artistic project - that it will create order and more anticipation. But here they have found that "it is easier to be creative if you have a base to stand on, so you know what you have to fall back on".

The CEO identifies three major benefits: First, innovation -the newspaper has become more attractive to younger readers; second, cohesion - the group was strengthened in working together, and third, they have become braver - "we dare to try more ideas. Before we killed ideas when we sat and discussed. Now we often test and see. It may not work every time, but we've tried it. We're braver like that."
Here there has been an innovation in the product and also in ways of communicating with the customer. While these are not "new to the world" innovations, they are markedly different from former practices in the company, and are certainly considered innovative by those who work there.

Summary of the Artistic Interventions
At the beginning almost everyone involved asked, "What has working with an artist to do with our organization?" and early stages of the projects were described as "messy". Some projects began with a meeting that provoked participants or discussed issues unusual for work. As time went by, working with the artist became more "natural", the projects ended in a company-wide event where participants demonstrated their learning and engaged other members of the organization in their new ways of working.

According to the respective project leaders, both projects met their goals. Tangible results were achieved in the repertoire of role-plays created at the HRM-services company, and the changing focus of the newspaper. Results were also described as "creating more energy and laughter", "access to our creativity", or "more courage and insight".

The process and changes were not of the type typically described in management and organization theory, but more in line with Strati's (1999) observation that organization theory has no smell, taste, sound or other sensual dimensions, while organizations in real life are full of them. The interventions, while clearly related to organizational development with the artist acting as consultant, are more aptly described as artistic interventions. Many participants credited their artist with having particular skill in guiding the process.

ANALYSIS

Here we analyze the cases using elements of our theoretical framework.

Innovations
The two projects resulted in innovations in products, services or changed organizational processes. Results from the artistic interventions are not "artistic" or directly related to the artist's field. However, in addition to changes in specific ways of working or communicating, participants came away with some more general creativity or ways of working with an open process orientation. From the organization's point of view, social innovations with increased creativity and enthusiasm were as important as product or process changes.

Artistic Process
Each artist used his or her process knowledge and artistic competence perspective at three levels. First, they used their technical competence, not directly, but for purposes of the intervention at hand. At an underlying level, the artist used his or her abstracted competence to build trust so that participants would fully engage in the activities. At the most basic level, the artists used what we call an open process orientation, practiced by all artists, by relying on their emotion in the moment as the intervention developed to guide participants and the process.

DISCUSSION AND CONCLUSIONS

Artistic interventions in organizations can be similar to the interactions of designers when they bring "design thinking" into a company. We therefore propose that the discourses of artistic interventions and design thinking are intellectually similar, leading to theoretical awareness of similarities in the competences that designers and artists bring into the company. This ensures that the artistic component is always a part of designerly work.

Comparisons between the characteristic of artistic interventions and design interactions in companies show:

- Both introduce a more general creativity to individuals, thereby enhancing the creative culture of the organization.
- Both are process oriented, working with a combination of open and structured processes, and give organizations an experience of how to handle an open process, something that may be taken for granted in the artistic world but alien for many technicians and managers.
- Both introduce new activities (tools) and new ways of working/thinking/approaching problems by focusing more on opportunities than on analysis.
- Each artistic intervention had a number of levels. The workshops were somewhat related to the artist's specific skill, and about learning how to focus or how to find new approaches to problems or opportunities, or about organizational change as a form of innovation. Design thinking interactions include many of these aspects.
- An important part of a successful intervention is the selection of the designer or artist to lead the process. In this study TILLT played a "matchmaking" role in clarifying the organization's challenge and selecting the artist. This process was quite different from the traditional way in which managers select designers directly from a design consultancy: the manager presents the problem to the designer and they establish the brief together. The "matchmaking" role may be essential when the artistic competence does not have a direct correlation with the problem or challenge of the client organization. Further research is needed determine the extent to which it exists or would be beneficial for design-led intervention.

We consider both artistic and design interventions as deliberate ways to make the company more creative by using the "tools" or competencies from these professions, although the tools are not as important as the results. In such situations we often speak of a designer bringing "design thinking" into a company. Thus "design thinking" could be understood in a similar way when an artist enters a company to facilitate an intervention.

We now ask, "Why is there no link between artists and designers in the context of design thinking?" The relation has seldom been discussed or mentioned: art and design belong to two different traditions, and art-and-management and design management even more so. Consequently, there has been little cross-disciplinary research. However, we believe that examining design thinking opportunities as artistic interventions will strengthen our understanding of the process.

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Co-Design:

FUNDAMENTAL ISSUES AND GUIDELINES FOR DESIGNERS: Beyond the Castle Case Study

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Keyworlds:
Co-Design, Knowledge Exchange, Participatory design, Public Sector, Public Engagement

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ABSTRACT

In this paper we describe a high profile project to reimagine a large green space in the heart of the city of Lancaster in the UK. This co-design project involved professional designers, but also 2500 people with 700 of these making an active co-design contribution. This project forms the basis of a discussion of how we used a series of events to help participants reach their full creative co-design potential.

From this case study we go on to develop a framework of recommendations to help designers reflect on their normal practice and how they need to operate within a co-design project. These recommendations seek to maximise the benefits of this approach and produce good design outcomes. This framework has been evaluated in a series of international workshops in the UK, Belgium and the Netherlands.

INTRODUCTION

Co-Design is a well-established approach to creative practice, especially in the public sector. It is often used as an umbrella term for participatory, co-creation and open design processes. In fact following Sanders' position (E. Sanders & Stappers, 2008) we would argue that co-design is a subset of a wider notion of co-creation. Co-Design has its roots in participatory design developed in Scandinavia in the 1970s and in the seminal 'Design Participation' conference held by the Design Research Society in the UK in 1971 (E. Sanders & Stappers, 2008)

We are currently seeing a transformation in design studies, processes and methods that is placing a new emphasis on co-design. This is fuelled by an erosion of the designer as the gatekeeper between means of production and consumers, this is evident in the spread of rapid manufacturing technology (e.g. 3D printing) but also in the popularity of services to 'design your own' company web site. In these and many other cases the designer's role as an intermediary between the means of production and the 'user' is becoming less pronounced. The move to make design more strategic by people such as Roger Martin (Martin, 2009) but also a move to go beyond a tokenistic engagement with non-designers involved in design projects (Lee, 2008). In this paper we use the definition used by both the UK Design Council and The European Design Leadership Board in their report 'Design for Prosperity and Growth'. They both define co-design as: *A community centred methodology that designers use to enable people who will be served by a design outcome to participate in designing solutions to their problems.* (Koskinen & Thomson, 2012)

PUBLIC SPACE CO-DESIGN CASE STUDIES

In practice Co-design approaches vary greatly from being close to consultation and information gathering to facilitating people in generating their own ideas and solutions. For example, scenario techniques can be used to identify the interests of different stakeholders, enabling them to participate in different stages of planning and design (Tress & Tress, 2003). To 'accommodate a non design orientated population' the use of visualisation co-design techniques is well documented (Al-Kodmany, 1999, Sanches & Frankel, 2010) .

Co-design processes have also been known to fail, for example 'the process failed at the stage of active participation of the citizens' due to unimaginative methods to engage citizens in the co-design of an urban square in Ypzgat, Turkey (Dede, Dikmen, & Ayten, 2012).

As a response to this, interesting, innovative, open, co-design processes are emerging. Lee highlights the gap between sociological research conducted by 'outsiders' and contributions made by 'insiders'. Professional designers in co-design often use toolkits that allow them to form a process that enables others to be creative in their own way (Lee, 2008). Using social networking technologies new approaches such as online 'city-citizen' projects are emerging where a software infrastructure takes on the role of the 'Urban Mediator' (Botero & Saad-sulonen, 2008), a response to bottom-up city led innovation, which were 'often not provided by the city administration or connected to it' (Botero & Saad-sulonen, 2008). This contrasts with story-telling approaches used to co-design public environments and services in Helsinki which focus on metropolitan railway experiences (Mattelmaki T & Vaajakallio, 2012a)

The long-term benefits of co-design have been recognised for example in the Demos international survey on co-design (Bradwell & Marr, 2008), and more specifically in the development of a building standard in Norway. After twenty five years the inclusive design co-operation between the municipality and the organisation for disabled people has led to reshaped recreation areas which are better for all, and a new building standard that is attracting international interest (*Co-design in Smart Cities, a guide for municapalities from Smart Cities*, 2011).

OUR CO-DESIGN APPROACH

The Beyond the Castle (BTC) case study described here was part of a larger European project looking at how co-design can help communities improve public spaces. This larger project called PROUD (People, Researchers Organisations

Using co-Design) is funded through the EU by a program called INTERREG IV.

