

Cumulus Working Papers

Copenhagen

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PREFACE Yrjö Sotamaa

Cumulus 15 years Sharing the Global Knowledge and the Global Responsibility

The time of the birth of Cumulus was marked by the fall of the Berlin Wall, a great euphoria of freedom and the birth of a “New Europe”. Cumulus was born to promote the ideals of democracy, equality and freedom of movement. Importance of education for balanced development and the wish to strengthen the role of culture in global development have brought us together.

The history of Cumulus and its various activities tells of a strong mission, which includes four basic aspects. Cumulus wishes

- to promote the talent of the youth and culture of creativity
- to help educational institutions to network, develop and cultivate excellence in art and design
- to make society and industry aware of the importance of culture, art and design in building sustainable societies, creative economies, innovative regions and a better everyday life for all people and
- to develop a global network of individuals and institutions who are willing to share their knowledge with each other.

Cumulus was founded by “six missionaries” and has grown to an Association of close to one hundred institutions from different parts of the world. The Network founded in 1990 was transferred to an Association in Rotterdam in 2001. It was the time of the birth of the knowledge society. The growing importance of art and design education on economic and on social development emphasized the need to improve quality of education and to develop research also in the area of art and design.

Becoming global

The need to build a global Association is being discussed in every Board meeting of Cumulus as well as in our conferences. The meeting of Cumulus in Copenhagen marks an important step forward. Cumulus will become a global organization.

In order to fulfil the noble and challenging mission universities are charged with we are forced to become international, global. Educating young people to serve humanity includes the objective and value of internationality, seeing things in a global context. Serving humanity, or one’s own country,

is not possible by limiting the activities within a nation-state and its interests. It requires honouring the ethical and moral principles of shared international agreements, familiarity with different cultures and international interaction. The promotion of human rights, equality, freedom of expression and speech and protecting the diversity of cultures and life are an integral part of the mission of universities and their educational task. The challenges posed by these tasks increase as globalisation, communication, multiculturalism, science and economy progress. We are also aware that art and particularly design have become key drivers of the innovation driven economies and regions. This will put new demands on education.

The special mission of universities is to promote the good of one's own country and humanity by fostering high-quality research and higher education based on it. The creation of the highest knowledge, expertise and innovation are the means that are given specifically to universities and sets them apart from other social institutions. In order to fulfil their mission, universities must also work so that the new knowledge and expertise that they produce promote welfare, culture, civilisation and the development of the surrounding society. Adhering to ethical principles is a prerequisite for the emergence of the desired effects.

By becoming global Cumulus can better help all its members to fulfil their task through sharing best practices and the best knowledge with each other. Sharing is not decreasing any one's own resources, on the contrary, every one gains something new and important. Knowledge grows through its use.

The vision of Cumulus is to become a true global Association and global expert in art and design education, innovation and research. The mission of Cumulus is to support global development by

- sharing the global knowledge
- respecting the global cultural diversity and
- sharing the global responsibility in building sustainable creative societies.

Yrjö Sotamaa

Rector, Professor
President of Cumulus

FOREWORD Gøsta Knudsen

Cumulus 2005 – Conference on Future Design and Innovation

The Cumulus competition on Future Design to Improve Human Life in which European design students participated, the Conferences on Future Design and Innovation which were coordinated with the presentation of the 5 international design awards at the Index Award Ceremony were all focusing on design in the globalized world – a world of social inequalities and increased economic competition.

Globalization is a challenge to all European design schools. The challenge lies in rapidly growing supplies of products, shorter intervals from idea to finished product and not least in the increasing use of advanced technology. The question is where to start – do we rearm with a view to our national culture, or should we choose to pay tribute to the international modernism? Are we able to find the best way to go in the cross field between our regional and global world?

One thing is certain – innovation and development is necessary in design – concurrently with the new market conditions.

It is my experience from Danmarks Designskole, that when it comes to creating ideas and giving form on an artistic basis, the students' qualifications are

excellent and at high international level. This is fine, but unfortunately it does not help a lot when compared to the terms and conditions of globalization. We must add new themes to our traditional focus on the finished product; and we must strengthen our focus on innovation with overall strategic estimations and interdisciplinary concepts all along the chain of value.

To a new generation of designers and their lecturers who are trained as traditional designers, this is not an easy matter. This readjustment demands a totally new self-knowledge. Most students regard the designer as a "star" who acts his dreams out in his design. This conception has to be changed, and has been replaced by a designer who takes part in an interdisciplinary team with focus on innovation and value creating initiatives for the industry and the consumer.

It is therefore my hope that the Cumulus 2005 Conference on Future Design and Innovation which includes several issues ranging from Experience Economy; Design as strategy, Design as culture, Design serving People, Challenges of Tomorrow's Design and Educating Tomorrow's Designer will give food for thought, and support the present restructuring of the European design schools.

The inspiring, and serious discussions during the long breaks of the conference – under a sunny, clear Danish September-sky – not to mention the emancipated dancing at the crowded Farewell Party – and the succeeding evaluation of the Cumulus Network tells us that "it could have been worse".

Gøsta Knudsen
Rector, Danmarks Designskole

Charles Burnette

The Future for the Design Agendas of Today

This short paper offers views regarding the future of some important directions that characterize the present ethos in design and design education. It suggests future directions for “sustainable” design, “universal” design, the “personalization” of design, “interaction” design, “collaborative” design, and the “automation” of design. The critically important role of design in economic life, the public appreciation of design, or the quality and usability of design will not be addressed.

The Future of Sustainable Design

At its heart sustainable design depends on changes in the culture and infrastructure in which it is espoused and implemented by its evangelists and disciples. Both infrastructure and culture are conservative and slow to change. For example, automobiles will become more energy efficient by shifting to hybrids rather than hydrogen largely because hybrids have minimal effect on the infrastructure that currently supports the use of automobiles (service stations, manufacture, operation, roadways). Cultural inertia is evident in the transition from overpowered, gas guzzling s.u.v.s to hybrids that are being optimized for power rather than fuel efficiency. Similarly, cradle to grave recycling requires changes in infrastructure that assure continuity of reprocessing and reuse. This is more easily obtained within vertically integrated industries where the resource depleter is the recycler (agriculture, timber, steelmaking, aluminum suppliers etc) than through an open market where each actor must be supplied with what they need and be able to find markets for what they produce and waste. This is not to deny the vitality and creative exploitation of opportunities within an open market, just to note that it is not usually as efficient as closed systems can be. Happily, especially in the building industry, both culture and infrastructure are changing in favor of sustainable design. Developers in the USA have realized that “Green” buildings command rents as much as 10 per cent above the norm while costing only 2–5% more than conventional construction. Many new “Green” technologies are now accepted by building codes, and competition to build “Green” buildings has been fostered by the LEED

(Leadership in Energy and Environmental Design) rating system established by the U.S. Green Building Council, a coalition of construction-industry leaders. The Green City Building Act requiring major non-residential and publically financed building projects in New York City to meet LEED standards becomes law next January and is estimated to affect 12 billion USD in new construction there. "Green building principles are now standard at both architectural firms and architectural schools."¹ Both the culture and infrastructure supporting the design and construction of buildings is changing rapidly but such cultural and infrastructure change is happening more slowly in other industries.

While reduction in resource depletion to the level of sustainability is a highly laudable goal for every designer, we must recognize that both cultural practices and the infrastructures that support them may be influenced by our efforts but are, generally speaking, not directly determined or controlled by them. We need the help of the media, politicians, entrepreneurs, industries, government and consumers. Any creative skills, technical expertise or educational programs that we bring to bear on issues of sustainability must acknowledge and address this dependency on forces outside design.

The Future of Universal Design

The premise that a design should serve every user well has produced some marvelous innovations: the curb cuts at intersections that serve biker, pram-pusher and wheelchair-user equally well; the Good Grip handle that can be used by almost anyone; the kneeling bus that serves elderly and young alike; etc. However laudable it is to seek design solutions which serve everyone, it is not always possible or desirable. A person with poor balance or vision may trip over a curb cut; a kneeling bus usually does not facilitate access by wheelchair; some disabled people or those with specialized skills have radically different needs. Delight in variety and the different utilities associated with diverse solutions to similar problems is also at odds with the goals of Universal Design. Design should be guided by the needs of an individual user in particular circumstances as well as by the needs of everyone in commonly experienced circumstances. Universal Design belongs under the broader designation of Design for Usability in which the designer is ever mindful of the potential population to be served rather than focused on an ideal solution for everyone. Universal Design will become,

and perhaps has even now become, part of a more balanced approach to design for usability just as the Solar design extremes of the 80's became part of, but subordinated to, design for energy efficiency across all technologies.

The Future of Personalization in Design

Design that is determined by its user is increasingly becoming practical due to software that allows anyone to help determine the design of things that will be produced. Once again, future problems lie in the lack of infrastructure and a culture that supports this activity. Manufacturers are not typically organized to receive input to their production processes from potential users even though they provide service to customers after production. Information obtained through customer services is only sporadically fed back into the production process to benefit future customers. Similarly, designers and other advisors are not prepared to assist a novice designer at a distance and have not established ways to collaborate, manage or be compensated for such services. The personalization of design is reduced to choices predetermined by the manufacturer, or the application or proprietary software tailored to specific production capabilities. Such vertical integration has been implemented for simple design tasks such as adding personal graphics to a shirt that the manufacturer is prepared to produce, or for certain custom fitted clothing such as Army uniforms and Levis in which the manufacturer uses information from body scans of customers to guide production customized for them. There are other software services which automate the specification and scheduling of products used in building construction that highlight the growing ubiquity of direct engagement in the manufacturing process. Although likely to increase, the personalization of design will develop slowly unless visionary entrepreneurs, such as Apple Computer's Steve Jobs can create highly desired personalization services, such as iTunes, for three dimensional objects.

The Future of Interaction Design

Interaction design has been largely limited to pre-programming the anticipated use of an interface. The growing role of search engines and pattern recognition software in supporting inquiry, thought and decision making, points to a new, more sophisticated and dynamic approach to interaction design, at least for computationally assisted interfaces. The problem

lies in how data compiled by a search engine can be analyzed and fitted to the circumstances of the user while displaying real choices for their response. Amazon.com already uses a similar process to display books the user is likely to buy. A visualization synthesizer based on pattern recognition and shape grammars that has a certain semantic potential based on meaningful imagery is also needed to support designing. Important work on pattern recognition, visualization rules, and diagnostic analysis is coming out of NASA, medical imaging, and perceptual psychology that will inform this effort. Concepts from cognitive psychology (such as "conceptual blending"²) have elaborated how such a process might work. Research, development and demonstration will be necessary to realize this level of interactive design.

The Future of Collaborative Design

There are a growing number of internet based computational tools to support collaborative work. These include software to support remote meetings and presentations, the sharing of computing interfaces, and project software that supports the secure accounting, management, and exchange of data, images and documents by a project development team. Information will be more and more embedded in the instruments of collaborative work and selectively displayed in the manner appropriate to each participant. Such companies as Black and Decker have for many years used the selective display of the same data file for design visualization, finite element analysis for engineering, and computer controlled production. The design maxim "make things physical fast" to enable a shared focus for collaboration can now be realized through virtual reality modeling or rapid prototyping. Prototypes are now being produced in different countries and shared almost instantly. The future of design collaboration lies in internet based software and services more than face to face meeting yet design educators have been slow to introduce their students to emerging tools for collaboration.

The Future of Designer Automation

Although fraught with misunderstanding, aspects of design will continue to be automated to relieve designers from the repetitive development of solutions that already exist. This implies that the design process must be able to access, accommodate and evaluate prior solutions to problematic elements and

relate them to the intentions of the design team. This capacity to capture, adapt and integrate partial solutions is consistent with the ideas mentioned in the paragraph on Interaction Design and speaks to issues of design methodology, education, and the organization of design practice. Design techniques that focus on innovation rather than invention are implied even as the creative role of invention is recognized and appreciated. It has been common in recent years for a small company to invent something, develop it until it has proven value, and then sell it into the mainstream market or to a larger enterprise that can assimilate it into their objectives. Both the evolution of complex systems and economic vitality benefit from this piecemeal integration of components and designers must acknowledge such ways of composing a design.

By no means have these remarks exhausted the issues they raise. They are simply noted as a forward looking impetus to consider issues that design educators should address. The papers in this publication amply indicate that such issues can be addressed creatively and effectively.

Charles Burnette, PhD
The University of the Arts, Philadelphia

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- ¹ Robin Pogrebin, High Rises that Have Low Impact on Nature, *New York Times*, 2/2/06
 - ² Gilles Fauconnier, Mark Turner; 2002: "The Way We Think: Conceptual Blending and the Mind's Hidden Complexities" Basic Books, NYC

Tony Lai

Expanding Design's Future

Abstract

The Idea Factory is an Innovation Services Company that has been using a process built on principles underlying Design to re-invent businesses, professions, products, and systems around Asia. Through codifying some of Design's fundamentals, added to key ideas from Business Strategy, Scenario Planning, and Anthropology, The Idea Factory is bringing the way designers think and work to non-designers, with radical and refreshing results. The Idea Factory is headquartered in Singapore with a branch in San Francisco.

Let's say you've envisioned the next cool chair. You design it, you do all your pre-production, and you have it built. Then you sit on it and it falls apart with great, crashing glory. What do you do next? I assume you would dust yourself off, pick up the pieces, and go back to the drawing board. You might revisit the design – in your head, on paper, with your hands, with your eyes. Your chair evolves, your sketch develops, your specifications change. You do the Goldilocks act a few more times, but eventually, it's there – the chair you saw in your head, arising out of a sea of paper – design created, improved, amended, discarded.

If you're a designer, you're probably asking – why are you telling me something I already know?

Because what designers do – this instinctive process of working with hand and heart and eye, creating iteration after iteration until a vision becomes reality – this process is setting the business world on its ear.

You might call this creativity. It is really *Innovation*.

Design Redesigned

"Innovation is the intersection of invention and insight, leading to the creation of social and economic value."¹

Design has evolved far beyond the recognizable, distinct disciplines of my childhood – those of architecture, fashion, interior, graphic, industrial, textile, and so on. Today entirely new genres of design are being designed! There is now design for Interaction, Communication, Entertainment, Experience, Environment, Usability, Organization, Brand, Interface, Computer, Software, Ergonomic, Gaming, CHI, and IT – the array is bewildering, increasingly complex, and confusingly polysyllabic, all evolving in response to the massive change to life and society that the last quarter of the last century has seen.

More importantly though, design has burst out of the box of aesthetics. Design now permeates the

¹ Council of Competitiveness. "INNOVATEAMERICA, Thriving in world of challenge". *National Innovation Initiative Report*. December 2004.

world of non-designers as a powerful driver for innovation.

In real terms this means that design has made the leap from being an instinctive creative process to being a method as recognizable and applicable to any subject as the mathematical or the scientific. Used for innovation, the design approach offers a fresh pathway to finding solutions, insights, and strategies that are unexpected, and quite unlike those discovered through traditional methods.

Just how valuable the design approach is to business is underlined when we see influential companies like Samsung create the post of "Chief Creative Officer", and Sony placing designers above engineers, guiding strategic business decisions. Here we are not speaking of design as product creation capability but as providing a strategic approach that adds a key dimension in the search for innovation. In some ways, design has become synonymous with innovation.

Asia and Innovation

"When people talked about innovation in the '90s, they really meant technology. When people talk about innovation in this decade, they really mean design."²

Here in Asia, we are in the era of the Innovation Economy. Asia is no longer content to sit by and be the anonymous third party making components for something, assembled somewhere else, designed by someone else. Asia Inc is aggressively moving up in the world, with the full intention of taking a giant bite of the global economic pie.

"Innovation" is what Asian companies, governments, and even whole nations are turning to – to re-invent themselves, to find identity, to find new solutions, to stay relevant, and most importantly, to drive economic growth. As Bruce Nussbaum says above, innovation to many Asian entities is no longer about technology. They've gone past that point. Much of Asia is more than tech-ready, a great deal is in fact leading the world in technology. South Korea has the greatest internet penetration in the entire world. And while technological evolution is uneven across Asia, we know that for many economies, it's just a matter of time. So where does the power to innovate come from?

The world is increasingly finding its answer in design for rapid innovation. In several Asian countries, including Singapore, we see greater value placed on local creative capital; a recognition that here lies a resource for fresh ideas. More than the creative output of the designer, the ability to think multi-dimensionally and laterally, using hand, and heart, and eye, understanding what drives people, and what their unspoken needs are – that is where answers are being found. Design has become a key component in the economic value chain. Human Centered Design is where value lies now.

In Singapore, the National Library is a wonderful example of Human Centered Innovation made real. In just a few years, the entire library system has been recreated from being the traditional dusty book repository with many shelves, to a gathering place for study, reading, and pure enjoyment.

The Library did this through a radical rethink of its purpose in life. It decided it would no longer be an archive, but a distributor of media. This Re-Purposing led to many strategies that now make the Library a place of choice. It relocated from isolated buildings to shopping malls in heartland areas. It bar-coded all its books so borrowing and returning is done sans people. Its catalog is online where so you can reserve a book and pick it up at the location closest to you. Book cafes are common. And one library actually has one entire floor designed by teens. There are no chairs, everything is black, and there's a space for performances. Of course the teen floor is above the reference books, because in the end, it's still The Library!

Another inspiring story is that of Singapore's Alexandra Hospital. In 1999 it was considered a "one star" hospital, dilapidated, for the old and poor, and the one place you would *not* take anyone to except under the direst circumstances. By 2002 it had won nine awards including those for quality and people satisfaction. How did it do that?

The key lies in the re-design of the hospital by its new CEO and management team leading the attitude of listening to the customer. One of their goals – "To provide a level of patient care and service good enough for our own mothers, without the need for special arrangements." The use of design here is about being customer-human-centered instead about designing better beds. Alexandra Hospital has placed its customers at the center of its entire redesign of what a hospital can be.

² Bruce Nussbaum (ed.), "Getting Schooled in Innovation" *Business Week*. (January 5, 2005)

Bringing Design into Strategy

"The way designers work is so powerful as an engine for innovation of everything from technological artifacts to social systems, that everybody should know how to do it, not just designers. The power and methods and tools of design should be available to everybody."³

We at The Idea Factory are particularly excited that the potential of design to innovate is being recognized. To us design has never been just about aesthetics or product development. We believe in Human-Centered Design - design is for, and by, humanity, inspired by and to meet what people need. Design provides a clearly identifiable way of thinking, with a *process* that is itself a valuable knowledge creation tool, applicable to myriad situations, versatile and always revealing.

We amplify design to bring innovation to businesses.

Our unique methodology was born and harnessed from San Francisco in 1996 to Singapore from 2001, precisely out of the realization that the ongoing social and corporate evolution requires a new way of innovation. Our discipline arises from the principles underlying industrial design, business strategy, scenario planning and anthropology. We embedded what designers do and articulated that into a series of proprietary innovation frameworks and approaches that make business sense. We use this to enable businesses and organizations achieve continued innovation.

³ Arnold Wasserman, "Learning, Design, and "Our Asia Problem", *Human Centered Innovation*. (Feb 2005)

Design in Innovation

In 2002 The Idea Factory moved its Global Headquarters to Singapore, retaining a base in San Francisco as well. We have therefore been ideally positioned to bring design – via the pathway of Innovation – to the Asia Pacific.

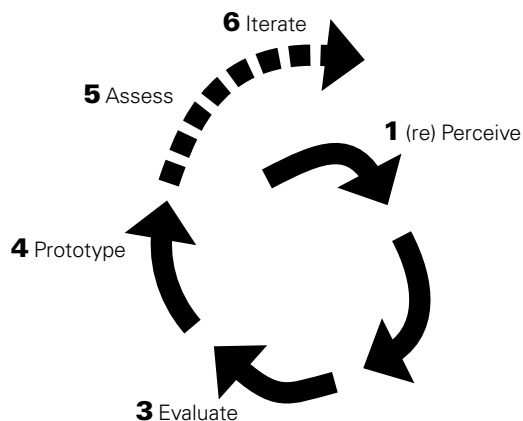
Since then the demand for innovation has meant we've had the privilege of embedding our processes for innovation not just in Asia, but around the globe, from the United States, to Europe, through Asia, and South Africa. Our clients have included Levi Strauss & Co's Asia Pacific Division, Nissan, Microsoft, Danone, Accenture, Philips, Public Bank (Malaysia) Berhad, the TMT Post Group, the Institute of Sustainable Development, Abacus International, and numerous Ministries with the Government of Singapore and the Government of the Republic of Korea. The experience has allowed us to develop a truly international, inter-cultural, and cross-sectoral perspective on systemic innovation.

The Innovation Protocol: Bringing the Design Process into Business

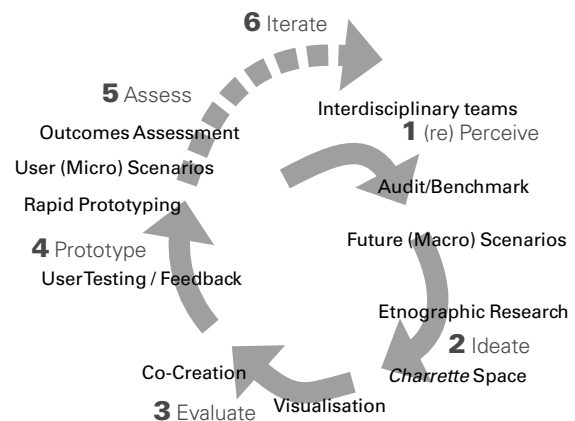
So what exactly is our methodology? Let me explain several of our key concepts.

The foundational design-inspired creation process we use is called *The Innovation Protocol*. Very basically, it's an articulation of how designers work, codified into a cyclical, re-iterative process that enables the designer to move forwards and backwards, allowing thoughts and ideas to diverge, and converge, according to his needs.

The starting point of the process is the creation of experiences to enable people to see with a fresh



The Innovation Protocol ©The Idea Factory



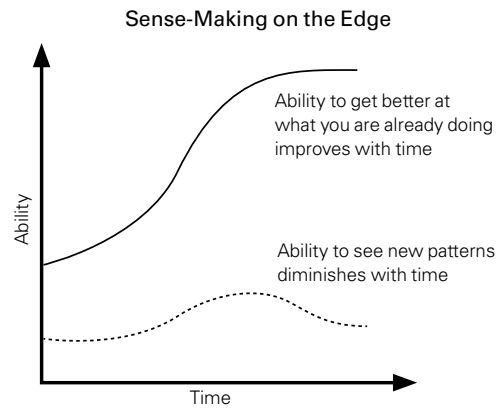
One permutation of how The Innovation Protocol can be used



Charrette Space



Ideation



lens – we call this Re-Perceive. Re-Perception experiences always inspire insights. Working from these, we then cycle through the Protocol in various ways. Ideation might follow, ideas be explored, and then evaluated, or further Re-Perceive experiences might take place for even deeper insight. For those ideas that have possibilities, we might go on to prototype them. At every stage of the process one can iterate the idea, revisit its source, or unravel it to its full extent before deciding if it's a keeper or goes into the trash.

We believe strongly that maximum discovery happens when the Protocol is evolved in a design-like, dedicated space. Whenever we run a program, we create such spaces using *charrettes*, so that people can stick up their ideas, and add on to them all the time. Every permutation is left visible, every scribble and Post-It note is kept. As designers know, the constant visual reminder of a word or sketch can trigger amazing moments of inspiration. We realized that the traditional meeting rooms were effective only to get "tasks" done, not enable generative conversations.

The Innovation Protocol has been very well received as an innovation process in business because of its flexibility. It's visual, it's generative, it allows end-

less permutations, it lets ideas develop, diverge and converge, be built upon or be trashed, and enables rapid iteration of any concept. You can prototype, assess, or start over with minimum risk. It can help you build a business, a plan, a system, a product, or a solution in the same way you built our fictitious chair.

The cyclical, iterative nature of the Innovation Protocol is so versatile that we have successfully used it to help businesses strategize, clients to find new products, reinvent professions, and even re-organize the occasional government directive.