Our aim in BTC working with a group of designers was to create a 'scaffolding' which enabled people with a very broad range of experience and expertise to have a creative (not just informational) input into the design process (E. B. Sanders, 2002).

This required both flexibility and strong support, flexibility was required to allow creative input in many different forms, not just in the traditional ways designers are trained. So, for example, participants did not have to be able to visualise ideas for them to be given value, flexibility was also required to enable disparate contributions to meaningfully connect to each other. Finally flexibility was essential to allow for the whole picture to change over the duration of the project.

Structures of support were needed to give the process forward momentum as it is much easier to be creative when there is something to respond to, rather than the intimidating challenge of a blank page. The overall emphasis BTC placed on flexibility was quite risky, as the quote below demonstrates, for the council really taking the openness seriously (while still making a concrete outcome feasible) made the designers we employed, the council stakeholders and other professional groups uncomfortable.

As one City Council public realm officer said,

'It was quite difficult, but when I got the understanding, could see where the potential was. We tend to say this was the leap of faith, it doesn't sit very well within the Council, because we're used to having set outcomes and controlling it and obviously we're answerable to the public, so normally we would say 'right, we'll spend six months on this and this is what we're getting at the end', and there was a massive leap of faith for this, which was quite obvious mid-way through when certain partners had to step back and just go 'right, we trust you on this, you're going to produce something for us that's going to work', and just run with it'

This tension was also reflected by our designers who found the lack of control inherent to the co-design processes we were using to be highly challenging. For example this comment was taken from an interview with Lotte Van Wulfften Palthe, one of the co-designers employed by PROUD for BTC.

'I'm finding it difficult and I want to test what for me is the limit or the boundary when I still think it's design. I think it still is after doing this project now, it's just that it's that part of design that we're creating objects that are aesthetically really well thought out but that's not the issue that we're facing at the moment, that's not really important, so that's not what I want to focus on, because it's not fulfilling'.

Further, *Andy Walmlsey, a experienced designer but someone new to co-design said 'Oh man, the first few weeks were really tough, I kept jumping in with ideas and trying to control conversations the way I would normally do with a client. It took me a while to get to grips with the openness of co-design. I still find it difficult now to be honest but the results are there to see, there is a lot of good stuff in the exhibition'.*

We were aware that this would not be an easy project for any of the participants, partly because we were looking to stretch our collective understanding of co-design. Also as we will see towards the end of the case study, moving people out of their comfort zone was an essential component in the successful outcomes of the project.

PROUD AND BEYOND THE CASTLE

Lancaster is a city in the north west of the UK and is dominated by a hill with a castle on it. One side of the castle is five minutes' walk from the central shopping area of the city. On the other side there is an undeveloped, rather overgrown area of around 500m2 sloping steeply down to the River Lune. It is a space used by cyclists, dog walkers, groups of teenagers and sometimes as an illegal camping site for homeless people. This area has national significance in archaeological terms and it is strictly protected from any building works.

Until recently the castle was used as a low security prison. The owners (Duchy of Lancaster, that is the UK Queen's private estate) have decided to develop the castle into a tourist destination. Although they own the castle building itself, the surrounding land is owned by the City Council, so there is a requirement for close collaboration between City Council and the Duchy of Lancaster. This and the fact that the roots of the trees on the site are starting to damage the concealed archaeology has created the imperative to rethink and develop the area.

This placed pressure on the City Council to develop a coherent plan for the site that had both political and community support. This posed a challenge, as throughout the project we talked to people who considered the standard council consultation process to be more of an exercise in

communicating the decisions already made, than genuinely seeking ideas and opinions. As one senior environmental officer says of BTC:

> *'We were aware that there'd been some previous plans and consultations done which, I think, some people felt were imposed upon them, without a proper meaningful consultation. One of our prime objectives, to go back and do it in a different way, and come up with solutions for the site that everyone could kind of buy into, PROUD seemed to tick most of those boxes'*

With a traditional consultation process already started, the PROUD project was invited to undertake a co-design project to help produce this plan. A first review of the consultation events so far uncovered a strong request to 'stop consulting with us!' There was a very consistent cohort of people attending the consultation meetings and they were now disillusioned by hearing the same ideas and observations with little sign of this having any effect. Analysing the results of the consultation undertaken so far, we came up with some key conclusions.

- There were some repeated themes coming out from some key stakeholders, including history, accessibility and environmental aspects of the site.
- We needed to engage with a wider range of people, not just the people with the time and inclination to attend consultation events.
- We needed new ways of engaging these new people

The last two points were problematic for the council officers who were involved with the project. Although we had spoken to them about the openness of a co-design approach, this was the point where they realised that they were not going to be in control of the process, and for some members of the council team this was very stressful indeed.

In this early stage of the project giving the council some positive reinforcement was very difficult because we decided that we had to pause the public face of the process to recruit five designers or creatives and with them co-design a new process for Beyond the Castle project. This meant the council were left somewhat in limbo; we were not able to tell them what the outcome of the process would be, how we would be doing it or who would be involved.

Once we were making and undertaking successful public events, it was much easier for the people we were working with directly in the council to reassure their managers (and the layers of management above those managers) that we would end up with something interesting. In this respect good documentation and an up-to-date website (http://imagination.lancaster.ac.uk/activities/Beyond_Castle) were crucial. As our key contact in the City Council said

> *'I found the photographs that you did particularly useful, when you emailed out the photographs of what happened at an event was good, because they were good quality but you could see people getting involved at different ages and 'oh did you see the photographs?' 'Oh yeah, yeah, they were really good'. So even if they [managers] couldn't attend, they saw the photographs and it was more like a reassurance, yeah, it's okay, you're engaging in enough people with a broad background, they're getting involved. And I think that's where it changed.'*

It took three months of behind-the-scenes effort to get to this point as we procured designers from a range of backgrounds, including a landscape designer and local resident to provide expert knowledge, a branding expert to help understand the identity of the space, an expert in participatory narratives to explore non-visual co-design possibilities and finally a skilled facilitator.

In addition to the designers that we recruited, we also employed a co-design manager for PROUD. Her role was not to be creative but to focus on the organisation and management of the process and to make sure the logistics; materials, networks and connections were in place. This is another important aspect of the structuring or scaffolding that supports a project. The co-design manager was also responsible for mapping the vision of the designers to the overall aims of the project and, where appropriate, shaping the activities to keep them on track.

The first thing we did with the creatives was to get them together for two full days of discussion, planning and familiarisation. It was here that they developed (with some other inputs) a common conception of co-design and the needs of a co-design program for the PROUD project.

Towards the end of these two days a plan was established with five events that working together would constitute the co-design for BTC. These allowed people to contribute creatively, using the creative scale described by Lindsay and Sanderson (E Sanders & Stapers, 2008). BTC contributions ranged from relatively simple 'doing' to in-depth 'creating' contributions. The five events were

1 Beyond the Castle: this was an awareness-raising event where a corner of the central shopping square in Lancaster

was transformed into a representation of the area 'Beyond the Castle'. Passers-by were invited to document both the things they did in the area and how it could be improved on a three-metre model of the area. See Figs. 1 and 2

Fig. 1 Market Square Activity

2 Just Imagine All The Stories: This was eight interconnected activities running in the green space behind the Castle. Using co-design through story telling this included bringing the past into the present with the aid of a living Roman centurion and a swamp fairy. This was designed to elicit a deeper interaction aimed at families and the young at heart. See figures 3 and 4

Fig 3. Participants documenting their story journey

Fig. 2 'Doing level' creative contribution

Fig. 4 The Swamp fairy, traps people until they have a good idea

3 Just Imagine the Shape of the Park:
Here participants mapped and modelled possible developments in the Beyond the Castle area. Participants ranged in age from three to 92. In this open access event

many people stayed for over 30 minutes working on their models. See figure 5.

Fig. 5 Model making interventions

4 Visioning: This was a different type of event, as all the others were completely open to the public without any registration. Here the 15 most active contributors helped make sense of the more than 1000 ideas contributed from previous events and helped curate the next stages of the process, see figure 6. In an intensively facilitated and designed event the group identified and ranked 80 or so more general or emotional values that needed to be kept in mind; these were labelled the 'don't forgets' (e.g. don't forget to keep people involved in the process). The group also undertook a thematic analysis of the ideas gathered so far; the group identified common factors within themes (e.g. History or Cultural activity).

5 Interactive Co-Design Exhibition: This is a good example of really designing an activity with the usual elements of divergent, convergent thinking, prototyping and so on, as we had no clear idea of what this would be even four weeks before the exhibition opened. Working with a range of participants the designers came up with what would immerse visitors to the exhibition in the city centre and in all the ideas submitted so far, and then constructed an interactive 'scaffoldings for experiencing' (E. Sanders & Stappers, 2008) that would give them the opportunity to really co-design. This was the point where participants could move into 'create' mode with the insights from the previous phases informing the ideas (Mattelmaki T & Vaajakallio, 2012b).