While designers iterate tangible products, we iterate business ideas, opportunities, and pathways for new products and services.

Re-Perception Realized

The concept of Re-Perceiving is key to our methodology and to bringing the Protocol alive. This is because we have observed that as you get better and better at doing something, you also lose the ability to see the new patterns around you that could be the key to the Next Big Thing.

Asia in particular has spent decades developing its productive capacity to the max. Big productivity drives create mass and capital, but fresh creativity



Person-Centric
Observe what people do to reveal their state of mind



Constituent Insight
Walk in the other person's shoes



Strategic Foresight
Determine what is possible



Collaboration
Shared Minds and Meaning



Generation
Make Ideas Visible

gets lost as infrastructure gets bigger and systems become more entrenched. Inflexibility creeps in.

This being the case, getting clients to Re-Perceive is particularly valuable. We have a repertoire of ways to do this depending on what kind of inspiration is needed. We might take them on journeys to other industries; they might do detailed, personal observations in ethnographic frameworks to rediscover their customers; or we might take them into the future to find strategies that will get them to find out where their dreams lie so they can aim for them. At all stages we encourage collaboration to generate unique ideas.

Re-Perceiving Technology, Apparel, and Travel in Asia

The Idea Factory doesn't just teach this methodology, we use it every day to design our own work with clients. Its flexibility is our strength, allowing us to design different approaches for different demands. The objective of each design may be client-driven, but our overall strategy is always to bring that fresh perspective into the room – to enable Re-Perception.

Let me show you how this works. For Microsoft's Asian Regional Academic Programs group, our brief was simple – they wanted a time where key Asian educators – Regional Advisors – could build networks between their countries and institutions. The space to play: imagine the Future of Education in Asia.

To create our design strategy we first surveyed the field – who were we engaging? We knew the Advisors had not all met previously. They were obviously highly educated and of diverse disciplines, languages, religions and political views. Their countries were also in different places on the continuum of educational development.

How could we engage and inspire minds of such high caliber? What was a good space to “play” among all this disparity? At the same time education is such an old industry, how could we create fresh relevance around it?

This was our strategy. To create a Re-Perceive experience, we took them *out* of the world of education altogether, and challenged them with “Disruptors” – current phenomena with the potential to change the world and how we do things. The Disruptors would create reactions – intellectual, emotional, personal. The time frame was current, future, unknown. The experience would be multi-sensory and three dimensional.

This is how it worked. Under purposeful, created time pressures, the Advisors were cycled through four “Worlds” which hit them with issues from the global



Microsoft Partners in Learning Regional Advisory Council, Cebu, 2005

down to the personal. We created a worst-case future scenario around the growing oil crisis (it was only just starting in May 2005). We gave them a peek into the bedroom of an Asian teenager multi-tasking online; they heard the heart issues around the emerging entity we call the global citizen; and they watched three generations of men in various crises at work.

The Worlds were immersive. We asked questions – What insights did they gain? Where could this lead? What could this mean? After each experience they jotted down their ideas, parked them, and moved quickly on.

The next day the room was broken into small design spaces with all the insights gained from the Worlds displayed on *charrettes*. In cross-country groups we now asked the Advisors to share what impacted them from the day before. The only prerequisite: no judgment – all views were valid.

We were delighted to see animated, vigorous discussions taking place all over the room with conversations overflowing into coffee break.

Only then did we start to converge their thought processes. Still in cross-country groups they finally generated ideas for the Future of Education in Asia. And only after the best ideas had been explored did they reconvene as country teams to consider how they could make some of these a reality with Microsoft. New liaisons and active cross-institutional partnerships were born through the process and we were told the Worlds inspired much thought about how education in many fields could be innovated.

The quality of the ideation in the room can never be guaranteed – the Microsoft Advisors were humbling and exhilarating to facilitate. But we can always be sure that our design-inspired process will definitely generate ideas. Our clients are often surprised by how



Generating Conversation



Rediscovering Customers

working like a designer always produces unexpected solutions even from the best-informed in the industry.

One such example is our partnership with Levi Strauss & Co APD (Asia Pacific Division). They wanted to find out how to be better, even faster. Using our process, they were facilitated to find the solution within themselves. Through a program of Re-Perceiving, visualization to uncover tacit needs, and cross-departmental ideation, they found that the way forward lies not in innovating their iconic jeans, but in innovating how they do their business. We have been seeing the rollout of their ideas across Asia this past year.

With the travel industry, The Idea Factory designed a completely different discovery experience. We were really challenged when Abacus International asked us how and why the whole face of the travel industry is changing, and what were they to do about it? Abacus is a leading travel facilitator with proprietary reservations systems embedded throughout the Asia Pacific, but the traditional infrastructure dependent on travel agents is being seriously undercut by low cost carriers, online booking, and the rise of the independent, informed traveler. How could Abacus stay relevant?

To answer this question, we designed a large scale, long-term ethnographic study for Abacus senior management to observe the behaviors of travelers today. The result – they discovered key changes in four areas – the way people are moving, playing, learning, and feeling, all of which impact the way people are deciding how and why they travel.

The insights gained from this process are now being used by Abacus to transform itself and create new business ideas and tools. And to stay connected with its customers, we partnered to create the Abacus Travelab™, a portable discovery system that will be deployed in different Asian cities. This will enable Abacus to continually re-design its customers' experience, tailored from the insights of each city.

Redesigning the Traditional

A particularly challenging area of work we undertake is to bring innovation into traditional industries and professions.

We have enjoyed enabling change in several Singapore Government bodies, including the Media Development Authority of Singapore, the Ministry of Education, and the Ministry of Community Development and Sports (MCDS). MCDS, like every government body the world over, is a structured bureaucracy but we have managed to embed our discovery process and the habit of idea generation within the culture and working style of the Ministry through an intensive audit of their behaviors and creating programs for in-house discovery.

Banking is another traditional field into which we are bringing design as strategy. In Malaysia, where we work with various financial institutions, we took Public Bank Berhad's senior staff on a journey to Re-Perceive the possibilities in retail banking. One visit in particular led to much self-examination – they met staff at Starbucks, where they enjoyed coffee and experienced how Howard Schultz has created a global system that routinely encourages heartfelt loyalty in its employees. Everyone was much impressed by the enthusiasm of the young baristas and much soul searching went on as to why their own bank tellers were so gloomy by comparison. The bankers spent time discussing the ethos behind the system, and considering if that could be transposed to retail banking.

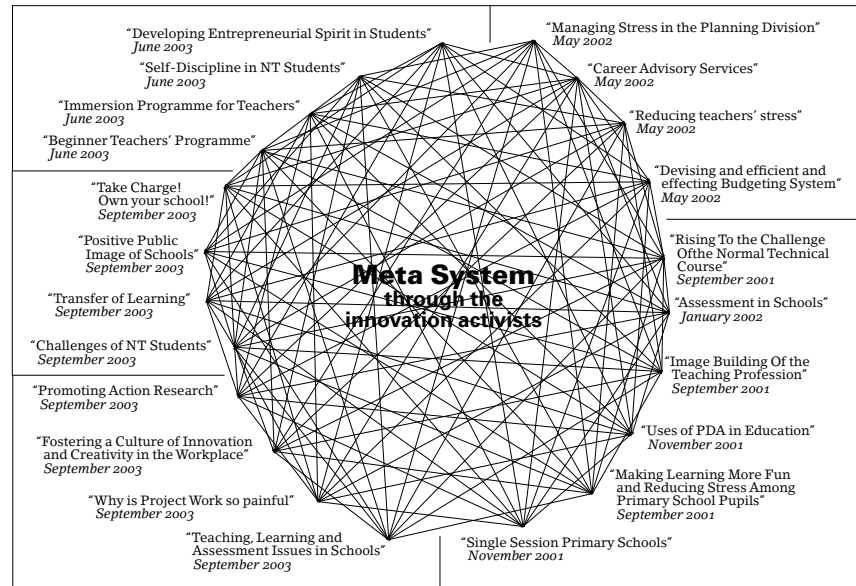
Reinventing professions

Traditional professions are also opening up to the possibilities of innovation through design. Here in Singapore we are working with the Human Resource people from consortia of multi national companies like Philips, Sonoco, Pan Asia Paper, and Molex. We also work with consortia at leadership level. Design is revealing to corporate executives how they can Re-Perceive, and creatively collaborate to bring about innovation.

Perhaps the one profession we are proudest to be reinventing is that of teaching. In 2001 we started a program with the Ministry of Education called "Innovation Activists". It works to redesign the way teachers think and teaches them a different way to learn. Since then 10,000 teachers have become Activists and are taking the process into their work all over Singapore. Below is just one illustration of one set of projects the Activists created for themselves.

Educators are translating what they have learnt, to re-imagine the principles of teaching, as well as creating new ways of learning for students.

One exciting outcome of our work has happened at Temasek Junior College, which is the Singapore

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EducationCreating a
Network for
Innovation

equivalent of $\kappa 12$. Activists in this college worked with students to redesign their learning spaces, based on how the design space inspires thought connection and processing. Some students created what they wanted, and are now testing their own designs on themselves.

Another spin on our work is helping *students* Re-Perceive. In Singapore, the education system is heavily structured, with a premium placed on grades and academic achievement. Children spend a great deal of time studying, aiming for high scores. To give some of them a fresh perspective, we take teens on Leadership Programs where they enter real industries they would not otherwise have the chance to visit in their heavily committed schedules. In our latest workshop, we took 17 year-olds to a hotel, where they learnt about running the front desk, house-keeping, and the secrets of the kitchen.

In our most ambitious work with students, we ran what we called "The Blue Sky Theater" for Singapore's top junior college students at a premier annual event called the Pre-University Seminar. We wondered what would happen if we took 500 of the smartest kids in the nation and helped them visualize and articulate their dreams and aspirations for the entire country. We helped evolve these ideas through metaphors and connections, and then had the students illustrate them on a huge canvas called the Blue Sky. We were in fact training these top 500 students to become designers for a day. The thrill for them was not only learning how to find those ideas, but also being able to present their hopes to the Minister for Education. All this was done in just 36 hours.

Conclusion

The greatest value of design is when it leaves the realm of designers. When we see students, teachers, whole professions, business leaders, companies and entire industries use design principles and processes to completely re-think how they do their work, we see innovation take place.

My stories are testimony of that, and it is happening rapidly across Asia from Shanghai to Taiwan to Bangkok to Kuala Lumpur to Singapore. Meanwhile, while everywhere and everyone else embraces design for innovation, the design community itself needs to reinvent itself. Can the design community imagine a future where design is for everyone? Can the design community imagine a future where people can learn design and not be traditional designers? It is essential that the design community embrace these tectonic changes positively, because otherwise in a design-driven future, the one profession left behind could well be that of design itself.

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Ken Friedman

Experience Economies: Design as Culture

The context

The concept of the experience economy has developed into one of the most exciting and visible areas for research today. This includes several areas of design research, and it includes research in the social sciences, management studies, and marketing. My goal in this presentation is to offer a few ideas that will help designers understand a few central issues about the experience economy. To do that, I want to shed light on the topic, offer a few useful resources, and provide clues to a deeper understanding of what the experience economy is.

William Gibson once said, "The future is already here. It's just not very evenly distributed." [1] Gibson, science fiction writer and author of the cult novel *Neuromancer*, noticed a phenomenon that goes back as far as human history: the overlap of what is new and what's old and a rough, uneven distribution. What I would add to this has been less visible, the fact that many aspects of the future have been with us for thousands of years.

What redefines these enduring aspects of human life as new themes for the evolving future is the transformation in attention. This shift occurs when we organize social, cultural, and economic patterns around themes that we once overlooked. We saw them when we focused on them, but other issues generally formed the focus of our attention.

One future issue that has always been with us is the experience economy. The difference between our previous use of this theme and our new interest is the fact that we have come to focus on experience economies and we have now given them a name. To place this in context, I want to detour through a few key ideas in the development of human economies.

Over six decades ago, the Australian economist Colin Clark [2] identified three classes of economic sector: primary, secondary, and tertiary. The primary sector extracts wealth from nature. This includes agriculture, livestock, farming, hunting and trapping, fishing, forestry and some mineral exploitation. The secondary sector transforms extracted material through human activity. This includes manufacturing, building, construction, mining, gas, oil, and power production. The tertiary sector is organized

around services. These include commerce and distribution, transport, public administration, domestic services, personal services, and professional services.

In 1976, Daniel Bell [3] rebuilt Clark's model to describe what became known as the postindustrial society, refining Clark's concept of service industries into three distinct sectors, a tertiary sector including transportation and utilities, a quaternary sector including trading and finance, and a quinary sector including health, education, research, and recreation.

Bell's model describes contrasts and parallels among the several economies, contrasting the pre-industrial with the industrial and the postindustrial societies.

In pre-industrial societies, the main mode of production involved extraction. Industrial societies are organized around fabrication, that is to say, industry. The postindustrial society represents a shift to processing and information.

These modes of production correspond to Clark's first two economic sectors in a clear way. Pre-industrial society involves the primary sector, extraction in agriculture, mining, fishing, timber, oil, and gas. Industrial society emphasizes the secondary sector for goods production, manufactured durables, manufactured non-durables, and heavy construction.

Bell's model of the postindustrial society introduces a differentiation of Clark's large tertiary sector for services. Where services formed one sector in Clark's model, Bell's divided services into three sectors, postindustrial tertiary economy of transportation and utilities, a postindustrial quaternary sector of trade, finance, insurance, and real estate, and a post-industrial quinary sector of health, education, research, government, recreation, and entertainment.

The key transforming resources of the pre-industrial era involved natural power: wind, water, draft animals, and human muscle. In the industrial era, these changed to manufactured energy: steam, electricity, coal, oil, gas, and nuclear power. The central transforming resource of the postindustrial economy is no longer energy. It is information and knowledge: programming and algorithms, computers and data transmission, human interaction.

Key strategic resources are the foundations of these transforming resources. In the pre-industrial society, these involve raw materials. The central strategic resource of the industrial era has been financial capital. The key strategic resource of the postindustrial society is human capital.

The great technologies of each era are linked to these patterns. In pre-industrial societies, the major technological forms are based on craft. Industrial societies use machine technology. Postindustrial societies use intellectual technology.

The skilled labor base of each society reflects these technologies. The skilled labor base of pre-industrial societies comprises artisans, manual laborers, and farmers. The skilled labor base of industrial societies is made of engineers and semi-skilled workers. The skilled labor base of postindustrial societies is based on scientists, technologists, and professionals.

Each of these classes of skills labor performs typical modes of work. The characteristic work mode of pre-industrial societies is physical labor. The characteristic work mode of industrial societies is based on the division of labor. In postindustrial societies, this shifts to networking.

So, too, each era is typified by specific methods of thought and typical methodological approaches to creating, gathering, and organizing knowledge. For pre-industrial societies, these are common sense, trial and error, and experience. For industrial

Societies, this shifts to empiricism, and experimentation. In postindustrial societies, this transforms once again to models, simulations, decision theory, and systems thinking.

The time perspective of each society is closely linked to the methods and methodological approaches in typical use. Pre-industrial societies are oriented to past. Industrial societies are oriented toward ad hoc adaptation, and experimentation. Postindustrial societies are oriented toward the future with an emphasis on forecasting, and planning.

To explain these, Bell typified the large axial principle of each era as a specific zeitgeist or paradigmatic worldview. Pre-industrial society was oriented toward and organized around traditionalism. Industrial society was organized around productivity. Postindustrial society is organized around codified knowledge.

The nature of economies

What is an economy? The word economy comes into English from the Middle French word "yconomie." This goes back via Medieval Latin "oconomia" to the Greek word "oikonomia." This word evolved from the noun "oikonomos," a household manager, the words "oikos" meaning house and "nemein" meaning to manage. The word entered English in the 15th century.

The archaic meaning sheds useful light on experience economies today: “the management of household or private affairs and especially expenses.” That is, an economy is intimately linked to the generation of human life embedded in daily experience and culture. Other meanings have been more visible: “thrifty and efficient use of material resources, frugality in expenditures, also an instance or a means of economizing,” or the concept of saving reflected in “efficient and concise use of nonmaterial resources (as effort, language, or motion),” and finally “the arrangement or mode of operation of something: organization,” as well as systems of interaction and exchange. In a larger and more general sense, an economy is “the structure or conditions of economic life in a country, area, or period; also: an economic system.” [4]

What is an economy?

Economies are ways of understanding human behavior. We describe economies in metaphoric terms. We speak of a “knowledge economy,” an “information economy,” or an “experience economy.”

The most visible aspect of today’s global knowledge economy is the fact that human activity adds the greatest value to products and services. Effective competitive strategy involves finding ways to add value through human action. Designing experience is one way to do this.

Here, we come to a problem. To design experience successfully, designers must know something about the tools of experience design, and this includes an understanding of basic concepts. Just as we master basic concepts and tools to work with product design, software design, or graphic design, we require some concepts as background knowledge before we begin to design experiences. This is in one sense less than obvious, because we design experiences every day. In fact, nearly anything a designer creates engenders an experience, so we might say that most designers are already active in experience design. However, this is not quite so. We recognize the problems that arise when people undertake design tasks without understanding the key concepts. This, in fact, is the major complaint that graphic designers make about the desktop publishing programs that enable so many individuals to do workaday graphic design projects. In much the same way, then, designers should recognize that they need background knowledge and skills to undertake successful experience design. This presentation will point to the background knowledge and leave the direct “how-to-do-it” skills for another time.

So, what background knowledge do we require to design experience?

First, we require a basic sense of the fundamental forum of experience economies. While we may already know more than we realize, we require a new frame of understanding to organize our knowledge and make it useful. While experience economies have always been with us, we have not always seen them. Experience economies and old and new, much like the unevenly distributed future.

Old economies and new economies are interwoven and always have been. The proportions change over time.

A century ago, over 90% of the world’s people worked in the primary economy. This was true even though the secondary economy of manufacturing and industry was centuries old, and service was increasingly important in manufacturing economies.

Today, developed economies require only a few a few farmers and fishers to feed the rest of us. Despite the changing ratio of primary sector workers to workers in other sectors, however, we all must eat. Because of this, the primary sector remains important and necessary today. No nation survives without food. A nation with advanced industrial facilities and a cutting-edge knowledge industry will collapse as readily as a developing nation economy if something interrupts its food supplies. This, in fact is one reason for the emphasis on agriculture policy for some of the world’s most advanced economies. In wealthy, advanced nations such as Norway, this leads to an unusual distribution of workers the pre-industrial primary sectors and the postindustrial tertiary, quinary, and quinary sectors with few industries in between. On a large-scale basis across all industrial nations, there are very few primary sector works compared to the distribution a century ago. Most people now work in other sectors.

The shifting ratios of activity and employment across different sectors become visible in the kinds of challenges that all designers face. Because of these new gearing ratios, all designers in almost all fields face a series of challenges that arise specifically from the transformation to postindustrial society.

Designers face ten major challenges today. Three are performance challenges, four involve substantive challenges, and three are contextual challenges. These challenges affect all organizations that provide products or services through business and industry, government or public service, non-profit and education, the military, churches and more. [5] Designers must reflect on these challenges and the opportunities they represent.

The performance challenges are to:

1. Act on the physical world.
2. Address human needs.
3. Generate the built and social environment.

The four substantive challenges involve:

4. Increasingly ambiguous boundaries between artifacts, structures, and processes.
5. Increasingly large-scale social, economic, and industrial frames.
6. An increasingly complex environment of needs, requirements, and constraints.
7. Information content that often exceeds the value of physical substance.

In an integrated knowledge economy, firms also face three contextual challenges. These are:

8. A complex environment in which many projects or products cross the boundaries of several organizations, stakeholder, producer, and user groups.
9. Projects or products that must meet the expectations of many organizations, stakeholders, producers, and users.
10. Demands at every level of production, distribution, reception, and control.

These challenges create a new context for the design process and they require a new professional approach to design practice.

What does this mean in the studio and in the world?

The design maturity scale

In studying the development of design activity in developing and newly industrialized nations, Per Mollerup developed what he labels a useful model known as the design maturity scale. [6]

On this scale, Mollerup identified a series of design maturity transitions. I organize the design maturity scale in a two-phase model. The first five of Mollerup's criteria apply to industrial economies.

This includes a shift

1. From subcontract production -- often for foreign firms -- to original production.
2. From domestic sales to export sales.
3. From manufacturing parts to manufacturing whole products.
4. From anonymous products to branded products.
5. From production oriented business to market oriented business

The next phase involves what knowledge economy transitions. This involves shifting from

6. From material to immaterial products.

7. From products to services.

8. From services to experiences. [7,8]

These new times require a new approach to design.

What does this really mean?

Experience economies old and new

Let's start by asking what experience economies really are. We can start with some old stories that show the experience economy at work.

Here in Copenhagen, Søren Kierkegaard's work offers us a perfect starting point. In 1843, Kierkegaard wrote a book titled *Fear and Trembling*. [9]

This book tells a story that dates back roughly to 2200 BC. In Genesis 22, the Bible tells the story of a time that God tested Abraham:

He said to him, "Abraham!"

"Here I am," he replied.

Then God said,

"Take your son, your only son, Isaac,

whom you love, and go to the region of Moriah.

Sacrifice him there as a burnt offering

on one of the mountains I will tell you about."

-- Genesis 22: 1-2

This chapter in Genesis forms the story of Kierkegaard's theological narrative of faith. The details of Kierkegaard's narrative need not concern us here: they form the core of existential Christianity and lead to the existentialist vision of modern times, but the issue for us is that Kierkegaard and millions of others experience this story in a deep and meaningful way.

In Genesis, three key narrative events take place. In the first event, Abraham obeys God. His heart is heavy, yet he obeys (Gen. 22: 3-10). In the second event, God sends an angel to stop Abraham from carrying out his terrible act of faith (Gen. 22: 11-14). In the third event, God swears a covenant with Abraham and his decedents (Gen. 22: 15-18).

At one point in the narrative, Isaac asks Abraham a question:

Isaac spoke up and said to his father Abraham,

"Father?"

"Yes, my son?" Abraham replied.

"The fire and wood are here," Isaac said,

"but where is the lamb for the burnt offering?"

Abraham answered, "God himself

will provide the lamb

for the burnt offering, my son."

-- Genesis 22: 7-8

This shift leads to two crucial events, each a powerful moment in the stories of two great religions. Whether or not you believe in the Bible story, in religion, or in God, you can see how this story and the narrative of the experience it traces form a crucial link through time and history for those who do believe.

The first time that the story recurs is in 1500 BC, in Exodus 11:4 – 12:40. This event takes place in the liberation narrative. Through Moses, God commanded Pharaoh to release the people of Israel from slavery. Pharaoh refused, despite the evidence of God's anger in nine succeeding more powerful plagues. Finally, God proclaims his power in a sacrifice:

So Moses said, "This is what the LORD says:
'About midnight I will go throughout Egypt.
Every firstborn son in Egypt will die,
from the firstborn son of Pharaoh, who sits on the
throne,
to the firstborn son of the slave girl, who is at her hand
mill,
and all the firstborn of the cattle as well.
There will be loud wailing throughout Egypt—
worse than there has ever been or ever will be again.
-- Exodus 11: 4-6

However, this is a dialectical sacrifice, and God renews the covenant of faith when he requires the slaves to sacrifice and eat a lamb, and then "they are to take some of the blood and put it on the sides and tops of the doorframes of the houses where they eat the lambs" (Ex. 12: 7). This becomes the sign of the covenant, a reminder that God provides the lamb. This story has been told each year for the past thirty-five centuries, celebrated in the Passover feast that commemorates the time that God sacrificed the sons of those who enslaved his people while the angel of death passed over their houses, leaving them in peace and leading them to freedom. But this story is not done.

It returns in 30 AD. The scene opens with the Passover feasts and ends with the crucifixion (Matthew 26:17 – Matthew 29:50, Mark 14:12 – Mark 15:37). In this story, God provides the lamb but God does not save him, not before the sacrifice.