The resulting mechanism had people selecting one of the 'don't forgets' and one element of thematic analysis and selecting a prompting question (e.g. how could this be implemented for less than £1000) to come up with suggestions that were documented on cardboard boxes. On average, participants spent over 40 minutes developing their suggestions, sometimes in conversation with volunteers at the exhibition, but more often on their own, see figures 7–10).

Fig. 6 Analysing and curating all the ideas suggested so far

Fig. 7 The interactive co-design exhibition

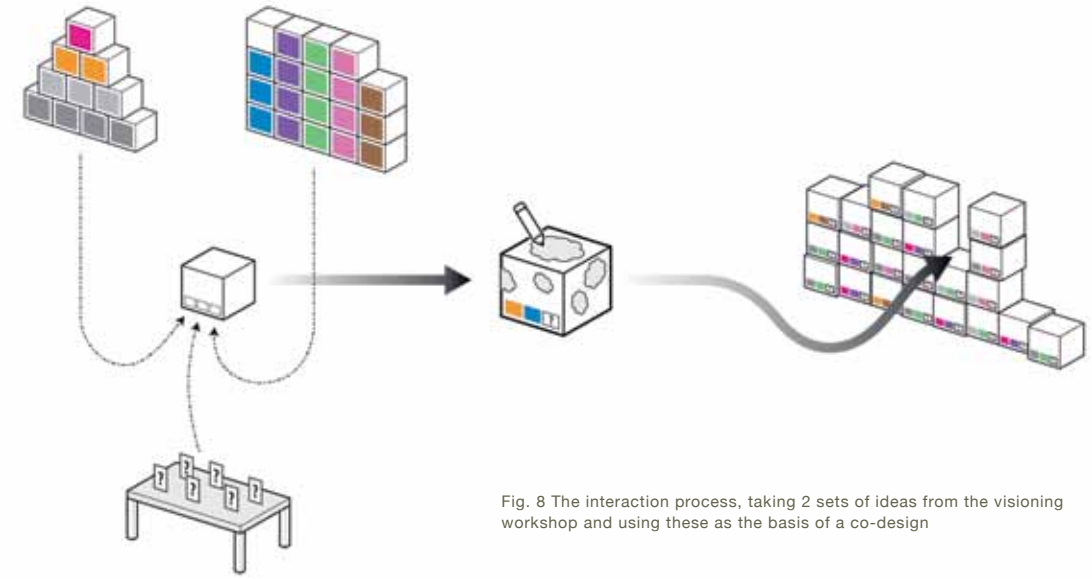

Fig. 8 The interaction process, taking 2 sets of ideas from the visioning workshop and using these as the basis of a co-design

Fig. 9 Co-designing with two of our 'over 90' participants

Fig. 10 Individuals Co-designing

These co-design suggestions (fig. 11) are notable for the range and sophistication of the ideas developed by individuals. Largely these were good new ideas from the perspective of our Council colleagues. After the ideas were transcribed and analysed these detailed ideas (and the large range of preparatory ideas, comments and suggestions) were presented to the City Council in a substantial report (see http://imagination.lancs.ac.uk/outcomes/Beyond_Castle_Imagining_Future). This will form the brief for an upcoming master planning process, through this BTC will set the agenda for development at least until 2020. The level of public engagement, the innovative nature of the process, the quality of the responses and the outcomes of the process have a legitimacy and a weight that is hard to dismiss.

FRAMEWORK

Some designers (including some in BTC) find setting aside their role as 'an expert in charge' very difficult in the co-design process. In response to this we developed an interactive workshop and 8 fundamental guidelines for designers in co-design projects. We tested these through a series of interactive workshops in the UK, Belgium and Netherlands. They were refined into the following:

Fig. 11 Some individual and the collective co-design responses

1. Agree how the success of the project will be recognised
How will progress be recognised, when is the job complete? These could be long-term strategic aims or much more tactical short-term goals or (most likely) a combination of these.

2. Move in and beyond your normal design practice
To avoid 'design by committee' participants have to be able to change the way they think about problems and solutions. Individuals cannot just have an ideal position then compromise until the compromises overlap and agreement is reached but with everyone equally unhappy. This applies to designers just as much to others (who for designers may have very unusual approaches to solving problems). This change in process demands a degree of reflection and willingness to take risks with new processes, that is not present in all designers.

3. Involve and respect lots of people in the ideas generating parts of the process
Acknowledging that non-designers can have great ideas is at the core of all co-design. We all have the potential to contribute to the idea generating and development phase of the process. This is not to say we all have the same creative ability, but rather that creative ability will not reside only in the professional designer.

4. Use the expertise of all participants in the process
In addition to creativity, participants all have expertise that should be welcomed in and used to inform the process. The real challenge is to get as many people involved as possible in a capacity that enables them to make the most positive contribution. In BTC we did this through a broad programme of events designed to allow participants to make expert contributions, e.g. an archaeologist gave a spontaneous and unexpected 20-minute talk during one of the co-design events.

5. Let everyone be creative in their own way
Most designers are inculcated with a particular set of methods and approaches that frame their perspective and creative process. Generally this is associated with visualisation and divergent/convergent thinking (Lawson & Dorst, 2009). Designers need to accept in their hearts as well as heads that there are other ways to be creative, and that just because these may not fit with their own expectations, this does not reduce their value. Actually, the intelligent designer should realise that understanding and using these frames is a very good way of improving their own practice.

6. Explore and challenge assumptions
Some of these assumptions may be symptoms of hidden, highly relevant, or in Von Hippel`s terms, 'sticky' information (Von Hippel, 1994) that would be useful to share explicitly. Equally these assumptions may not necessarily hold true in all situations and may not be the stumbling block they first appear.

7. Expect to go beyond the average
If co-design processes are to flourish in the mainstream of design the notion that the results of these processes are less strong than conventional design has to be addressed. There are two aspects to this; firstly co-design processes themselves should be designed to be extraordinary, fun, dynamic actions that will maximise the potential for people to contribute. Secondly the outcomes of these processes, whether products, services, knowledge and understanding, have to hold up in

terms of quality and effectiveness for the given context.

8. Bring the process to the best possible conclusion with the best possible design outcome

Acknowledge the contribution made by participants. Contributions should be documented and participants should not be left 'dangling' with opinions or ideas excluded from things like project documentation.

PEER EVALUATION

These principles were used as the basis for a series of interactive workshops with designers, entrepreneurs and public sector workers across Europe. These lasted for one day each and were undertaken in Kortrijk (Belgium), Eindhoven (the Netherlands) and Lancaster (UK). In total this involved 63 people with an equal mix of designers, entrepreneurs and public sector workers, all of whom were experienced but not expert in co-design. Through these workshops and the debates engendered within them we 'stress tested' the principles.

We also undertook an evaluation process to test the principles directly. We gathered together an expert panel of 14 co-design academics, practitioners and managers to evaluate these guiding principles. The evaluation took place in Luxembourg with experts working in pairs, identifying challenges or problems with the assertions, then more positive responses and finally through a general discussion. The process was 'self documenting' see Figure 11.

The outcomes of this evaluation were generally very positive. There were a few contentious points, especially around the principle to *'Move in, out and beyond your normal design practice'*. For the group the key question was around the notion of 'normal design practice'. This is clearly contingent on the traditions of the designers involved in the process, making this somewhat too vague. Related to this was also an acknowledgement that not all designers are suited to co-design.

There was a proposal to change *'Use the expertise of all participants in the process'* to *'Channel the expertise of all participants in the process'*, this seems more inclusive but highlights something a little more significant, while 'channelling' is better than 'using' it still has an air of a hidden controlling hand, perhaps 'Include the expertise of all participants in the process' is a better way to describe the sentiment of this principle.

The group were unanimous in their approval of the call to go beyond the average. There was a strong feedback from the group to ensure co-design projects are both distinctive, and also of high quality, and that without this, even the most inclusive and empowering processes were suspect.

This leads us to the final and key recommendation, that evaluation be a more important component of co-design processes throughout the activity and absolutely not left until the end of the project. This resonates with the need to assess, and where appropriate challenge assumptions, and with the establishment of desired outcomes of the project at the start of an intervention. This raises important issues that

Fig. 11 Experts reviewing the co-design principles

are often neglected in open and co-design projects; how to evaluate while recognising and respecting the delicate nature of new ideas in a process is an open question that needs further study.