From here, the narrative leads us to the crucial scene in Christian theology, the resurrection (Matthew 28, Mark 16). This, too, leads to a ceremony that is memorialized in annual celebration for a large group of the world's religious people.

Everyone who saw the mass celebrated at John Paul's funeral saw the ritual realization of this story.

It occurs in every mass, and the enactment of the mass brings it to life again. Whether or not we go to church, most of us in Europe and many around the world take the day off when people celebrate the story each year at Easter. Each time believers gather to celebrate communion, they share the first story, and they share the Passover table with Jesus and his Jewish friends.

Muslims share this story, too, in the annual Feast of Sacrifice.

Back where the story began, the Jews renew their covenant each year at Passover.

What gives this story its power? What can we learn from it when we think about designing culture for the experience economy?

Significant Symbols

The philosopher and social psychologist George Herbert Mead [10] developed an important concept he labeled the significant symbol. Significant symbols are those symbols that function comprehensively in both cognitive and emotional terms. Human beings use significant symbols to create their world. Significant symbols summon and evoke a world, creating worlds that people experience and understand in emotional and cognitive terms. The felt and experienced cultures that give rise to significant symbols form the ground within which significant symbols are embedded. By definition, significant symbols and cultures require each other.

Peter Berger and Thomas Luckmann describe the process through which we use significant symbols in their well known book on *The Social Construction of Reality* [11]. The title, of course, misses a key term – they do not argue that we construct physical reality through this process, but social reality. The notion that reality is a social construct is not what they intended, but the bold assertion helped them to sell many books. Those who read inside discovered a deeper and far more interesting idea than the surface gloss of those who quote the book without reading it. They discovered an idea about how we shape cultures and worldviews. Berger and Luckmann describe some of the fundamental mechanisms by which we create experience economies, and Berger went further in developing this concept in his work on the sociology of religion. [12]

For many centuries, artists and designers of different kinds have created different forms of experience design. History and art history record many well-known examples. Among the more memora-

ble are the great pageants of the renaissance, such as Leonardo's *Paradise of 1490*. Another historical example occurred in the grand ceremonies when Henry VIII and Francis I met on the Field of the Cloth of Gold in 1520. Buontalenti's *Battle of 1589* was a perfect case, with its flooded arena representing the seas, and Napoleon's imperial coronation of 1804 was a perfect case.

In modern times, we have seen a memorable series of experience designers. One of my favorite quartets begins with the circus impresario and showman P.T. Barnum. For a while, Barnum had a museum in New York City, located at the corner of Broadway and Spring streets. In the 1960s, Fluxus artist and design George Maciunas acquired the building, and it was here that he built his last New York loft space. After Maciunas, the artist Jean Dupuy took over the space. It became the Grommet Gallery until Emily Harvey acquired it for her gallery. After Emily's death, it became the home of the Emily Harvey Foundation, and it still exists today as a focal point for experience design.

Another great example of experience design is visible in the projects of Christo and Jeanne-Claude. These projects take physical form for a few weeks. Then, they exist as memory: pure experience.

What can designers learn from this?

The first thing is the importance of focusing on a range of issues that enable us to understand how cultures work and how human beings create and live within cultures. Social, intellectual, emotional, and psychological values operate in comprehensive systems that capture and articulate values and knowledge. These systems shape and evoke cultures. This is the domain of experience design.

To work successfully with experience design requires profound knowledge. W. Edwards Deming developed the same range of issues for improving industry. Because it affects services as well as manufacturing, it works as well for experience design as for industrial design: appreciation for system, knowledge about variation, theory of knowledge, and psychology. [13, 14]

The implementing mechanisms require an understanding of human psychology. Here, we find a useful in Abraham Maslow's hierarchy of needs. The hierarchy climbs a scale from physiological needs to safety and security needs, through social needs for affiliation and belonging to esteem needs, and finally self-actualization. [15]

These are the basic concepts. To understand more requires time and more reading than we can manage in a short presentation. This is the first step.

The term "experience economy" is relatively new. The concepts are not. Nevertheless, there is a good source for understanding this latest incarnation of the concept in Joseph Pine and James H. Gilmore's 1999 book on the subject. [16] Here, those who understand the fundamentals will find the resources to begin the how-to-do-it work of experience design.

I want to issue a couple of key points here, at least for those who want to avoid the problem of the amateur design work that horrifies professional designers when they meet a would-be client who hires his cousin to design something because "he went to art school."

Start with the basics. To work effectively in the experience economy requires a deep understanding of the interrelation between desired outcomes, research, and effective results. Vision, strategy, and purpose are as closely linked in experience design as in any other form of professional design.

A few closing words

It is not enough simply to say that any kind of experience will do. The experiences we create and the purposes they serve are intimately connected.

Since I chose religious examples to show the power of experience economies through history, I will close with a few thoughts from a distinguished theologian, Rowan Williams, the Archbishop of Canterbury. Here, Williams talks about what is wrong with seeking experiences simply for the sake of experience.

"You may have sat through - as I have, many times - school choirs performing *Joseph and the Amazing Technicolor Dreamcoat*. I have a very soft spot for it - but as I listen to 'Any dream will do' my conscience bothers me: it's as though although the ideal personal goal recommended were simply activating your potential in any direction you happen to set your heart on.

"And it is in any case a vision that has nothing to say about shared humanity and the hard labor of creating and keeping going a shared world of values. Being provocative again, I'd want to say that a proper use of tradition makes us more not less critical and independent in society." [17]

This leaves us with a few thoughts to carry home: Experience design requires profound knowledge. The means appreciation for system, knowledge

about variation, theory of knowledge, and psychology.

Human beings are not instruments. When we design experiences, we move into the most intimate and central area of human life. This requires a level of understanding and expertise as great as that required for designing automobiles, software programs, a suit of clothes, or a book. We cannot and must not look on other human beings as the instruments of our economic success, but rather as independent beings with whom we work when we design experiences.

Design is service. When we design experiences, we serve others.

The experience economy is our home. Experience design returns us to the original meanings of an economy: "the management of household or private affairs." Here, we speak of the most private of affairs, the internal life of emotion and culture. Successful experience design requires us to work with significant symbols, and nothing is closer to home or more intimate than the world we enter when we work here. [18]

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Brynjulf Tellefsen

Design in Society

Introduction

Many of the views expressed in this paper have been developed as experiences from the Norwegian school of management's cooperation with the Norwegian school of arts and design in Oslo (Kunsthøgskolen i Oslo) and through meetings of minds in our new Bachelors program in culture and leadership.

The creation

Design cannot be conceived without reference to the society. Design and designing are man-made concepts. This can be illustrated by posing the question "who is our greatest designer ever?" According to the holy bible it is God. He created the world in 7 days, and he created man and all designers that followed. Who would you say created our society if you don't believe in the Christian God? I believe the best answer to that is everybody who ever lived. We are all designers.

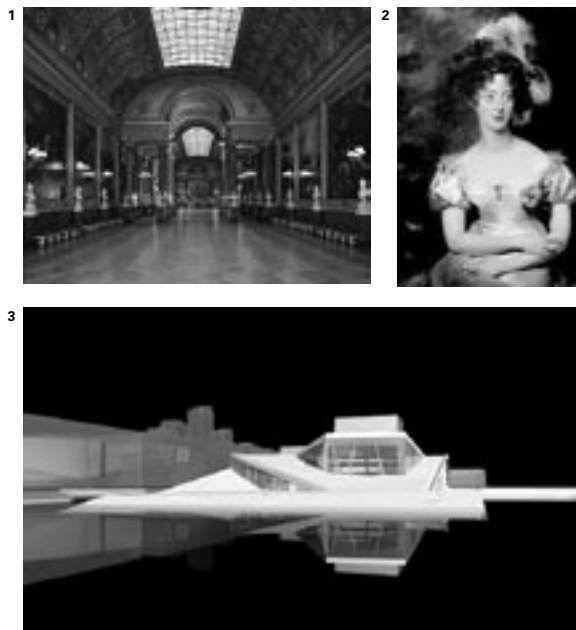


Michelangelo: God creates man, i.e. the first designer.

I am a designer of educational programs and leadership of employees with the highest level of expertise. I never attended a design school. This is one of the big challenges for professional designers, they compete with and have to cooperate with people who are designers in their own right, but in disciplines other than the ones taught in arts and design schools.

Merging arts and business

The arts and design are measured and have to earn their existence by pleasing all these people who think they know and understand design, and do designing without calling themselves designers. The direct customers of designers like political and business leaders have to show the profound value creation made when sponsoring arts and design. They want the instrumental impact of it. Instrumental impact on society is sought. It has always been so: To create the glory of the capitalist. Let us look at a few examples:



1. The glory of war: Le gallerie de Bataille in Versailles.
2. The glory of Marie-Caroline de Bourbon Sicile, duchesse de Berry. 3. The new opera house in Oslo for the glory of the Norwegian state and its capital Oslo.

Many well-known artists have recognized this symbiosis between the capitalists and the artists and designers. Andy Warhol has said that "making money is art and working is art and good business is art." Jeff Koons stated: "I love the gallery, the arena of representation. It's a commercial world, and morality is generally based around economics, and that's taking place in the art gallery." Charles Saatchi opinioned the following: "There are no rules about investment. Sharks can be good. Artists' dung can be good."

Stereotyping the other

People who only occasionally meet tend to stereotype the other party in semantically opposite terms. Typically the arts and design and business people describe each other as:

Arts and design	Business
Feelings	Rationality
Subjective	Objective
Feminine	Masculine
Product oriented	Market oriented
Unique	Repetitive
New Successes	Old successes
Body	Thinking

Whether the stereotype is correct or not, it tends to direct our thinking about the other party, and influence our behaviour towards the other party. Looking at the stereotypes it may not come as a surprise that some artists are of the opinion that capitalists rape the arts, that capital dirties the pure arts.

What we want from "the other"

Producing complete solutions for others often require that the expertise of many kinds have to be combined. A problem solving process may require the cooperation between the customer, the value creating organization, and several categories of designers. Focusing on the designer/business relationship what we want from each other might be described as the following:

Business wants from the artist/designer

- Esthetics
- Functionality
- The use of body, voice, feelings
- Performance
- Visualization
- Imagination, improvisation, creativity
- Telling history, identity symbols

The artist/designer wants from business

- Leadership
- Strategy and planning
- Marketing
- Financing and income
- Pricing & cost control
- Organization, systems
- Colleagues with variety in expertise

Real competency behind the stereotype

Looking behind the stereotype of the other one often finds that reality is not the same. Artistic production often requires autocratic and effective project leadership, individual austerity, discipline and efficiency, while business leadership is often based on vision, values and feelings coupled with group oriented activities and architecturally and esthetically well formed workspaces. Artists and designers show individual creativity in the use of form and materials, while business more often use group processes for inspiration and creativity.

Implications for design education and practice

Since the audience today are involved in design education, I will sum up my thoughts in some simple heuristics for integrating the education better with the rest of society.

1 Strive to see the whole picture – not just your specialty.

Since human needs can be satisfied by many solutions that often contain a series of competencies design students need to learn to identify the complete constellations (human, technically and systemic) that they are a part of while designing. Only then can the designer properly identify potential competitors and partners.

2 Make sure you understand your own unique competency.

Since complete solutions normally require a combination of unique resources and competencies the designer has to identify her own unique competency. It represents the bargaining strengths on which you build your position in the value producing organization.

3 Develop your ability to innovate together with others.

The main ingredient of an innovation may simply be to combine that which has not previously been put together. Most innovations require people with different competencies to work together.

4 Improve your social skills. The need for this follows directly from point 3 above. In some sense of the word you have to become multilingual and respect and appreciate the competency and abilities of others. In order to develop these skills your school should require your students to do designing in teams with people from other educational backgrounds – i.e. learn by doing.

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Design Serving People

Abstract

Design is not serving the needs and dreams of everyday people today. But new design spaces are emerging that provide them the means with which to balance consumptive and creative experience. In the near future, designers will learn to use their own creativity to amplify the creativity of everyday people.

Is design serving people?