CONCLUSION

In this paper we have shown through the Beyond The Castle project the potential benefits of an open, emergent approach to co-design that allows participants to express themselves creatively across a whole spectrum of engagement ranging from lightweight, 'doing' contributions up to creative interventions where individuals concentrate for a long period and create very high-quality co-design suggestions. We have also shown that this can be difficult for both designers and public service workers who are used to much more predictable, controlled interventions where they are very much in a hierarchical position.

The recommendations that grew out of this project were intended to challenge the implicitly hierarchical position designers often take on creative projects. These recommendations were also intended to promote active reflection by designers on their processes and assumptions and how these relate to the assumptions and creative processes of others. It is through this type of reflection (and responding to these reflections) that new types of co-design processes and co-designers will develop, ensuring all co-design participants have the opportunity to make their best possible contribution in co-design processes.

There remain a number of critical issues within co-design as an approach that are both inclusive and that result in better outcomes. These centre on the definition and recognition of good outcomes (that will be specific to a particular context) and also to the interplay between designers disciplinary training, methods and wider co-design principles.

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The Encyclopedia Hands

FROM DESIGN THINKING TO DESIGN MAKING

BY KARIN HAVEMOSE

Keywords:
Creativity in practice, Designmaking,
Tacit knowledge, Theory of knowledge,
Designphilosophy

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This article deals with creativity in practice and reveals the complex web of knowledge and skills that are in the things we create. Immaterial values such as traditions, memories and intentions are made visible. Also dimensions from the philosophy of knowledge are revealed: reflective judgement, aesthetic sensitivity and accountability for doing good work. The epistemology of the article is based on the theory of hermeneutic experience and empirical examples are gathered from the author's book *Things in motion – the design process* (2012).

INTRODUCTION

When artistic objects separate both from conditions of origin and from human conditions, a wall is built around them. To really understand the meaning of artistic objects, we have to forget them for a while and make a detour. We must begin to understand in the raw (Dewey, 1934, chap. 1). This article makes a pragmatic detour from the existing paradigm in the design research community – design thinking – into the concrete world of design making (Cross, 2001; Dorst, 2011). The epistemology is based on examples from professional design practitioners' personal reflections on their work process and on artistic objects (Nordenstam, 2010). The reflections are mirrored in texts from both the philosophy of design and the philosophy of knowledge where analogies and different perspectives are made visible and explored (Havemose, 2012). The aim is to treat creativity in practice and highlight the complex web of skills and knowledge that is embedded in the things we create and in their creation itself (Buchanan, 2001).

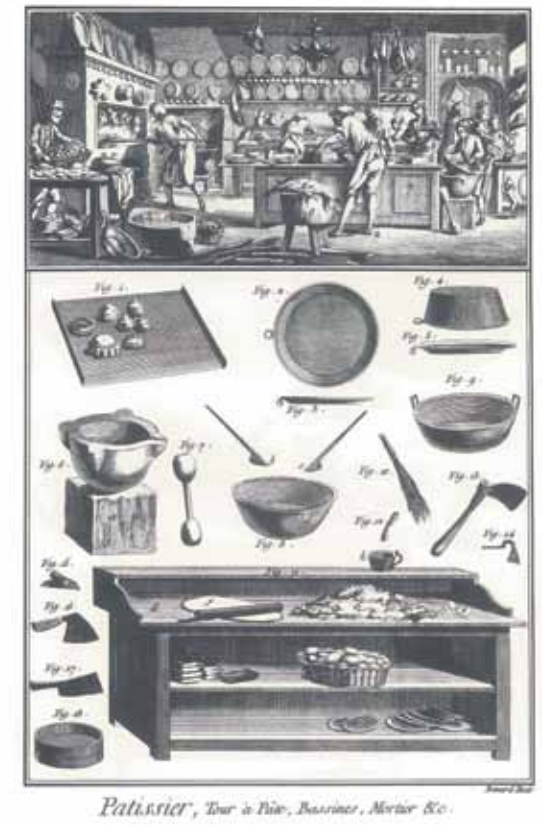
THE ENCYCLOPEDIA POSTERS

Denis Diderot was one of the members of the inner circle of the French Enlightenment philosophers who between 1751 and 1777 compiled and published *Encyclopaedia or a Systematic Dictionary of the Sciences, Arts and Crafts*. Besides being a comprehensive Encyclopedia it was a gigantic enlightenment and education project that compiled skills, knowledge and things that humans had developed in different areas. One question that occupied Diderot's mind was what is it that people learn by learning about their limits? One way to answer the question was to find out how people worked. The method he used was to ask them, like a modern anthropologist. He wrote:

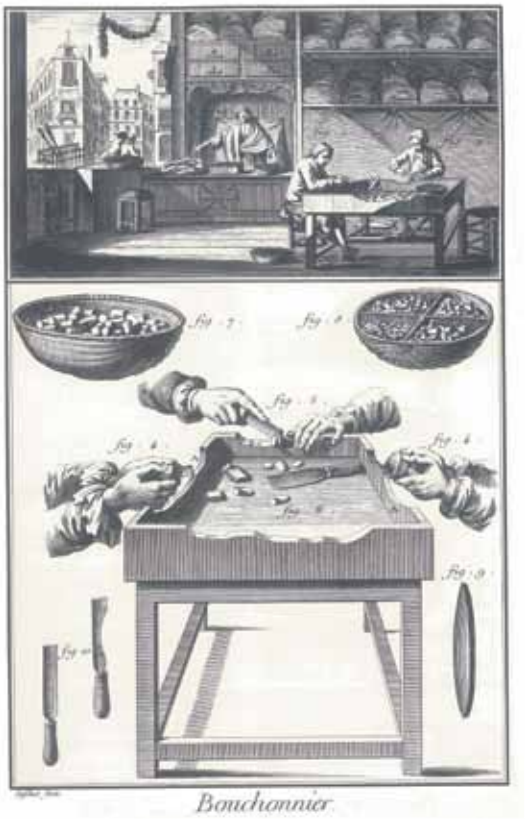
> *We addressed ourselves to the most skilled workers in Paris and the kingdom at large. We took the trouble to visit their workshops, to interrogate them, to write under dictation from them, to follow out their ideas, to define, to identify the terms peculiar to their profession* (Sennett, 2008, p. 98).

The project ran into trouble because much of the knowledge the craftsman possessed could not be put into words. Diderot remarked that among a thousand craftsmen you will be lucky to find a dozen who are capable of explaining the machines, the tools and the things they produce with any clarity. This is not because they are stupid, argued Diderot, it is merely because it is beyond human capacity to put human practice into words. This is perhaps one of the fundamental human limits, a phenomenon usually referred to as *tacit knowledge*. One way around that limit was the use of images instead of words, and the results are the beautiful *Encyclopedia posters*.

I got in touch with the posters through the modern French Philosopher Roland Barthes's essay *Image, raison, déraison* (Barthes, 1964). The posters move the viewer into the world of matter, things, humans and making. They illustrate the knowledge man has developed in various fields: natural sciences, technology and the arts. Looking at them you realize that there are huge numbers of different things that man has designed, things with different shapes made with different matter and materials. Some of them are gigantic: parks, ships and buildings. Others are smaller: corks, playing cards and artificial flowers. Some of the posters are divided into parts that illustrate the work process from different perspectives. In the lower part different tools, materials and instruments are shown. There are ladles and bowls, a rolling pin that rests on dough and a basket on a shelf with something in it. On some of the posters human hands appear, demonstrating the different tools, materials, etc. The hands are separated from the rest of the body; they float freely in the air holding a tool or a piece of matter. On the upper part of the poster, which Barthes calls the "vignette", the hand is part of a human body. There are humans working together in a workshop deeply involved in a work process. It is an intensive and complex process, with various components where the material is chopped into smaller pieces, divided, dissolved and transformed into something new, a 'new thing'. From the workshop's window there are glimpses of the surroundings, there are houses and a boat is nearing the workshop from a canal.



Picture 1: Patissier (Poster 5)



Picture 2: Bouchonnier (Poster 8)

THE SIGN OF THE MAKER

The encyclopaedia posters place the man as a central character in a world of matter and material. The man reaches out into the environment and with his hands and tools transforms, creates and re-creates. In Barthes reflection on the posters the thing appears as man's 'signature' in the world. He wrote:

> *The Encyclopedia man inserts human signs into all of nature. In the Encyclopedia landscape you are never alone. In the midst of the natural elements there is always a product with which man feels allied. The thing is man's signature in the world."* (author's translation from Swedish, p. 24)

The word signature leads thought to the word 'sign'. The media philosopher Vilém Flusser explored the root and meaning of the word design (Flusser, 1999). It derives from the Latin signum, meaning sign. As a noun it means among other things, 'intention', 'plan' and 'aim'. As a verb (to design) the meaning includes 'to concoct something, 'to simulate', 'to draft', 'to sketch', 'to fashion' (p.17). Flusser also added some of the associated contexts and significant words in which the word design occurs, for instance *mechanics* and *machine*. In the light of the Greek *mechos*, which is associated with 'a device designed to deceive' (e.g. the Trojan Horse), the designer appears as 'a cunning plotter laying out his traps'. In the book *The Craftsman* (2008, chap. 4) the sociologist Richard Sennett related 'sign' more closely to the maker. It could be the maker's mark on a crafted item made of metal, wood or clay. It could also be a much simpler sign, for instance a symbol on a brick made by a Roman slave. Sennett asked what kind of signal the sign actually is. It can be a signal of who did this and maybe add some economic and/or political value to the item. It could also be a signal of the maker's presence. By putting a signature on the brick the Roman slave said, "I exist!" In that sense the maker's 'sign' is a *mark of presence* (p.130).