No, design is not serving people today. Design is serving markets, not people. Design is serving the needs of companies, not people. And as a result, consumerism is out of bounds. We have too many “innovative” products that we desire but do not need. We are degrading the planet with the debris of overabundance and overconsumption. Environmental sustainability is in big trouble. Meanwhile, cultural and social sustainability are finally being recognized as having tremendous importance to human survival and well being.

We were warned, but did not listen. Over 30 years ago, Ivan Illich, a radical theorist of the 1970’s said, *“People need not only to obtain things, they need above all the freedom to make things among which they can live, to give shape to them according to their own tastes, and to put them to use in caring for and about others”*(2). He suggested that we learn how to make convivial tools instead of continuing to add to the array of industrial tools in existence at the time. Today design has evolved to the point where Illich’s suggestion is not only possible, but also inevitable.

People need creative experience

Design is not serving the needs and dreams of people today. In comfortable American homes, schools and workplaces, people are beginning to feel uneasy. It has become increasingly evident that they are no longer satisfied with simply being “consumers.” Everyday people want to be “creators” as well.

This unmet need for creative experience tends not to be voiced in the open since it is a tacit need. It can, however, be seen and heard when we give people simple visual tools with which they can express their dreams and aspirations (7). Their unmet need for creative experience emerges when we conduct research using generative tools. It emerges whether we are researching their home, work, learning or play experiences. Their unmet need for creativity is being expressed in full force on the Internet through personal websites and blogs.

Everyday people’s examples of what constitutes creative behavior are surprisingly varied. For example, some people say they feel creative when they are

exercising or when they are cleaning out the closet. Others feel creative when making scrapbooks from family photographs. And others feel creative when they are cooking “freestyle,” making up the recipe as they go from whatever ingredients they have on hand.

In the near future we will learn how to use design to serve people’s varied needs for creativity. We will help them balance consumptive with creative experience. I propose that the new design expertise we need to do this balancing will be found in people, i.e., everyday people. They are the experts in living, working, playing and learning. Utilizing their expertise will significantly change the process of designing and the role of future designers. Designers will not longer only design **FOR** people, they will learn to design **WITH** people. Co-designing will require new forms of communication to support the collective creativity that arises between designers and everyday people.

Everyday creativity

People like to make things and feel creative in their everyday lives. Everyone is creative, but to varying levels across the many experience domains in their lives. There are at least four levels of creativity that everyday people seek. These levels have been observed in fieldwork and through conversations with everyday people. The most basic level of creativity is **doing**. The motivation behind doing is to accomplish something through productive activity. For example, people have told us that they feel creative when they are productively engaged in everyday activities such as exercising or organizing their homes. Doing requires a minimal amount of interest. The skill requirements are low as well. Many of the goods and services offered to “consumers” today can be said to satisfy the doing level of creativity. They come to the consumer readymade. For example, in the food preparation domain, a doing activity would be to buy or select a prepackaged microwave entrée and prepare it for a meal.

The next level of creativity, **adapting**, is more advanced. The motivation behind adapting is to make something one’s own by changing it in some

way. People might do this to personalize an object so that it better fits their personality. Or they might adapt a product so that it better fits their functional needs. We can see adaptive creativity emerging whenever products, services, or environments don’t exactly fit people’s needs. Adapting requires more interest and a higher skill level than doing. It takes some confidence to go “outside of the box.” In the food preparation domain, an adapting activity might be to add an extra ingredient to a cake mix to make it special.

The third level of creativity is **making**. The motivation behind making is to use one’s hands and mind to make or build something that did not exist before. There is usually some kind of guidance involved, *e.g.*, a pattern, a recipe, or notes that describe what types of tools or materials to use and how to put them together. Making requires a genuine interest and prior experience in the domain. People are likely to spend a lot of their time, energy, and money on their favorite making activities. Many hobbies fit in this level of creativity. In the food preparation domain, an example might be to create a meal using recipes.

The most advanced level of creativity is **creating**. The motivation behind creating is to express oneself or to innovate. Advanced creative efforts are fueled by passion and guided by a high level of experience. Creating differs from making in that creating relies on the use of raw materials and the absence of a predetermined pattern. In the food preparation domain, creating is making up the recipe as you go and having to improvise along the way when you discover that you have run out of a key ingredient.

The path from doing to adapting to making and finally to creating develops in the individual over time and through experience. Consequently, people differ in the level of creativity they attain in different domains. In fact, they may find themselves at all four levels of creativity simultaneously in different life domains.

The roles people play are changing

The roles people play in the design and development process (for products, services, spaces, etc.) have been changing. This is reflected in the labels we have used over time to refer to them. As Figure 1

shows, in the 1980's we emphasized their roles as shoppers and buyers, referring to them as "customers" and "consumers". In the late 1980's and early 1990's, sparked by the emergence of software driven products and devices that were not always easy to use, we emphasized their roles as "users". Today we have a variety of ways to think about the people we serve through design, depending on how we include them in the design and development process with us. We may see them as adapters of products available in the marketplace, or as participants in the process when they specify the exact product they want on a website. The evolution of roles that people play is leading to the emergence of everyday people as co-creators in design and development process.

Where do the design disciplines fall on this landscape today?

We can place the disciplines of design along the evolutionary "hill". The placement of the design disciplines that is shown in Figure 2 is generally agreed upon by design practitioners.

Interaction and software design is the furthest along in the evolution of design expertise. Concepts such as adaptive design and meta-design (1) are already moving from the research laboratory into practice. When you type "human-centered architecture" into Google, you will find links to software engineering and information architecture, not to the built environment. Software architects have made more use of Christopher Alexander's Pattern Language than have his architectural colleagues.

Industrial design is next in line in the evolution of design expertise. Here we see the indirect inclusion of user knowledge in the design development process. New forms of rough and fast prototyping have increased the tendency to bring user expertise

into the design process. Industrial design awards now recognize the social impact of the designed artifacts.

Architectural design, however, appears to be stuck in the expert-driven phase. The planning component of architecture is embracing the user perspective but it does not always seem to be in synch with the design component. Architecture could embrace co-creation, learn from the other design disciplines and shortcut the evolutionary process. But to do so, it will be necessary for architects to see the built environment as a stage for human experience rather than as a finished product.

It is time to move away from the traditional design disciplines that are founded on the materiality of the artifact (graphic, product, space, software, architecture, etc.) and instead organize around human experience domains such as learning, creating, healing, living, working, playing, shopping, etc. People are people whether they are finding their way around a building, using a product, reading a package or using a software application. Design should be about making sure that our results advance people's personal growth and support a harmonious relationship between people and their environments.

The emergence of new design spaces
Discontinuities on the hills of change are revealing new design spaces as shown in Figure 3. The emergence of new design spaces does not imply that the traditional space will disappear. Because people have differing needs for creativity across the various domains of their lives, it is more likely that all the design spaces will coexist over time. The emergence of new design spaces implies that significant changes are needed in the education of designers. In fact, each successive "hill" demands greater participation

Figure 1. The evolution of roles played by everyday people in the design process

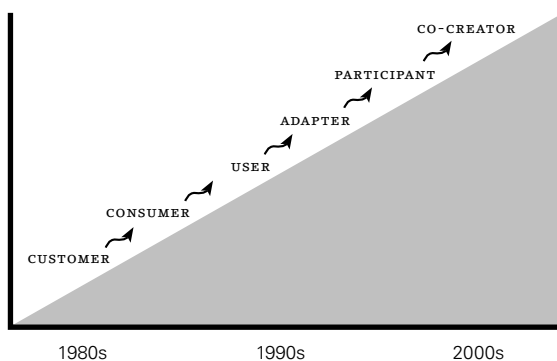
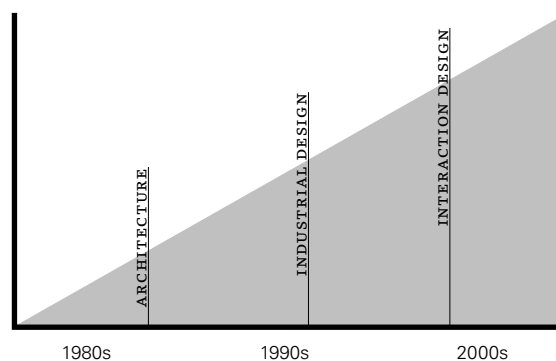


Figure 2. Positioning the design disciplines

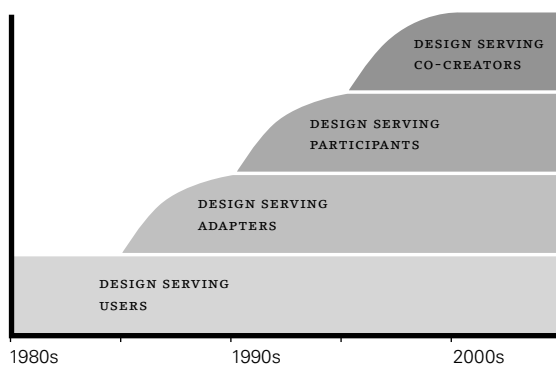


by the people being served by design. These new design spaces will become especially important in highly complex domains. They will also become important for domains that people are passionate about.

The traditional design space can be described as **design for consuming**. This space is focused on designing for consumptive activities such as shopping and buying which lead to owning and using. Because design in this space is often market-driven as opposed to human-centered, it has resulted in many over-featured products that are easy to sell, yet may be difficult to use. Companies spend large amounts of money communicating about and advertising these products and services. The Design for Consuming Space is a good example of design serving markets, not people.

Design serving users was first introduced in the mid 1980's when everyday people began to try to use computers and found that they could not use them. New disciplines, such as usability engineering, emerged to help bring about more "user friendly" products. Microsoft, for example, a pioneer in usability testing, had four usability engineers on staff in 1988 (8). The usability domain has grown and gained tremendous momentum. Today Microsoft has hundreds of people involved in usability testing and user-centered designing. The focus on usability led to improved products and tools. Yet, important as it is, usability has not been enough. In 1992, I suggested (7) that that we needed to learn how to design products and tools that were simultaneously "useful, usable and desirable". Today thousands of people are involved in user-centered design practices, most often in the field of Human Computer Interaction (HCI), many of them succeeding in designing product and/or systems that are simultaneously useful, usable and desirable.

Figure 3. New design spaces are emerging



Design serving adapters emerged over the last five years as people who have been inundated with options for consumption seek avenues for creative expression. Design serving adapters is not only a reaction to an overabundance of choices. It has been enabled by our use of information technology to find what we want, when we want it and to be able to purchase it, for the lowest possible price, over the Internet. Companies such as Levi's, L.L. Bean, Converse and Dell Computer are capitalizing on this need/want and now offer people the ability to customize products online, making it possible for them to enjoy one-of-a-kind products made to their specifications. New publications such as *Readymade* and *Make* cater to the adapters among us, as well.

As designers serving adapters, we will learn how to design things that are not only useful, usable and desirable, but are also reusable and customizable.

The new information and communication technologies have spawned another of the new design spaces: **design serving participants**. We now have the ability to locate and to communicate instantly with people anywhere in the world having similar passions, interests or hobbies. We already have community sites such as eBay, wikis, and blogs that support these activities.

In the Design serving Participants Space, we will learn how to design things that are useful, usable, desirable, reusable, and customizable. We will also learn how to design to support immersive and collective experiences.

Beyond the current edge of practice are the **co-creating spaces** where designers and everyday people work collaboratively throughout the design development process. Co-creation has been noted across different domains. There has been a synchronicity in the appearance of this idea which has been referred to as "underdesign" (4), "meta-design" (1), and "loose fit" design (5).

Co-creation is no longer a future dream. Recent research (3) shows that over half of all on-line American teenagers create their own content. (The following activities counted as the creation of new content: create a blog; create or work on a personal website; create or work on a webpage for school, a friend, or an organization; share original content such as artwork, photos, stories or video online; or remix content found online into a new creation). Although this study was conducted in the us, it is not hard to imagine that the results would be similar for other parts of the world. Imagine the world ten years from

now when these teens are finding their places in it!

As designers we will learn how to design things that are useful, usable, desirable, reusable, and customizable. We will also learn how to design for immersive, collective experiences that provide and support generativity and conviviality.

New languages for co-creation

Co-creation requires a language that both designers and nondesigners can use. Such languages are emerging from the recent "design for inspiration" movement (9). Maketools is one such language that has the potential to unleash the creativity of everyday people and give them the means with which to express their tacit needs and dreams (7,8,9). With maketools, simple and ambiguous components (both visual and verbal, 2D and 3D) are put together into toolkits that people can use to express their memories, fears, dreams, and ideas. In practice we have seen that people already know how to express themselves with the maketools. They enjoy the creative process.

Moving toward a co-creative process is a big change for designers who have been trained in the traditional design space. Co-creation requires new tools and methods and a new language for designing. It also includes the acceptance of new design partners and a new attitude about the inherent creativity of everyday people. The next section describes typical questions that arise when designers start to think about the new design spaces.

Questions associated with the new design spaces

Are we losing control of the design process?

Yes, we are losing control of the traditional design process, but we are at the same time opening it up to others. We are entering new design spaces where we let go of our control in order to amplify the creativity of other people.

How much do we want everyday people to drive design?

They should drive it to the extent of their expertise, abilities and interest. People with high levels of experience and/or passion will probably want to co-design. We should encourage them to do so.

What about aesthetics?

A new aesthetics of experience is emerging. It may challenge the aesthetics of traditional design. It will be relevant to the needs of everyday people and resonant with their dreams.

How will the tools and methods for research and design change?

When we invite everyday people into the design process, the tools, rules and methods for research and design blur. Research becomes more creative.

Design becomes more relevant to the people we call users, adapters, participants and co-creators.

If everyone is creative, then what is the role of the designer?

Designers will learn to use their own creativity to amplify the creativity of other people. In the future, designers will be the creators of scaffolds upon which everyday people express their creativity.

How will we evaluate the results of designing to serve people?

The best way to evaluate the effects of design is in the betterment of people's lives. If we, as designers, can improve the sustainability and conviviality of human experience, then we will have succeeded in our efforts.

What's next?

We are entering new design spaces where everyday people co-design with us. These spaces will be living, thriving, diverse, and may feel somewhat messy. These spaces have the potential to foster experience that is socially and culturally sustainable.

Design serving people tomorrow

In the future, we will learn how to design "convivial tools". I will close with Illich's thoughts on convivial and industrial tools. By "tool", Illich refers to anything from "simple hardware such as drills.....to productive systems for intangible commodities such as those which produce "education," "health," "knowledge," or "decisions".....

"Convivial tools allow users to invest the world with their meaning, to enrich the environment with the fruits of their visions and to use them for the accomplishment of a purpose they have chosen. Industrial tools deny this possibility to those who use them and they allow their designers to determine the meaning and expectations of others" (2).

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Karen Lisa Goldschmidt Salamon

The Business of Beauty?

– Educating Tomorrow's Designer

Which are the demands facing tomorrow's European designers? As a highly industrialised – even partly post-industrial – knowledge economy, Europe is a special context for education in design. When discussing strategy, we need to consider the education of tomorrow's designers in context. We need to analyse and debate status quo, opportunities and threats, in order to envision fruitful and realistic educational strategies for design. Europe's higher-education system is under pressure these years, as articulated by *The Economist*:

"Five years ago in Lisbon European officials proclaimed their intention to become the world's premier "knowledge economy" by 2010. The thinking behind this grand declaration made sense of a sort. Europe's only chance of preserving its living standards lies in working smarter than its competitors rather than harder or cheaper.

But Europe's failing higher-education system poses a lethal threat to this ambition"

(*Economist*, 8. Sept. 2005)

Are we really "Failing" in design education? Or are we on the right track(s) to higher design education? A number of issues should be considered and discussed in order to answer these questions. I would like to suggest some here, in order to facilitate change and innovation beyond mere utilitarian strategy.

Our context: A society of entrepreneurial capitalism

We live in a neo-liberal or advanced liberalist era of enterprise culture and economic rationalisation (cf. Heelas & Morris 1992; Keat & Abercrombie 1991; Shore & Wright 1997). Today, our public cultural institutions, kindergartens, universities and design schools are governed by business plans, one-way contracts, performance assessments and strict financial parameters. Our governments play active parts in introducing market forces and performance objectives in welfare sectors such as health services, law enforcement and education (Kendall 2005).

Squarely said – in terms borrowed from anthropologist and philosopher Pierre Bourdieu, the economic forms of capital seem to attain a significant and

growing dominance over cultural and intellectual forms of capital – also in public institutions that formerly may have been driven under other parameters of rule (Bourdieu 1979). The OECD countries and EU governments, including those that formally were Socialist, generally have adopted this form of governance. Culturally the consequences seem to be the growth of ideals related to utilitarianism, individualised self-promotion, entrepreneurial zest, constant innovation, efficiency, accountability and virtues associated with moneyed wealth (Salamon 2005b). We also witness increased processes of outsourcing, mergers, acquisitions and privatisation of formerly public property (Finlayson 2000). Policies and ideals formerly belonging mainly to the private sector of business enterprise are introduced into public life and governmental institutions (Bewes 2000; Smith 1997). In this process social institutions and professional competences are reassessed and rearticulated, as new concepts of timing, production, innovation, growth, flexibility and success flow from corporate business practice into popular discourse, the media, the politicians' construction of civic identity – and thus also into educational institutions such as design schools (cf. Salamon 2000, 2001).

Under demands for accountability

Accounting is a primary method of disciplination under neo-liberal forms of governance (Colasse 2005). Hence, today design is faced with demands for accountability or documented impact on the economic output of enterprises (Grzechnowska 2005). Governments demand instantly visible outcomes of the input they make into design education and national design promotion. This is more than a matter of bookkeeping. Modern planning requires calculation and computation, and this is what accounting is essentially about. It entails a promise of future events to the authority for whom accounting is done. According to sociologist Peter Miller, accountability is a significant aspect of modern subjectivation, and already Nietzsche demonstrated the interrelationship between calculation, the emergence of individual responsibility and the demand for making human beings appear uniform and regular so they would fit the parameters needed for calculation (P. Miller 1992:62). What are the consequences for design and design education when human aesthetic and significatory action and innovation are rendered calculable and comparable and must be made constantly visible in quantifiable terms? Can design "keep" the "promises"

of instantly visible economic outcomes? What are the implications for design education of this form of "social engineering" (cf. Bauman 1989)? I will get back to this complex issue in a moment, but at this point I just want to set forth the argument that design *per definition* cannot actually hold or keep such a "promise" of instant quantifiable gratification. But actually, nor can financial investments or the very popular lottery games that attract ever more consumers these years. We must assume that governments know design to be essentially unpredictable and risky, and as such no stable or safe investment. At the same time design apparently appeals to enterprise culture by its prospect of producing large profits almost "out of nothing" under the right conditions. The increased governmental demands for accountability of design related investments must be regarded as a management practice to remedy deficits of rationality and responsibility on the part of design agents, rather than as a strict financial disposition. When we encounter rising demands on making design accountable, we should thus see these as matters of governance and ideology rather than as intrinsic aspects of design itself. The attempts at quantifying design is but an instance of the culture of accountability and auditing also known from benchmarking projects on the private market and from the public sector pursuit of *cheaper and better* services known in a range of industrialised welfare states (cf. D. Miller 2003). I believe that all of this reflects the general economic and cultural climate of growing demands for increasingly short term stockholder or investor profits at reduced cost and risk. As design educators, we obviously must take these trends seriously, as they represent the inclination of "the powers that be" today. However, we must not confound the external ideological and political demands for market results with the internal design-professional qualities of our products and visions. Although these obviously do influence one another (in an uneven manner), they essentially are not equivalent, and do not belong to the same "language", category or form of capital. Taste, symbolic valour, context specific function and aesthetics still remain qualitative rather than quantitative phenomena, and thus do not really (yet) possess the calculable, uniform and regular character that it takes to become fully accountable... However disappointing this may be to many an auditor and minister of government.

In a culturalised economy

Design is not the only essentially qualitative pursuit that is articulated as accountable these years. Companies that cannot compete on cheap production costs must compete on knowledge, timing and efficient logistics, intellectual creativity, quality, sophisticated branding and symbolic transactions based on information-systems. The value of these companies is rated partly according to brand reputation and formal performance. Today, squarely stated, it is '[...] in the sphere of simulacra and of the code, that the global process of capital is founded' (Baudrillard 1993:99). Western corporate management has become increasingly conscious of this. Survey polls constantly inform corporate strategists of the culturally selective shopping patterns amongst consumers, who acquire goods according to symbolic parameters. As popular culture has become increasingly commercialised, commercialism has turned cultural and is often regarded as more acceptable in the cultured version (Gabriel & Lang 1995). Formerly bland commercials have turned into sophisticated artistic products, as the distinction between fine arts and commercialism is dissolving. Design plays an important role in this process. The ability to produce, manage and sell *symbols, meaning* and *feeling* thus are important elements in the competitiveness of our 'old', industrialised and unionised economies that cannot compete on sheer costs of production. Labour costs are radically higher here than in developing and non-unionised economies. Hence, cultural production is central to the competitiveness of (post) industrial economies. The cultural sectors – including design – have new and significant roles to play, as long as they make themselves available to capitalisation and accountability. Designers can radically influence a production that is culturally sensitized and "intelligent" and "[...] is not only exploiting manpower, but also thoughts and feelings – mindpower" (Alvesson & Berg 1992:142). Designers should be key figures in industries, where culture is both a *form* of production and a *product*, and where the symbolic aspects of goods are ever more important to competition (Bell 1976; Newfield 1998; Nymark 2000).

Between "hard" and "soft": Design as science?

However, culture is generally known to be ephemeral and intangible and is regarded as qualitative and "soft". Accountable money is regarded as tangible, quantifiable and "hard". Under the present forms of

governance, only "hard" pursuits can claim any prestige and support from governments and industrial associations. It is only the "hard" endeavours, the effects of which can be audited that count. In the process of angling for recognition and support, design associations and designers have tried to make design, aesthetics and culture appear "hard". They have promoted the financial promises of design and supported the formalization of design as certified qualification. They have also articulated design as a scientific endeavour. By articulating design as technical and able to produce an "effect", "soft" is officially transformed into "hard". However, the consequence of this process is that designers, design schools and design associations must then also perform according to the "hard" parameters. Having entered the premises of auditing, accountability and enterprise culture, design must live up to the demands. How far can design adopt to these conditions whilst still preserving the innovative, experimental and artistic qualities that once brought design into being? Is there a limit to the accountability and "hardness" of design? I believe there is. But the only people who can define the limit and explain it to governments and industry are the designers, design associations and design schools themselves. Industry and government would not know by themselves, as they tend to see everything through the looking glasses of enterprise and auditing culture. Under these conditions, industry and governments put pressure on design to further articulate itself as a technical science and a "hard" machine of production, rather than as an aesthetic, philosophical or social capacity. Governments and industry need accountability on their investments. But an important strength of design lies in its innovative and unpredictable, and thus unaccountable characteristics. Design is other and more than engineering and marketing strategy. As long as design articulates itself as a mainly technical capacity, it must focus on problematizing, diagnosing and intervening, and design schools must educate sophisticated technicians. But the particular strength of design lies in its combination of *techné* and the production of complex symbols, aesthetics and meaning. If design is a science, it is a cultural science. It is also a science with social and ethical concerns.