During a visit to the Swedish furniture company *Källemo*, Karin Lundh guided me through the exhibition hall and told the story behind the different pieces of furniture. She said that they all have their own marks or imprints of the maker. She used the word *self-portrait* in the sense that the furniture is 'loaded' with the presence of the maker. The cabinet designed by Sigurdur Gustafsson carries his memories from a boat graveyard situated on the northern coast of Iceland. "You also recognize the typical corrugated sheet that the Icelandic houses are made of", said Karin. Other marks are the makers' typical idioms, their personal expressions and intentions. It could be a detail in a chair's transition between different dimensions, the position of the buttons on the couch or echoes from a whole country's cultural expression and attribute.

In the theory of *the hermeneutic experience* our memory, history and tradition are all essential parts of our self-understanding. They form and constitute the *horizon* from which we orient ourselves, take position, interpret and understand the world. In *Truth and method* (1960) Hans-Georg Gadamer discussed memory and filled it with a more significant and essential meaning. He argued, "... it is time to rescue the phenomenon of memory from being regarded merely as a physiological faculty and to see it as an essential element of the finite historical being of man" (p.14). It is not a memory of anything and everything. One has a memory for some things, and not for others; one wants to preserve one thing in memory and banish another. The memory is a 'something' that is formed in you (p.21).

TUT'S CHAIR

In the essay *Tut's chair* (1988) the Swedish art carpenter Thomas Tempte reflects on a meeting with Pharaoh Tutankhamen's chair. It is a little white frayed chair that an Egyptian furniture maker made around 1350 BC. It is placed behind a glass wall at an exhibition, and when Tempte looked at it, it fascinated him. It could have been made in our time, but it was made with completely different intentions than those Tempte was familiar with. He put up a photo of the chair on the bulletin board above his work desk. Sometimes he has to take it down because it attracts too much of his attention. He began to explore the tools that were used at the time of the chair's construction: screwdrivers, chisels and saws. When doing that several questions arose. How long did it take to make the chair? Did they use templates, and if so, were they used over and over again? Did they use a few standard sizes, or other modules? (p.70). Tempte's respect for the furniture maker who once made the chair grew stronger. He was not satisfied with simply trying to understand the implications of the making – he decided to make the chair. In the process of reconstruction its secrets began to reveal themselves and its history emerged. Tempte discovered that it involves many complex and technical solutions. It must have been made by the 'fitting method' in which you put the pieces together, measure, take them apart, adjust them and then reassemble them again. There are symbols, hieroglyphs and cultic messages where lilies and papyrus flowers have their own meanings and significance. The chair is 'a lion' standing on its four paws, not touching the ground. It rather 'stands above the ground' on small heels with cantilevers that prevent it from sinking into a soft surface. A falcon appears in the middle of the backrest. It is the Falcon God that Pharaoh had a covenant with. Tempte had to put his modern machines aside and travel back to the same technological stage as his Egyptian representatives. He found that his predecessor had a completely different perception of forces and counter-forces. Their sense of proportion must have been incredibly trained. In the reconstruction Tempte met his predecessor's professional knowledge and skill and care is the message that is reflected in all parts of the chair. He wrote:

> *Has the chair any expression that can be traced to the man who with his hands and active mind once created it? I would say so. To be able to materialize an object that surely many people have been involved in and have given directions about requires a very special ability, a creative intellect. This combined with a deeply personal and refined approach* (author's translation from Swedish, p.70).

Picture 3: Tomas Tempte's reconstruction of Tut´s chair (Photo: Torndahl)

When Tempte reconstructed the chair he had a silent conversation with his predecessor, in a *common language*. According to the pragmatic philosopher Ludwig Wittgenstein it is "to imagine a form of life" (Johannessen, 2006, p. 288). It is the ability to use our senses and reflect on what we perceive, we use our imagination to give 'a something' a meaning. In this case Tempte used the mastery of the carpenter's practice, and in his 'silent conversation' with the Egyptian carpenter they *share a form of life*. In the light of the hermeneutic theory the medium that communicates the work is in principle total – *the work presents itself through it and in it* (Gadamer, 1960, p. 118). Memories and past history meet present time in a moment of 'contemporaneousness'. It is the moment when horizons meet. Thus horizons are not stable or closed, rather they are open and in constant motion. We move with them and they move with us. Hence aesthetics becomes the history of worldviews, a history of 'truth' manifested in the mirror of art (p. 119).

STANDING ON THE SHOULDERS OF GIANTS

The phrase "standing on the shoulders of giants" is a metaphor used to illustrate the idea that knowledge is a cumulative process developed from human to human. Previous distinguished scientists' and artists' work sets the standard and forms the framework that future scientists and artists operate in. In august 2009 I interviewed the Swedish furniture designer Dan Ihreborn. Dan told me that a great source in developing new things is technologies, *manufacturing technologies*, because then you can see what can be done with it, what can be solved with it. You collect all the impressions and ideas you have and try to make something out of them. Some years ago he started to work on his own collection, making full-scale experiments with ideas that he had, although there were no clients who requested them. It is extremely valuable to test the most advanced ideas in full scale, continued Dan. It is personal development. In his study stands a bureau that he designed seven years ago. In this case it was the craftsman Georg Haupt (1741-84) and the intarsia technique that gave him the idea. Dan told me that when he sees something that is unfairly treated or neglected he wants to grab it and put it into a new age. "It's a bit titillating and exciting to work with an old technique. Intarsia is made of small pieces of different veneers, and there are actually hundreds of different types and varieties to choose from. You draw a pattern and then you cut out pieces, detail by detail, that are assembled into a whole. Intarsia was common in the 50's, also in bureaus. Over time intarsia became obsolete and also too expensive to produce." Dan continued, "It's a typical example of how new forms can be created. In this case I wanted to use a technique that for several of reasons hadn't been used for a long time. I put the technology in a new context and tried to make something new out of it. It resulted in a bureau that I have called *Pink Jaguar*."

Picture 4: Pink Jaguar (Dan Ihreborn)

Dan grew up in a district with a long tradition of designing and manufacturing furniture. That is a craft that includes different techniques, different styles and models where Georg Haupt and intarsia is one example. But are traditions not something that we should release ourselves from, especially in the innovative work process? In the book *Ansvarig handling* (2003) Gunnar Bergendal writes about a sculpture located in a university environment named "The man who breaks out of the rock" (p. 17). When as a young student Bergendal looked at the sculpture he saw a man who tried to break out of a rock in order to release himself from traditions and prejudices. After the years went by and Bergendal grew older, he began to see something else. He saw that the man was stuck in the rock; it was actually a part of him.

In fact our traditions, prejudices and role models are the representatives and the patterns that form the basis of our knowledge and understanding of the world. They are something that we acquire, critically examine and work with. Thus we are not born into an abstract world of vacuum, rather into a room full of life. Gadamer uses the expression *the practice of a performance* in the meaning "by constantly following models and developing them, a tradition is formed with which every new attempt must come to terms" (p.117). That is a practice that passes from person to person. However, the transfer is not "blind imitation", it is

rather something that is productive:

> *The performing arts have this special quality: the works they deal with are explicitly left open to such re-creation and thus visibly hold the identity and continuity of the work of art open toward its future* (Ibid).

The bureau *Pink Jaguar* carries the traces of its predecessor, yet it is something new – a new thing. Traditions shift and perhaps the criterion that determines whether something is a "correct presentation" is a highly flexible and relative one (p.118).

THE SKILLED CRAFTSMAN

Another product in Dan's collection is the metal carpet *Lancelot*. In this product he used laser-cutting technology as a source of inspiration. Twenty-seven metal parts, folded like a puzzle to an existing pattern, compose *Lancelot*. Dan got help from several companies to carry out the work. He tells me that you need *access to very talented craftsmen and producers. "Without* their skills and willingness to cooperate it doesn't work. And in time you'll find those who can and want to help you. With them I discuss the problems in detail. I depend on their knowledge and experience in testing and working out different solutions, especially when the shape and quality feel unsure. And the steel felt genuine", continued Dan. "It is difficult to process, but fantastic to work with. You get all the dimensions and can work with different design solutions, down to the millimeter-thin stuff. That way you get the resilience that I want to have in all my products, it gives a more active impression." I asked Dan where he got the idea for the pattern. He answered that it has its origin in laser technology. "It provides new opportunities to design without high up-front costs. Previously they used individual tools for punching out the different parts. It would have required four different tools to produce the carpet, which would have been very costly. Laser technology requires no tools, which gave the inspiration."

Picture 5: Detail from Lancelot (Dan Ihreborn)

The metal carpet lies on a black felt mat like a gleaming puzzle. The surface is shiny and hard. After I heard Dan's story the surface of the carpet started to dissolve and it was possible to imagine what it really contains. There are materials, thoughts, considerations, skills, technology and cooperation. It is also the effort in experimenting and developing an idea to a complete product and the confidence in the skilled men and women who have contributed to its creation. The carpet is the result of 'the joy of making' and the responsibility of making a product with care and a sense of quality. It is the work of the skilled craftsman.

Ancient Greece celebrated the skill of the craftsman through a Homeric hymn dedicated to the master god of craftsmen, Hephaestus. It goes:

> *Sing clear voiced Muse, of Hephaestus famed for skill. With bright eyed Athena he taught men glorious crafts throughout the world -- men who before used to dwell in caves in mountains like wild beasts* (Sennett, 2008, p. 21).

In the hymn Hephaestus was honoured not only for his professional skills, but also for his cunning and ingenuity. He taught his craft to 'man', who took a step away from a primitive life in the caves to become a civil man in a functional and peaceful society. The word in the hymn used to characterize the craftsman was *demioergos*, which is a concatenation of words for audience (demios) and production (ergon). Sennett also noted that *Demioergos* not only included traditional crafts, but also doctors, professional singers, storytellers and lower magistrates.

THE INTELLIGENT HAND

The word craft evokes thoughts concerning the skilled hand – the intelligent hand. According to Flusser (1999) the word 'hand' derives from the word 'technology', which has its roots in the German word 'Tischler', translated into English meaning 'carpenter'. And 'carpenter' derives from the Greek *hyle* which translated to English means *wood*. The basic idea is "... that wood is a shapeless material, to which the artist, the technician, gives form, thereby causing the form to appear in the first place" (p.18). Skilled and intelligent hands appear in the Encyclopedia posters. They reach out into the environment, gripping, touching, turning and transforming different matter and material to new forms. In the essay *Praktikens logik* (2003) Bergendal discusses the two French expressions: *Comprehension intellectuelle* and *Comprehension par corps* (pp. 61-69). *Comprehension par intellectuelle* is an intellectual understanding not

bound to space and time, it is the viewer's understanding, the 'know what'. *Comprehension par corps* is the participant's understanding. It has a direction in time and it connects a vivid memory to a pending task for attention. *Comprehension par corps* is thus 'the senses and the doings understanding'. *Corps* also means 'human community' - *esprit de corps* – the sense of solidarity within a community. In a professional group it is the *mutual expertise, tradition and practices* that create communion. In a work team representing different professions and with diverse expertises and experiences, it is *the accountability for doing a good job* that unites the members, an act of knowledge and responsibility.

The history of the intelligent hand takes us back more than 1.75 million years, to the time when 'man' created the first primitive tool, the hand axe. However, seventy thousand years ago something remarkable happened in our history: we created our first artistic objects in the form of ocher stones with beautifully engraved patterns (Berg, 2005). With this step the items we made became something more than functional tools, rather they became artistic objects carrying a sign and a message from the maker.

CONCLUSION

Submerged beneath the explicit and implicit levels of design making is a vast iceberg of tacit knowledge. It is a complex web of traditions, work practices, collaboration, skills and knowledge (Göranzon, Hammarén, and Ennals, 2006). Design making involves *reflective judgement*: our ability to 'read the situation' and 'take the right step at the right time'. It also involves *aesthetic expression*; our seeing, feeling, imagination and unique ability to transform the thoughts and senses to a language and a form. Design making also contains a *moral aspect*: our ability to distinguish the feasible from the unfeasible and thus the suitable from the unsuitable. It is the ethical implications in our choices and decisions; it is our *responsibility in action* (Bergendal, 2003). All these aspects and elements can be separated 'in the moment of making' as little as they can be separated from the maker himself. Therefore, the tacit dimension of knowledge cannot be reliably accessed by traditional analytical approaches. It is necessary to take a detour to the concrete world of making and start to explore and understand it 'in the raw'. Design making is still an essential part of our evolution and our sphere of life in which 'man' is a central figure.

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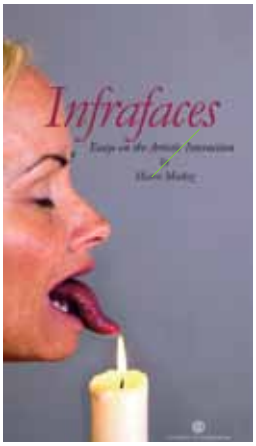


INFRAFACES – Essays on the Artistic Interaction
Author: Marco Muñoz
Publisher: ArtMonitor, Göteborgs universitet, 2013

Beyond the interface

Instead of following the usual procedure when designing an interface, that is, concentrating on logical functions, Marco Muñoz goes further in his thesis (presented to the Faculty of Fine, Applied and Performing Arts, Gothenburg University). He says:

"Everything that can help us to exchange information, monitor or understand our surroundings, and everything we use as an interpretive framework and a communication tool, can function as an interface. The term 'interface' is not just about designing specific technological devices. There are interfaces in all cultural phenomena, even in language itself. But an interface can in its turn contain further interfaces. When two or more elements come into contact, a transformation zone is created – a line, a boundary, an in-between and changeable space…. The possibility of playing with the links between these new elements and spaces – instead of rejecting them due to their paradoxical nature – is one of the foundations of the concept called 'infraface'."

The thesis consists of five essays. One of these is based on a well-known game of chess between a man and a computer. The aim is to launch a discussion about our relationship to technology. One essay shows how the boundary between science and art is continually changing throughout history. Another explains how infrafaces are nourished by paradoxes, and stresses the important differences between interface and infraface. Muñoz also points to the artistic possibilities offered by infrafaces.

STAKEHOLDER ENGAGEMENT FOR SERVICE DESIGN
Author: Fabian Segelström
Publisher: Linköping University, 2013

First out

Cognitive scientist Fabian Segelström is the first doctoral graduate in Sweden in the field of service design. He has explored what service designers do to create an understanding of customers and others who are affected by a service. All to be able to develop services that better suit their needs. For some months he closely followed service designers and their clients, that is, various service companies, in three countries: Sweden, Germany and Australia. A service is often defined as the opposite of a product but he says that is too narrow a view. In reality, services are the basis of everything we buy. Products form part of a larger "value supply chain" in which the customer is often an important last link. This is why greater emphasis must be given to the customer's perspective. Many services are provided digitally today via the internet. The systems' logic often clashes with the customer's, which shows how great the need is for more service designers. Segelström says when a service designer starts working with a company, the various departments often discover that they have a lot to gain by collaborating more.

AESTHETICS IN PRODUCT DEVELOPMENT – A Balance between Commercial and Creative Imperatives
Author: Ingela Lindahl
Publisher: Linköping University, 2013

Critical choice

By understanding and using design, companies can create commercial advantages, such as differentiating their products from their competitors' and creating brand recognition. But developing products with design as an important dimension is not problem free; it can lead to major challenges. Three such challenges are described and analysed in Ingela Lindahl's thesis. She points out that a product's design value is subjective, hard to describe in words, and created via the media, trade fairs, and awards. She adds that the choice of designer is critical but is the foundation of successful development work.

Awards shower down on the Umeå Institute of Design

The Umeå Institute of Design at Umeå University is riding high, at least judging by this autumn's awards. Two gold medals in IDEA 2013 (awarded by the American design organization IDSA) went to the institute and to *Philip Normand Andersen's* SafeWay life preserver and *Ömer Haciomergolu's* ERO, a semi-automatic robot that breaks down concrete structures.

"The Umeå Institute of Design has won a total of sixteen awards in the past five years of the competition," says the institute's *Thomas Degn* to the magazine Resumé. "That puts us in third place among our global counterparts. And we're far ahead of all our competitors in Europe."