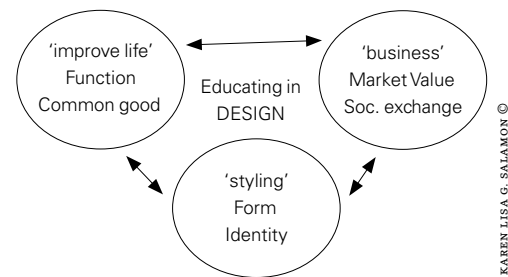
Concerns with ethics and sustainable design

Financial scandals in the USA and worries of social exclusion in the EU brought media-attention and legal focus on ethics into the corporate world in the 1990s (Fleming 2002, Rendtorff 2001, Vallentin 2002). Business academics, politicians and NGOs began organising meetings and projects on the theme of “social responsibility” and “ethics”, where they tried to define, assess and audit best practices for so-called “corporate citizenship” in the context of demands for increasingly short term stockholder or investor profits. The importance of aligning ethical values with economic value moved to the political agenda. It was assumed that capitalist business and work for bottom line profit could remain “hard” whilst also turning ethical, authentic and integrity-founded. Today the ideals of a “caring capitalism” seem to have acquired an almost commonsensical quality, and seem to be accepted by citizens as well as governments in the industrialised welfare states. It has become a cultural ideal to make a lot of money whilst also doing good deeds and saving the environment. Sometimes this ideal is called a “win-win” relationship, with the somewhat doubtful implication that “we can all be winners” (Salamon 2000). We might find this ideal unrealistic, but these are the cultural and ideological conditions under which design education happens today. Furthermore, it is an ideological pursuit where design can play an increasingly significant role. Probably all the greatest social, environmental, cultural and logistic challenges today carry possibilities for innovation by design. Although design can not change the political, ideological or financial dispositions of world political and industrial leaders, this profession can contribute significantly by suggesting humanistic, sustainable and potentially profitable approaches to the many overwhelming problems related to for example traffic, energy consumption, communications, habitation, mechanical functionality and social as well as physical accessibility and integration. Thus, there are plenty of challenges facing the designer in the enterprising and globalising knowledge economy of tomorrow – and today, for that matter. How should this influence design education?

Cross-pressures of educating in design

If design is a science, it is not only a cultural science, but also a science with alchemical qualities. One of the many things that design does, is transforming values into value (ie. “soft” concepts or ideology into

“hard” materials or money) and value into values (that is “hard” and concrete into “soft” and ephemeral). Both are demanded competences to be possessed by a good designer. This cross-pressure becomes particularly visible in design education, which under neo-liberalism must be regarded as a *business*. As far as I can see, design education faces predominantly three types of pressure, as illustrated below. Design must live up to market demands as a form of economic and social exchange in the global capitalist economy. Design must also contribute to public welfare and service to the common good. In everyday life, however, design often predominantly figures as a technology of styling, form and aesthetic identity-manipulation. Educating in design implies balancing these demands and approaches to the role of design.



GATS (the General Agreement on Trade in Services) currently negotiates to include trade liberalisation agreements on education:

“Trade in higher education is a million dollar business. The demand for higher education, on the one side, is growing, while on the other side, trans-border education (e.g. private or for-profit higher foreign university campuses, it Academies, twinning arrangements with other universities, corporate universities, virtual universities, open universities, e-universities etc.) is increasing. The capacity of the public sector has not kept up with this demand” (UNESCO 2005)

Five countries had by September 2005 submitted a negotiating proposal outlining their interest in the education sector. In order of presentation of negotiating proposals these were: United States, New Zealand, Australia, Japan and Switzerland. China is also preparing for free trade in higher-education:

“The access of more foreign universities and colleges into the Chinese market after its wto entry will have an impact on domestic higher education institutions”.
 (China Education and Research Network 2001)

The negotiations might lead to a de facto globalization of higher education, and information travels quickly and lightly. This will have enormous impact also on design education, especially as design already is a globalising profession and rarely dependent on national frameworks (contrary to eg. legal education, which is nationally particular). The trade liberalisation will also influence the governance structure of design education, I believe, as

“Negotiating proposals outline the role of government, rationale/purpose of trade liberalization; benefits of trade liberalization; public private mix” (UNESCO *ibid.*)

Under these prospects, design schools need to consider strategies for a globalising educational market. What will be the language policies needed in future design education and for future design work? English speaking education already has an advantage in a globalising educational market, but other languages also carry analytical traditions that might be lost, if we all uncritically switch to English. How can we draw on local, regional and national cultures to strengthen the schools and traditions we already have in European design? How can we preserve and develop local design values and aesthetic cultures? Currently UNESCO is negotiating a *Convention for the Safeguarding of the Intangible Cultural Heritage* (UNESCO 2003). Design might not be classifiable as “intangible”, but the cultures from which it springs – including educational cultures – may be considered threatened under globalising commercialisation of cultural expressions. If – or when – European education is forced to leave its roots in the Enlightenment tradition, to become instantly and visibly instrumental to commercial interests, what will be consequences for how we define design education?

Proactive engagement in defining tomorrow's education

Rather than sit and wait for a governmental or industrial definition of design education, the design community must refine our debate on the roles of tomorrow's designers. Must we teach students to accommodate to demands from users and industry, to develop abilities for acting as Avantgarde – or both? Should design education become education for the masses or the elites - or both? Demands for instant usability and profit tend to favour risk aversion and thus accommodation rather than risky Avantgarde experimentation. On the other hand, an important

merit of design lies in its ability to innovate and find solutions that were not thought of before. We should think about the level of specialisation and focus that might at once effectively utilize our limited resources and encourage innovation and entrepreneurial risk. Design actually has yet another strength vis-à-vis the present market culture: Design fits central ideals of enterprise culture. The design community thus can take an offensive strategy. By finding strengths, core-competences, special values, and strategically sharpening them, design education can find its position in a context that defines design as a business of beauty, such as expressed by the Confederation of Danish Industries:

“Rising competition on the global markets has increasingly made design a key factor for Danish companies in achieving success. Design is more than just beauty – it's business [...] If designers and design colleges fail to realise that design is more than art and culture, things will not get going in Denmark” (Quote from Confederation of Danish Industries' Design network: 2004).

Designing beautiful business?

In the 2005 Copenhagen Index competition the winning design was a low cost *improvement of life*, living up to the demands on design for being a function of the common good:

“The straw that cleans 99.9999 % of the water was not realized in one day. It took several steps of development for Torben Frandsen and his two fellow developers Rob Fleuren (Holland) and Moshe Frommer (Israel) to create a design strong enough to resist the extreme conditions of the third world. [...] “Our tests show that LifeStraw purifies the water 99.9999 % for germs and 99.99% for virus. The water is technically as clean as it can be when it has passed through LifeStraw. It especially fights cholera and typhoid, some of the pathogens killing most people in the third world,” says Torben Vestergaard Frandsen.” All though the LifeStraw cannot remove some kinds of bad taste and chemicals such as oil.” (Index 2005; incl. my corrections of English spelling)

This very positive invention certainly exemplifies the importance of design in producing socially responsible products aimed at humanistic and sustainable solutions to globally overwhelming problems. However, it also exemplifies that the *business* of design might not be so beautiful after all. More than 1000 tests in the over 10 years long process of devel-

opment have been self-financed in this project, and another 2–3 years of work are anticipated before the straw can be sold commercially (cf. *ibid*). Should design education prepare students better for these very demanding and difficult financial conditions? How can industry and government be made socially responsible for further supporting the development of a type of design that can *not* promise instant financial reward and is not instantly commercially visible? If design is to be defined as a business, it may not always be a very profitable business, as design customers may not always be able to pay particularly much:

“The LifeStraw™ is produced at a price that people in the business find hard to believe, but it is essential to be able to present an affordable price to the consumer in the Third World. When fully used in the Third World this will indeed be a lifesaver” (Index 2005).

Isn't there a paradox in demanding that design must produce socially and environmentally sustainable products and *also* be instantly profitable? What if improving life does *not* sell? How does design education for tomorrow respond to these apparently contradictory demands? As taught today, however, design tends to be about *styling*, and this is what the general public often associates with “design”. Here design becomes aestheticized society's differentiating product characteristic: Innovations in appearance and form (“beauty”) distinguish products when functional performance, technical quality, costs, materials and methods of manufacture are virtually indistinguishable, as they increasingly tend to be on the global market.

What is the role of design as styling here, and how is it to be taught? Is it relevant to say that styling improves life? Does styling represent certain social and cultural values – and can it be separated from these? Does styling pay? Is it instantly rewarding? Should, or can we even educate tomorrow's designers to face all of this?

European universities and design schools carry a legacy of public enlightenment, focussed on modernist ideals of social engineering, cultural improvement and common wellbeing. How does design as styling fit into this legacy?

It seems that design schools now must serve an increasing numbers of stakeholders: National state-interests, private enterprise, public social systems, enlightenment intellectual traditions as well as students' individual needs for self-actualization and per-

sonal development. In light of this, what should be on the agenda for the design education of tomorrow?

I would suggest that besides accommodating to market needs and acknowledging political pressures, design education must also (continue to) develop innovative initiatives based on local traditions of material and immaterial culture. In collaboration with stakeholders, design education must develop concerted approaches regarding material culture and intangible cultural heritage as special resources for design. In Post-colonial Europe, we must acknowledge that also we “live culture(s)” and have our own local and “exotic” sources of innovation and conceptualisation and skills.

We must reflect on our shared ideological heritage of public social responsibility, and consider to what extent we will carry this on to the education of tomorrow's designers. Personally, I think this is a very significant cultural heritage that must not be neglected. Note that I do not argue in favour of an essentialized, instrumental, frozen form of culture, but that I believe that “beauty” should not *serve* “business” any more than “business” serves “beauty”. One should not be instrument or slave to the other, and in any case they cannot exist separately from one another. In the current situation it is important to find new ways for collaboration, based on acknowledgement of this interdependence and on mutual respect for competences, cross-disciplinary capacities, alliances between expert groups, and acknowledgement of legal ownership rights as well as patent. In order for this to happen the design community must stop talking about design as pure styling, pure art or pure functionality. In this way media and industry will be influenced in new ways. We must talk about processes of production - and the funding needed for these (what it takes and costs to conduct demonstration, carry through a patent, and balance private-public interests). We must urge industry and politicians to stop talking simplistically about “business” (the “hard stuff”) versus “aesthetics” (the “soft” stuff) in naturalised, static terms. Instead we must show that also business is a form of culture (with its own “soft” tastes, kinds of privilege, processes of reason; cf. Salamon 2003a&b, 2005a). We must remind public and politicians that business is just as much designed, as design is about conducting business. In the design process we can start the integration ourselves by stopping to treat *material* (the “hard stuff”) as absolutely separate from *mental, cultural and social* (the “soft stuff”) and instead start talking design for

human social life. Generally speaking, nothing positive ever came from alienating governance and production from critical analysis, culture and emotion in a society. Living with the neo-liberal enterprise culture, we must go on thinking, researching, questioning and developing, even when there is great pressure towards simple "toolboxing" and instant results. Even according to the parameters of accountability, it should be rather obvious that a fixed object or simple toolbox can be sold only *once* (or as long as the patent holds), whereas sophisticated ideas and culture constantly mutate and adopt and accordingly can be sold again and again and breed ever new ideas and objects, even under changing conditions.

Suggestions

- 1 So I would like to suggest that we need to educate design students in seeing design as more than instrumental objects and systems: ALSO as social processes, cultural meaning, ideological development, conceptual habitus.
- 2 We need to free design students from naïveté about the existence of a "pure" aesthetics and an absolute distinction between beauty and business. But we must also protect them from instrumental cynicism.
- 3 We need to ensure their knowledge of cultural heritage and the historically changing concept of design, and also equip them with contemporary tools.
- 4 We need to equip them with the ability to visually and conceptually analyse and deconstruct – to ensure preconditions for innovation and real novelty. Because with more tools you have more choice.
- 5 We need to equip students with sufficient knowledge and experiences of business and law, production and governance so that they understand the context in which they will work.
- 6 We do *not* need to entrench them in concepts of nationalised or sectorized design. We need to give them tools for freedom in conceptualisation, methods and process.
- 7 We *also* need to direct students towards a focus and a problem, so they do not lose direction.
- 8 Not least, we need to synergize theoretical and practical processes in design, as we are not dealing with a situation of either-or: You don't *either* learn how to drive a car *or* learn the traffic rules. You learn both. Together.
- 9 We need to investigate phenomena for their generalisable traits – which is what we call research. This must be practice based AND theory based. If we can do this, we can also improve methods, innovation and analytical abilities.
- 10 We will need a lot of patience for all of this to happen, and we will need to create and protect space for innovation and experimentation in education. Dialogue amongst stakeholders can help to create further resources for all of this. It takes time to produce well-founded innovation.

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