The institute has also won first place for the second year in a row in the Red Dot Institute's prestigious ranking list. That is based on the results of the past five years in the Design Concept competition. Among this year's entries (4,394 from 57 countries in 24 categories), *Malin Grummas* and *Kim Risager*, alumnae of the Umeå Institute's master's programme in Advanced Product Design, each won a prize. In total, the Umeå Institute's students have won twelve Red Dot awards in the past five years. Grummas won her award for her graduation project AirBorn, a chair for babies on airplanes. The concept is about increasing comfort and safety for both parents and children. The solution resembles a child's car seat that can be used in the airplane seat or fixed to the wall in front of an adult.

Risager's Urban Composter project is designed to help households to easily handle food waste by indoor composting at home.

Below: The SafeWay life preserver designed by Philip Normand Andersen.
Below right: From Malin Grummas's AirBorn concept, which also includes a life vest.

Crowdfunding

The term "crowdfunding" is being heard more and more, at least with regard to research in the US, partly due to the big cuts in public-sector funding in recent years. Crowdfunding is based completely on gifts from an interested general public. Many websites now present various types of research activities, often with the aid of crowd-pleasing videos. The aim is to persuade people to open their wallets and put down some money. Sometimes only financial and moral support is requested, sometimes the givers can be rewarded with a small bonus. In other, rarer cases, crowdfunding involves regular investment with the possibility of later sharing in any possible profits resulting from the research. Crowdfunding has also made inroads into Sweden. The first Swedish (but English-language) platform is called FundedByMe. So far, the inflow of money has been modest but perhaps that will change in future – especially as the public sector is tightening its belt even more.

Defenders of crowdfunding say it is a democratic model that enables even creative people who lack institutional contacts to launch development projects. And that it gives ordinary people a chance to influence the research so it has a more user-friendly focus.

Critics argue the opposite – that only "fun" research has a chance at success. Everything that is less spectacular and maybe hard to understand will not attract people with money to spend. Also, people who can use words well or afford flashy information materials will have a decisive advantage in begging for money.

Download the pdf report in Swedish on crowdfunding from www.kulturanalys.se

Whatever the case, crowdfunding has interested the Swedish Agency for Cultural Policy Analysis so much that it has examined the phenomenon. The results are presented in a Swedish-language report on crowdfunding called Jakten på medborgarfinansiering.

Lotta Jonson

70 billion euro

Horizon 2020, the new EU framework programme for research and innovation, has started. This autumn, Vinnova, together with the Swedish university research service Grants Office, visited seven places in Sweden to present information about the programme. Horizon 2020 starts on 1 January 2014 and will mean more investment into "excellent" research, extra help for SMEs, and simplified regulations for participation. The programme will have a total budget of almost 70 billion euro and prioritises three areas: excellent science, industrial leadership and societal challenges.

Vinnova says the aim is to use excellent science to reinforce the EU's global position in research and innovation. Industrial leadership will make Europe more attractive for investments into research and innovation, and try to solve the economic crisis. Finally, the third priority focuses on the major societal challenges faced by the EU and the rest of the world. Vinnova adds that Horizon 2020 can have some consequences for Swedish research and innovation. The focus on societal challenges will probably require multidisciplinary projects within academia and researchers must have relevant networks.

With regard to industry, the EU has a general desire to increase industrial participation in Horizon 2020, especially that of SMEs.

For more information visit the Horizon 2020 website.

A uniform used by graduates of the midwifery institute in Göteborg. St. George's Cross was the institute's symbol and graduates were ambassadors of the institute throughout their working life. "Tinget i sig" (The object itself) continues until the summer of 2014.

Ecological complexity

When the Swedish Research Council recently published a list of the international post doc projects it had selected to receive new funding, one was design related. *Martin Avila*, design researcher and currently a lecturer in industrial design at Konstfack, received over SEK 3m up to and including 2016 for a project entitled "Symbiotic tactics. Design interventions to create awareness about and an understanding of ecological complexity."

The project aims to study how design can increase our knowledge about ecological complexity in order to thereby be able to produce and sustain diversity – not just biological but also cultural. And how the interplay between these two factors functions. The research will be done in collaboration with the Multidisciplinary Institute of Vegetal Biology in Cordoba and the African Centre for Cities in Cape Town. Avila gained his doctoral degree in April 2012 with a thesis entitled "Devices. On Hospitality, Hostility and Design".

ILLUSTRATION: PERSSONS PIXLAR

Textile disc

A slipped spinal disc can be fixed by fusing (arthrodesis) or sometimes even by replacing the damaged disc with a prosthesis. Today's prostheses are made of titanium but in future they will be made of textile. At least, so claims the research now being done at the Smart Textiles centre in Borås together with a medical technology company. They promise a better quality of life – the soft, organic textile material can be custom shaped and will make spinal patients much more mobile than both titanium prostheses and arthrodesis.

The object itself

The History of Medicine Museum in central Göteborg is hosting a thought-provoking exhibition "Tinget i sig" (The object itself). Nine people from various disciplines (physicians, designers, artists, historians of ideas) have each chosen one object from the museum collections and written an essay about it. The objects are exhibited side by side together with the essays. They include a midwife's uniform, a Multostat electro-therapy device, a pair of shoes for patients whose feet were destroyed during operations, etc. Plus a range of interesting reflections on attitudes towards people and things. Many questions arise. Who designed the objects? Why? Their history can teach us a lot, not only about the age in which they were created, but also give us perspective on our own times. What should we use science for? Who is the central focus when important decisions about major technological investments are to be made?

Lotta Jonson

A competitor?

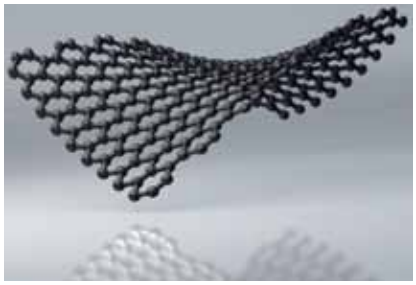
Design Research Journal has an attractive and dangerous competitor. Joking aside – it is an interesting "colleague" – namely, a magazine called *1866*. Published in Swedish by the University of Borås, the magazine has a research focus and often describes very interesting design-related projects in a stimulating way with an attractive layout. The magazine is issued twice yearly and is an excellent marketing tool. The somewhat cryptic name has a natural explanation. In 1866 the technical school of weaving (Tekniska Väfskolan) was founded in the city. In 1948 the school became the Swedish Textile Institute, which became a public institution in 1982, and is now the Swedish School of Textiles at the University of Borås.

1866 presents interviews, reportage, the final results of various research projects, and all the other new developments underway within the broad range of research that is being done in Borås and that often has some link to design. For example, issue #1 2013 presented new artistic research into the definitions and methods of making clothing. Another article reported on the daily life of a design researcher. Interested? Subscribe or download a pdf version at www.hb.se/1866.

Focus on graphene

The EU is now launching its biggest investment ever in a single research field. The project is called "Graphene Flagship" and aims to transform new knowledge about the super-thin material graphene into technological applications that will benefit European industry. One billion euro will be invested in various European projects over a ten-year period, all coordinated by Chalmers University of Technology in Gothenburg.

Three years ago, physicists *Andre Geim* and *Konstantin Novoselov* won the Nobel Prize in Physics for their discovery and description of graphene. Graphene is the thickness of a mere single layer of carbon atoms and has unique properties. It is transparent, strong as steel, and a better electrical conductor than silicon. The discovery has led to many ideas for improved technology, such as faster electronic circuits in computers, stronger composite materials in airplanes and cars, better solar cells, and electricity-conducting glass. So far, though, most of the ideas are still theories. Thereof the name "Graphene Flagship", which will link industry stakeholders with about 100 research groups in Europe to develop the applications.



Graphene consists of a layer of carbon atoms arranged in a hexagonal pattern resembling chicken wire. Graphene is dense, very thin, transparent and flexible. At only one carbon atom thick, graphene is essentially only two dimensional.

New centre for patient-focused service innovation

Experio Lab was inaugurated in October. This new venture will place the patient's experiences of the health care service at the centre of attention. With the Värmland County Council as its base, Experio Lab will be a national centre for patient-focused service innovation, and together with other bodies will create and disseminate knowledge about service innovation and design within the public sector.

The inauguration was deliberately staged to attract attention and underline the importance of patient involvement.

The then-director of the county council, *Hans Karlsson*, played the role of an 86-year-old patient called Inge Frisk. Equipped with earplugs to worsen his hearing and glasses that worsened his sight, the director underwent a patient's journey through the health care system.

Sweden's Minister for Health

City Move to NYC

City Move Interdesign was done in 2009 (see page 18) and focused on how to move or create totally new communities with the help of design methods. In the past year there has been an increased interest in the project from outside Sweden. This autumn, one of the people who were in Gällivare in 2009, *Frank Mruk*, professor at New York Institute for Technology (NYIT), invited SVID's *Claes Frössén* to be a speaker at a TEDx live broadcast.

"Interest in using design as a method to rebuild a community is now greater than ever," Frössen says. "Hurricane Sandy revealed the need to use design methods to speed up the

Minister for Health Göran Hägglund visited the Karlstad Central Hospital together with the fictitious patient Inge Frisk.

and Social Affairs *Göran Hägglund* was present and played the role of detective. He asked questions to capture the experience of patient Inge Frisk. The scenario was that Inge Frisk had fallen at home and broken his hip. After a call from Karlstad Municipality's emergency patrol to the SOS alarm centre, Inge Frisk began his journey by travelling by ambulance to the A&E department, then the X-ray department, and then the operating theatre and finally ended up, newly operated, in an orthopaedic department. Doing such a patient journey is one method of perceiving the health care system from the patient's perspective– an experience that leaves few people unaffected. The journey was documented, and with the help of the tools and methods that exist within the service design field, the journey can be used to help develop the health care system.

"The patient's experiences of the health care system together with the health care personnel's knowledge is our most important source of innovation in the health care sector," explains *Tomas Edman* of Experio Lab. "Experio Lab's role will be to initiate, lead and develop innovation projects in which the patient always has the main role. In brief, Experio Lab is about a new approach within the health care sector."

Experio Lab is operated by Värmland County Council in collaboration with SP Technical Research Institute of Sweden and the Service Research Center (CTF) at Karlstad University with funding from VINNOVA. The name "Experio" comes from the Latin "experior", which means "I experience". Co-creation and user involvement – two starting points that can really change the experiences of future patients.

Karin Stener

rebuilding work. And of course to get the local residents involved. A number of places in the world have noticed City Move Interdesign, because so many natural disasters have happened recently. These automatically cause major social changes that require new methods with an inclusive development process."

A TED appearance also leads to new contact surfaces in the long term. The other speakers are not the only listeners. The message is permanently available and many curious enquiries about City Move will probably be made in the future. Watch the speech at www.youtube.com/watch?v=v6SYq5jAFAQ.

16–18 JANUARY
Eighth International Conference on Design Principles and Practices
VANCOUVER, CANADA
On the task of design and how it should be used for artefacts and processes.
designprinciplesandpractices.com/the-conference

14–15 MARCH
Connecting Dots: Research, Education, Practice
CINCINNATI, OH, USA
Design educators must define what is effective research and then bring this knowledge to the classroom. This challenge comes from DEC, Design Educators Community, prior to the conference in March.
http://educators.aiga.org/upcoming-design-educators-conferences/

2–4 APRIL
2014 Laboratory Design
Boston, USA
This conference for experts in fields such as design and design engineering addresses such issues as sustainability and scientific trends.
www.labdesignconference.com

9–11 APRIL
ServDes (Service Design and Innovation)
LANCASTER, UK
Theme: Service Futures
The premier international research conference on service design and service innovation.
www.servdes.org

24–26 APRIL
ICCMTD 2014
ISTANBUL, TURKEY
International conference on communication, media, technology and design. Other issues to be discussed are social media and visual communication.
http://cmdconf.net/

2–3 MAY
Fashion and Communication
ST. PAUL, MINNESOTA, USA
A symposium with an inclusive definition of the term "fashion", which encompasses architecture, history, interior design, psychology, and women's studies, among others.
http://design.umn.edu/fashionand/communication/

6–9 MAY
Designs for Learning
STOCKHOLM, SWEDEN
Fourth international conference on design research versus design-theoretical and methodological issues plus multimodal approaches to design-oriented research.
www.designsforlearning.nu

8–10 MAY
Cumulus 2014
AVEIRO, PORTUGAL
The 2014 Cumulus spring conference theme is: "What's on in the fields of cultural diversity, social engagement and shifting education." The aim is to unite theory and practice by discussing ways in which design, art, music and digital media are contributing or could contribute in an era of global challenges characterised by uncertainty, ambiguity and complexity.
http://cumulusaveiro2014.web.ua.pt/

19–22 MAY
DESIGN 2014
DUBROVNIK, CROATIA
This 13th international design conference will bring together researchers and practitioners who have worked with industrial design from a variety of perspectives and fields: engineering, aesthetics, ergonomics, sociology, etc.
www.designconference.org

12–14 JUNE
A Matter of Design
MILAN, ITALY
The 5th Biennial STS Italia Conference organised by the Italian Society of Science and Technology Studies in collaboration with the Politecnico di Milano Doctoral School in Design. Subtitle: "A Matter of Design. Making Society through Science and Technology".
www.stsitalia.org

16–19 JUNE
DRS 2014
UMEÅ, SWEDEN
Theme: Design's Big Debates
The Design Research Society's 2014 conference will discuss future directions of design and design research. The aim is to find a shared discourse in design that includes all areas of design research; doing so is crucial to our understanding and development of the foundations of design. With an ever-increasing demand for academic specialisation, there is a greater need than ever for a venue where the design research community can address significant challenges that cut across domains and big issues that will influence how our field as a whole develops.
http://drs2014.org

21–25 JUNE
DIS 2014
VANCOUVER, CANADA
Theme: Crafting Design
This ACM (Association for Computing Machinery) conference focuses on the design of interactive systems based on the idea of craft.
www.dis2014.org

23–25 JUNE
DCC '14
LONDON, UK
The Sixth International Conference on Design Computing and Cognition includes artificial intelligence in design, collective design, and human behaviour with regard to various types of design activities on the programme.
http://mason.gmu.edu/~jgero/conferences/dcc14/

Design for democracy and public policy information

I am a political scientist, former civil servant and citizen. I regard public policy formation as the process by which we set the direction towards our shared future on this planet. The textbook definition of public policy formation is the exercise of power by politicians and civil servants within the institutions of representative democracy. But public policy formation – not least in a demo-cracy –also comprises encounters between people who together identify the needs for change, discuss the desired situations, and define the ways forward based on their various experiences, needs and ideas.

I would argue that this entire spectrum of public policy formation benefits from an understanding of and application of design. As the Swedish government's Commission on the Future of Sweden has stated, democracy faces challenges such as the increased complexity and speed of globalisation, the development of knowledge, information and technology, increased political polarisation, and the reduced legitimacy of democratic institutions.

So what can design contribute to this? First, design makes what is complex comprehensible by making it visible and providing experiences. Second, design presumes chronic experimentation – which is extremely relevant to the ever-faster development of society, in which thoroughly well-planned solutions risk becoming obsolete even before they are imple-mented. Today's challenges can seldom be solved by implementing large-scale reforms based on historical evidence. Instead we must make prototypes, test, evaluate, learn, and retest again and again.

Dieter Rams, the legendary designer for both Braun and Vitsoe, formulated ten principles for good design. His focus was the design of things – but I and others argue that these principles are also relevant to public policy formation and public services. Some thoughts to use as a starting point for further consideration are: Good design starts from the individual. Good design focuses on the user and his/her needs and circumstances with regard to using the service, rather than on bureaucratic procedures or party-political tactical moves. This is true whether it involves the home help service doing night-time patrols or tax legislation. Good design is durable and long term. It is planned down to the smallest detail. Good design is simple and discreet – is anyone considering simplifying regulations? It is innovative, that is, it seeks out new or better ways of (co-)creating value with and for the citizen and society, among other things by exploiting technological possibilities. Finally: it is honest and aesthetic. In "honest" I include mutual trust, but I also realise that such an interpretation is far from being self-evident. And aesthetics? This is not primarily about attractive online photos. I believe that to Dieter Rams, aesthetics was a more fundamental value. Transferred to the domain of democracy, aesthetics is about fundamental value judgements. Good design thereby means policies and public services that are permeated by the Swedish Instrument of Government's words about respect for everyone's equal worth and the freedom and dignity of the individual.

In today's discourse about design for public policy formation, emphasis is placed on a systems perspective and cross-functionality, in addition to user involvement, as being central pillars. This is absolutely crucial because fragmentisation and a silo mentality – in addition to short-termism – constantly recur in discussions about the deficiencies of the current political system.

Fortunately, there is now a growing awareness about and application of design in Swedish public policy formation and administration. One example of this is the new council for service innovation and design in the Swedish healthcare sector, as are the design processes being used by the Swedish Social Insurance Agency, the national government employment agency Arbetsförmedlingen, the county councils, etc. This will provide new examples that can be used to inspire, further develop the methodology, and increase understanding of design as a strategic capability. In time this can lead us to think in design terms even in the development of bigger public policy areas.

Sara Modig

Sara Modig is co-founder of ModigMinoz AB, which supports innovation processes that aim at sustainable social development. She was previously an official at the Swedish Ministry of Enterprise, Energy and Communications and project manager of the national innovation strategy.

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